

**A CASE STUDY OF THE APPLIED LEARNING ACADEMY:
RECONCEPTUALIZED QUANTUM DESIGN OF APPLIED LEARNING**

A Dissertation

by

DENISE GORDON

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2009

Major Subject: Curriculum and Instruction

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ABSTRACT

A Case Study of the Applied Learning Academy:
Reconceptualized Quantum Design of Applied Learning.

(December 2009)

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The purpose of this qualitative study was to examine the Applied Learning Academy (ALA) and allow the lessons learned from this public school to emerge from the narrative stories of past students, parents, teachers, administrators, and local business associates who have been directly involved and influenced by the applied learning teaching method. Accountability is critical for all public and charter schools. Districts have been trying to raise the standards with new programs and strategies in an effort to make learning experiences relevant to students' daily lives. Revisiting John Dewey's philosophy from the progressive movement, project-based, service learning, community partnerships, and portfolio assessment helped to create the applied learning method. In the present study, a qualitative case study approach was utilized to identify successful factors, benefits, and drawbacks of applied learning in order to describe the transition of portfolio assessment, project-based learning, and community-based partnerships within the classroom and to understand the impact and misconceptions of applied learning as experienced through the Recognized Campus, ALA, a 6-8th public middle school within

a large urban school district. Participant interviews, field observations, and historical records were collected which indicated that student centered project-based curriculum, small school size creating family relationships, community involvement with partnerships, service learning projects, and metacognitive development from portfolio assessments were the major factors that supported academic rigor and relevance because of the real educational applications in this applied learning middle school. Briefly defined, applied learning is when a problem is seen within the surrounding community, and the solution is generated by the students. This progressive 15-year impact of applied learning ultimately leads to the development of four applied learning schools despite the misconception that applied learning was a remedial or gifted program.

Redefining applied learning for a better understanding developed a reconceptualized diagram borrowed from the quantum mechanics model. Reconceptualization expands the interpretation by increasing the intellectual flexibility. As the student becomes energized from the acquired knowledge of learning applicable skills through service learning, project-based curriculum, and portfolio assessment, the student's academic growth should increase to a higher, educational "energy level" supported by the critical, situated-learning, and feminist theories.

DEDICATION

To my family, friends, students, and co-workers of applied learning

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I would like to thank my committee chair, Dr. Scott Sough and my committee members, Dr. Bugrahan Yalvac, Dr. Elsa Gonzalez y Gonzalez, and Dr. Valerie Hill-Jackson for their guidance and support throughout the course of this research.

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NOMENCLATURE

AEIS	Academic Excellence Indicator System
ALA	Applied Learning Academy
ALT	Alternate Schools
AP	Advanced Placement
AYP	Adequate Yearly Progress
BSCS	Biological Science Curriculum Study
C ³	Community, Corporations, and Classrooms
Comm Ed	Community Education Programs
FWISD	Fort Worth Independent School District
IFL	Institute for Learning
NCLB	No Child Left Behind
PBL	Problem-based Learning
PBL	Project-based Learning
PEAK	Public Educators Accelerating Kids
SCANS	Secretary's Commission on Achieving Necessary Skills
SIP	Special Interest Program
SWS	Schools within a School Program
TABS	Texas Assessment of Basic Skills (1979)
TEA	Texas Education Agency
TEAMS	Texas Educational Assessment of Minimum Skills (1984)
TAAS	Texas Assessment of Knowledge and Skills (1999)

TAKS	Texas Assessment of Knowledge and Skills (1999)
TEKS	Texas Essential Knowledge and Skills curriculum

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CHAPTER I

INTRODUCTION

The purpose of this qualitative study is to examine the Applied Learning Academy (ALA) and allow the lessons learned of this 15 year old public school emerge from the narrative stories of past students, parents, teachers, administrators, and local business associates who have been directly involved and influenced by the applied learning teaching method. What causes this school to excel each year since the doors opened in 1994? What curricula program does this school follow? What type of philosophy does the administration and faculty possess? What types of students go to ALA? Has this school always been so successful? If this school has been so successful, why has the Fort Worth Independent School District (FWISD) not reproduced this program in other schools? What are the pedagogical and philosophical strengths of ALA that could influence the district's curriculum department and inform the state and national policy on education?

The rationale for studying this small school is to analyze what factors have and do contribute to the success of ALA's Texas Assessment of Knowledge and Skills (TAKS) reading and math test scores. The initial procedure for this study was to administer a simple evaluation survey about ALA to parents, teachers, and graduated students. The levels of involvement ranged from the initial planning and design of the school to teaching or attending the school since its existence. In the present chapter, the researcher

This dissertation follows the style of *Journal of Science Teacher Education*.

will describe why this school was chosen. Next, the research questions that formulate this qualitative case study will be examined.

Chapter II will build a historical foundation from a framework of the history of education, philosophic traditions of community education, and a description of the progressive movement in education. The discussion of the literature review within the theoretical framework will develop the background of the philosophy of applied learning and the important levels and sublevels of this educational paradigm. Lastly, key terms will be defined that encompass this study.

Chapter III will explain the methods chosen for this qualitative case study. An explanation of the data collection methods, discussion of the narrative results from the personal interviews, and lastly, a summary of the findings including a discussion and implications for practice will be written. Several limitations were encountered while researching this topic which will warrant a discussion within Chapter III.

Chapter IV provides a description of all the participants who were interviewed during this research. A synopsis of the data is then given from the participants' interviews separated into the factors which are critical to the applied learning teaching method. Personal narratives from six teachers and six administrators were selected to reinforce the understanding of applied learning and the strong connection to the surrounding community is submitted in the appendices (see Appendices G & H).

Chapter V is the summary formulated from the findings of the participants' interviews, journals, newspaper articles, email correspondence, and observations from classrooms. Each of the research questions are answered and summarized by the

different groups of participants. The participants' comments reveal which theory frames the applied learning method of teaching. Suggestions for future research is revealed as well as the implications of this study.

Chapter VI gives a panoramic view of the discussions in order to conclude the research on the applied learning teaching program. Re-articulation of the rationale, the procedure of the case study, what was found, re-connection of the theoretical framework to the methodology, and a brief summary of the implications of this study completes this report.

The Problem

Schools are languishing under the standardized testing yet ALA remains successfully recognized with their state test scores. At the 2006-2007 FWISD teacher convocation, 6% of the 50 secondary schools were recognized for their Texas Assessment and Knowledge Skills (TAKS) scores while 8% of the secondary schools were labeled academically unacceptable. With the accountability requirements of No Child Left Behind (NCLB), school districts across the nation have restructured their teaching programs to align with government policies (United States Department of Education, n.d., Overview). Standardized testing promotes standardized curriculum for all students in every school. This teaching strategy should increase students' testing scores, the drop-out rate decrease, and the gap of standardized testing scores between rich and poor schools should have declined. Unfortunately, this has not been the case, which is reflected in the 2005-2006 scores of FWISD. Daily sponge activities, monthly benchmark pre-testing, new textbooks, Foss science kits, scripted lesson plans for core

subjects are slowly replacing past teaching methods of team teaching with community partnerships at ALA. These new district's requirements for change may not be the solution for a successful academic school year.

The era of the NCLB has stripped many educators from their past teaching practices, even ALA's teaching methods. Instead of replicating what has been successful, the district is slowly changing ALA's school structure. Thus, it is imperative to identify the pedagogical and philosophical strengths of the applied learning method of teaching in order to inform the district's (and national) curriculum department what the results of the changes are doing to the ALA school.

A simple definition of the term *applied learning* [italics added] represents "experiential, hands-on, active learning promoting rigorous academic and technical content in problems and projects which connect school to life and work" (Malyn-Smith, n.d., p.1). Yet, this is not the complete definition for applied learning. Student initiated, satisfying a community need, and assessed by outside evaluation should also be submitted into the definition in order to understand the philosophy of why this school was created in Fort Worth. The National Standards in 1995 defined applied learning when students problem solve to design, plan, organize, or improve a system by using communication tools and techniques, but this definition could still be refined and reconceptualized (*Performance Standards*, 2005).

The demographics of ALA in 2008 have changed from the early years of the 1994-1995 school year. In 1994, the African American students were 26.6%, Caucasian students were 47.7%, Hispanic student population was 21.9%, and the economically disadvantaged population was 22.7%. During this same year, the closest neighborhood traditional middle school, William Monnig Middle School, located 3.1 miles from ALA had the ethnic breakdown of African Americans 19.3%, Caucasian 70.0 %, Hispanic 9.0 % and the economically disadvantaged population was 22.9%. By 2008, ALA's demographics changed in all areas of ethnicity. The African American population was 15.7%, Caucasian 36.9%, Hispanic 43.6%, and the economically disadvantaged was 34%. When comparing these numbers to, Monnig, their student population was African American 27.1%, Caucasian 33.7%, Hispanic 35.2%, and the economically disadvantaged was 45.8% (Texas Education Agency, AEIS, 2009).

Between 2008 and 1994 the demographics of the ALA faculty changed as well. In 1994 the faculty was composed of 88.2% female and 11.8 % male. The breakdown of faculty ethnicity was African American 0%, Hispanic 11.8%, and Caucasian 88.2% while 2008 showed female faculty to be 69.8%, male 30.2%, African American 5%, Hispanic 10.1%, and Caucasian 84.9%. The number of beginning teachers in 1994 was 23.6% with the average year's experience of teachers to be 10.1%, while in 2008 the beginning teachers were 5% and the average year's experience of teachers was 11.4% (Texas Education Agency, AEIS, 2009).

The environment of ALA keeps changing with each move of location for the school building. Originally ALA was established on the second floor at the professional

development building of FWISD, yet this was an ideal location since the building was right across the street from several art museums, a community theater, the city's public garden, and the science and history museum. The second move of ALA was another perfect location since the middle school was one mile away from the elementary Applied Learning Center. Partnerships between these two schools were formed and faculty worked together. The third move of ALA placed the campus inside a very large building surrounded by businesses since this site was once the large department store of the first Neiman Marcus in Fort Worth. The design of the Neiman Marcus building has a somewhat Frank Lloyd Wright look involving a modernistic appeal of the mid 1960's with flat, split-level roofs, building wings branching off from many directions, and open courtyards with fountains connecting four outer wings. Landscaping was provided around the department store with oak trees and small island plots for greenery. When the building was purchased by the FWISD during the early 1990's, the building's interior was chopped up into offices, classrooms or labs, and the west parking lot converted into a large grass playing field for softball and soccer. The building reopened as two separate schools, Applied Learning Academy and the International Newcomer Academy during the 2000-2001 school year.

There is a constant flow of traffic from the busy streets running parallel between the school and security is a problem for this exposed campus. The school sits underneath the flight path for the Naval Air Station Joint Reserve Base once known as Carswell Air Force Base. Due to the surrounding culture of businesses promoting capitalism and the military, the political swing is usually Republican or conservative.

In January of 2007, all students of the FWISD received a letter from their school principal reporting their school's rating from the Texas Education Agency (TEA) for the State of Texas School 2005-2006 Report Card. Public school report cards can be found on the TEA Web site for any school in the state (Texas Education Agency, AEIS, 2005). During the 2007 school year, ALA (school number # 220905055) was again recognized with the gold performance acknowledgments for Commended on Reading/English Language Arts and Writing while four other secondary schools within FWISD were rated unacceptable. In 2006-2007, accountability standards under the Commissioner's 2007 decision for standard procedures defined a recognized school to have all topics of testing (reading, writing, social studies, mathematics, and science) with 75% of the students passing at the standard level set by the state. Throughout 2003, the school's rating met Adequate Yearly Progress (AYP) with a 94 % passing rate for eighth grade in reading, a 82% passing rate in mathematics, and a 93% passing rate in Social Studies. During that same year within the FWISD, 23 secondary schools received the rating of needing improvement for mathematics or reading.

Using the Academic Excellence Indicator System (AEIS), Reading for the eighth grade has always been above 75% passing since 1993 to 2008. When comparing FWISD to ALA, the reading scores for ALA have been 22 points higher in 2004-2005 to only 3 points higher in 2001-2002 than the FWISD reading scores. When comparing ALA to the State's reading scores, ALA has ranged from 0.4 points higher in 1995-1996 to 12 points higher in 2004-2005 (see Table 1 for AEIS comparison of passing test scores for school, district, and state).

Table 1

Comparison of Passing Eighth Grade Test Scores within ALA, Fort Worth ISD, and State from the Texas Education Agency, AEIS Report, 2009

TAAS % Passing	TAKS % Met Standards								
State	2000	2001	2002	2003	2004	2005	2006	2007	2008
Reading	89.6	91.9	94.3	88.7	90	84	84	89	95
Math	90.2	92.4	92.9	73.2	67	62	68	73	79
Social Studies	71.8	77	83.7	93.1	88	85	84	87	91
Science	88.2	91.8	93	-	-	-	63	67	69
District (Fort Worth ISD)									
Reading	80.0	84.6	90.2	81.1	83	74	73	81	90
Math	81.8	86.0	86.0	59.8	56	46	51	55	64
Social Studies	52	57.7	75.9	87.6	81	76	73	78	83
Science	75.9	82.6	85.2	-	-	-	44	48	51
School (ALA)									
Reading	90.5	97.5	93.2	93.7	96	96	93	99	96
Math	91.8	100.0	95.8	90.5	89	77	78	79	77
Social Studies	56	76.5	78.7	100	94	96	92	95	90
Science	91.5	97.5	94.7	-	-	-	74	81	67

Note. TAAS testing was converted to TAKS testing after 2002. Science TAKS was not introduced until 2006 (Texas Education Agency, AEIS, 2009).

Within the FWISD and under the guidelines of NCLB, two secondary schools had unacceptable ratings in 2004, two in 2005, and four in 2006. Why were the ratings of unacceptable increasing for FWISD while ALA's rating remained recognized? In order to be recognized, the school must meet 70% standard passing for each subject (reading, writing, social studies, math and science) while unacceptable rating is less than 50% for reading, writing, social studies and less than 35% for math and 25% for science. During the 2007-2008 FWISD Teacher Convocation, only one secondary school received recognized status, the Applied Learning Academy. What causes this school to be recognized each year since the doors opened in 1994?

Explanation of Research Significance

This study will provide the pedagogical and philosophical strengths of the applied learning method of teaching in order to confirm and inform the district, state, and national curriculum department of any correlation between the standardized testing scores and the evolutionary changes within the ALA school through a qualitative case study with narrative accounts from personal interviews. The impacts of a new reform by promoting applied learning within any classroom will be discussed in order to raise standardized test scores.

Rationale

The rationale for a case study of this small school is to analyze what factors have and do contribute to the success of ALA. This study will provide an opportunity to learn from parents and past students who went through this applied learning program. By interviewing the original businessmen and women, administrators and teachers who

helped design this program, this study will be able to determine if the school has changed from the original model of an applied learning school. Has the present day ALA changed from the original ALA? The initial assumption was that providing a rigorous curriculum within the sciences and math department was what kept the school so successful, but from the results of an original pilot study during the spring of 2006 those assumptions were incorrect. The small size of the school and classrooms created a safe home-life, family atmosphere was the central theme repeated from the past students' and parents' discussions about the original ALA school.

The research results will reveal the positive factors of the applied learning teaching method through academic growth within the ALA school. This study will explore the impact of the applied learning method within any classroom at any age level for teachers and students, but also for parents as active and mutual members of the research process. In order to better explore the characteristics of applied learning and the impact on student learning skills, the researcher will employ a qualitative case study from a naturalistic inquiry design to capture the people's unique stories who were involved with applied learning. These people are the stakeholders who have invested the most in this particular method of learning (Lincoln & Guba, 1985). The ALA school is morphing into a more traditional school each year as evidenced by the loss of a year-round calendar, block scheduling, lack of trained faculty in the applied learning method of teaching, loss of community partnerships, and limited multidisciplinary subject matter. The question that many parents and ALA teachers are asking is will these changes impact test scores and student achievement at ALA?

ALA has existed for 15 years and each year the test scores are among the highest within the district, yet the district continually buys new computer programs, textbooks, or curriculum in order to comply with state mandated testing rather than analyze this one school's successful middle school program. Among the district requirements are workbooks, prescribed curriculum, and scheduled district-wide testing. TAKS workbooks for all subjects are issued to every school to be used by each student. In addition, a prescribed daily curriculum is mandated by the district, for which documentation of compliance must be submitted. In response to state mandated testing, FWISD also requires benchmark tests to be administered on required days throughout the school calendar.

Benchmarking refers to practice testing throughout the year so the administration and faculty know the weaknesses of the students (and the teacher) when following the curriculum. These test scores are then brought up during district meetings and discussions on what strategies will then be administered to the failing students. Testing and more testing seems to be the main concern for this district. Under the requirements for stronger accountability of NCLB, school districts must perform and produce passing scores for all students. Since January 8, 2002, this law helps schools improve by focusing on accountability for results, freedom for states and communities, proven education methods, and choices for parents (United States Department of Education, 2004, November). ALA can perform and produce high scores, but without the daily routine of the traditional classroom setting.

When comparing a traditional public school to an applied learning classroom the first difference would be the arrangement of the student desks. There would not be a linear structure of individual desks, but an arrangement of desks pulled together or large tables to promote daily group discussion and work.

While some traditional classrooms may have weekly or monthly group work, the applied learning classroom has daily group work. Throughout the walls of a traditional classroom would be class rules, posters for inspiration or content of the subject matter. The walls of an applied learning classroom would have posted the student designed rubrics for assessment of their ongoing project and adult models would be displayed to help guide the student to the standard of excellence that is expected for their portfolios. The applied learning student must be shown the level of expectations for all critical work which then provides the student a better understanding of acceptable to superior work.

Assessment in the traditional classroom comes from a collection of grades by student assignments averaged into one six weeks grade. Report cards are issued after the completion of each six weeks. For a semester credit of the class, three six weeks grades are then averaged to inform the student their basis of knowledge of that particular course. One grade is the total outcome of a semester worth of student work. The student will take the report card home and have the parent sign it every six weeks. Only if there is a problem with the grade will the parent come to school for an understanding of their child's assessment.

For the applied learning assessment, a student portfolio must be created and reflections written by the student to show and explain their academic growth throughout

the school year. Content of reflections rather than test driven assessments are emphasized. Students must then present their portfolios and selected pieces to the parent with the teacher present. Questions from the parents are encouraged to make sure their child understands the content. Questions are also asked by the teacher to the student while the parent is present to confirm this understanding. A one grade assessment is not possible for the applied learning student. A semester narrative of a core subject is submitted in Appendix A to illustrate this difference concerning an applied learning student's assessment.

The pedagogy of the traditional classroom would have the teacher's podium in the center of the room since this class is teacher driven with worksheets and textbook assignments. Routine work of vocabulary drills and end of the chapter questions are common student assignments. The applied learning classroom would have the students select the books to read or the project to do. The students would not have the directions written out, but a rubric to design or a lab to write up for peer review. The applied learning teacher would want the students to do background research concerning the topic of study which would then promote questions to ask. Research is the backbone of applied learning, not daily worksheets. The student must know how to find the necessary information in order to complete the class project. One textbook is not sufficient for any school task. In fact, some applied learning classes do not issue textbooks to the students, but just keep a class set of textbooks inside the class. The applied learning teacher would prefer that the students look for other outside sources of information.

This daily routine of a traditional classroom would start with a sponge question with four multiple choice responses projected on a screen to begin the 45 minute lesson while the instructor checks role. The instructor would then call on a student for the correct answer. Depending on the interest of the class, the instructor may or may not continue with a more detailed discussion of the sponge question. The class lesson plan will then follow with the text pages and questions for homework reading. Daily class objectives are visibly posted for all to see along with the calendar required student essential goal of the day. If it is a science class, district kits are used to help with visual models of the teaching concept. For example, students may construct sand walls inside a large plastic tray then spray water from a bottle to illustrate soil erosion. Supplies may be few for the larger districts so teaching kits can be considered a luxury; however, these teaching kits do not give the students an opportunity to think or create on their own because the teacher is instructing the class step by step what to do with these supplies. They are following teacher directed lessons with a standard predicted outcome since the students will copy the desired answers into a lab notebook which will hopefully help the student answer a particular question on the state mandated test. The entire district's curriculum is centered around the TAKS objectives and can be found on the district's web site to follow each day.

A daily routine for an applied learning classroom would be hard to describe since a daily lesson plan is not the norm. The teacher should be a guiding facilitator troubleshooting the problems students may run into as they work together on a project. The whole class or group moves as a single unit toward the accomplishment of finishing the

project since there may be several groups working on different projects at one time. In this respect, the teacher may become a circus ringmaster making sure all students stay on task and meet their appointed deadlines.

The students in a traditional classroom are given few choices. The rules are already written by the teacher on how the class will be conducted and evaluated. The textbook is issued along with the course syllabus. The students are seen, but not heard is the teacher preference since the traditional teacher is the source of all knowledge. The student should remain in their assigned desk at all times allowing little freedom of movement inside the classroom. Hands should be raised to ask questions. Labs are set up and copied into a district issued lab manual. There are few opportunities for the student to think for themselves and make decisions about their learning. There are also few opportunities for the student to change the content of study within the course. This is the main difference between applied learning and traditional teaching. A brief summary of the differences between an applied learning and the traditional classroom are displayed in Table 2.

Table 2

Comparison of an Applied Learning and a Traditional Classroom

Applied Learning Classroom	Traditional Classroom
Round tables for group discussion	Linear rows of desks
Rubrics posted for assessment, adult models	Posters of subject content, class rules
Portfolios, outside audience evaluation	Tests, report cards
Teacher is the facilitator	Teacher is the giver
Content is student driven	Content is teacher driven
Variety of sources are needed	Textbook is prime source of information
Collaborative group learning	Individual learning
Freedom of choice with curriculum set by National Standards	Restricted curriculum set by district
Multidisciplinary	Single subject/topic within class

Therefore, a simple definition of applied learning would be student driven to satisfy a need from an outside audience by designing, creating, or revising a product. It is not constant testing, retesting, and more testing, but actual products of student work which have been drafted, edited, and revised for student and outside audience assessment.

It was this daily rote testing that the researcher decided to listen to the students' voices. Their complaints were simple. They just came from their last class and had to

answer the very same district mandated questions. The students were tired of multiple choice questions and they were tired of the testing.

Developing the Research Topic

The research topic developed by questioning the philosophy behind high stakes testing while teaching high school chemistry and physics during the 1990's; however, high stakes testing began for the Texas students in 1979 for grades three, five, and nine in the subjects of math, reading, and writing with the Texas Assessment of Basic Skills Test (TABS). In 1984, administration requested teachers to stop teaching their curricula and start reviewing for the Texas Educational Assessment of Minimum Skills (TEAMS) 3 months before the test was given. This standardized test later changed to the Texas Assessment of Academic Skills (TAAS) in 1990 then later it was changed to the Texas Assessment of Knowledge and Skills (TAKS) in 1999 (Texas Education Agency, *Timeline*, n.d.). All teachers began asking the same test questions to their students and solving the same problems from the materials provided by the administration and testing coordinator. Eventually, the students became restless and lifeless in the classrooms and by the end of the 1990's, the author was also becoming restless and lifeless in her own classroom. To prevent teacher burnout, the author enrolled in a FWISD summer program about the applied learning method of teaching, a teaching style that was not the traditional classroom method of teaching.

Briefly defined, applied learning is when a problem is seen within the surrounding community, and the solution is generated by the students. That following fall, the researcher allowed her physics students to virtually redesign an abandoned

warehouse into a rollerskating park to help reduce urban decay in the local neighborhood. Even though the construction of this park was imaginary, the students sought out building codes, architects, and available property. Additionally, they submitted their plans to the Fort Worth City Review Board to obtain approval for their proposed skating park. The students and instructor were no longer lifeless and restless. They were actively engaged in a problem and eagerly figuring out a way to solve a local problem. There were no lesson plans or textbooks that they adhered to for this project. They would discuss what needed to be done and delegate the tasks 1 day a week on the rollerskating project. The project gave a different outlook on classwork and the topic of physics. The class became regenerated in the regular coursework. A traditional physics classroom became immersed in social action. The skating park passed the Fort Worth City Review Board and so did the students on their school exit exams. The love of teaching was renewed through problem solving techniques bypassing standardizing testing. As a result of this positive impact of the applied learning method, the author transferred to the applied learning middle school (ALA) within the district where she could teach with other teachers who shared the same belief in the applied learning philosophy.

For any school or business that is successful; the organization must grow, adapt, and develop new ideas. The applied learning method follows this sequence since the philosophy is to design, improve systems, or plan events. What is taught in the classroom is then applied to the real world. This unique philosophy promotes problem

solving and outside audience evaluation; yet, each year, it seems ALA is slowly evolving into a traditional school and losing the core foundation of its conception.

Once created to satisfy the local businesses and community needs by having students learn and apply their classroom skills for off campus client projects, today ALA has lost most of their community partnerships. Starting with only one partnership in 1994, ALA eventually formed ten strong ongoing community partnerships by 2002, but by 2008 the partnerships have dropped down to three. Will this change in the number of partnerships increase or decrease the school's testing scores? The FWISD has also experienced a change in administration. There is a new superintendent, as well as a new campus principal and assistant principal for ALA. Different eyes with a different mindset are now watching and guiding this middle school. If the test scores drop this year, it is rumored that ALA will no longer be teaching under the applied learning philosophy.

There are many definitions and interpretations for the applied learning program. Simply stated, what is taught in the classroom is then applied to the real world. The program and philosophy at ALA will be analyzed starting with the historical background of education, progressive education, and of the original Laboratory Schools under John Dewey and Colonel Parker to the beginning of ALA's conception and to the present years of applied learning.

Entering the graduate program at Texas A&M University, the very first book that was assigned in an educational class, *How People Learn* by Bransford, Brown, and Cocking (2000) displayed the design of different "learning environments" (p.134). This

design could also demonstrate the teaching style of *applied learning* [italics added] as a figure of three overlapping circles identified as learner centered, knowledge centered, and assessment centered surrounded by a larger circle, the community. Here was modern proof that applied learning existed in the academic setting. Personal interpretation of the book, *How People Learn*, supported the applied learning method of instruction with diagrams, statistics, and discussions, but Bransford, et al., (2000) does not completely define the applied learning philosophy.

A conceptual design needed to be created to give an applicable definition. The energy which can be picked up by the engagement of students with their teacher and their applied learning project is electrical. Borrowing the quantum mechanics model metaphorically represents the student's knowledge growing and expanding once new skills are acquired and applied; however, this design was again altered to include the theoretical framework of this teaching philosophy.

When teaching for the Advanced Placement and International Baccalaureate exams, an instructor can be completely immersed in content driven curriculum. Once exposed to the applied learning program, the author's own personal paradigm of teaching shifted, and then galvanized when former students would come to visit and explained that their applied learning project in their physics class was one of their most successful experiences in their secondary school years. One student who signed up to be on the accountant committee in this physics class is now a successful accountant for the pharmacy chain of CVS Corporation in Houston. These students were allowed to have a voice in their physics class when they all worked together on this project to reduce urban

decay by redesigning an abandoned building into a neighborhood skating rink. Yet, by having this lasting experience in that physics class, did these students actually learn anything? “If all these efforts do not aim to produce any significant, *lasting* learning, then what is their point” (Finkel, 1999, p.3)? Is it better to instill lasting learning or acceptable test scores? Therefore, the researcher wants to study the effects of the applied learning teaching method through a qualitative case study of a particular school.

Research Questions

As a result from a pilot study, the research questions which will be explored are:

1. What are the factors that may have contributed to the success of The Applied Learning Academy with high reading and math TAKS scores?
2. What have been the benefits of the applied learning method for the administrator, teacher, student, parent, and business associates?
3. What have been the drawbacks of the applied learning method for the administrator, teacher, student, parent, and business associates?
4. How did the past students adjust to a traditional school concerning portfolios once they left the Applied Learning Academy?
5. How did the past students adjust to a traditional school concerning project-based learning once they left the Applied Learning Academy?
6. How did the past students adjust to a traditional school concerning community partnerships once they left the Applied Learning Academy?
7. For the business associates, how did they impact the Applied Learning Academy’s educational program?

8. How has the applied learning program impacted the Fort Worth Independent School District?
9. What are some of the misconceptions of applied learning?

From these nine questions finding the factors which helped to maintain a Recognized status for a small public middle school's standardized test scores will be investigated.

CHAPTER II

LITERATURE REVIEW

History of Education

How and when did the informal education we learn from our home and community develop into the four walls of a formal classroom? Youth watched and learned life activities such as hunting, gathering, making artifacts, and eventually worshipping tribal spirits. The rise of educational formality lies with tribal ceremonies or the traditional rites of passages (Brubacher, 1947). This was a time for intense education to complete the phase of adulthood. Yet, this type of education was for all members of the tribe. When did education become selective? As tribes grew into societies, cultural heritage became more complex and slowly youth education was removed from life experiences especially when the written form came into existence. With the advancement of the written language, formal teachers were necessary for this structured learning instead of relying on the family members and community elders. Not only did the written form separate informal education of experience from the formal education, but there was the “humanistic realists”; keeping with the written culture, to the “sense realists”, introducing the sciences into the classrooms, to the “social realists”, mixing travel with society as the best educator (Brubacher, p.363).

The etymology of school comes from the Greek word which means leisure and so it was with the Greeks that educational pursuits was done at their leisure or one must have this leisure time in order to acquire and master education. “But, once a leisure class made education its own end, education constantly ran the risk of becoming esoteric and

out of touch with life” (Brubacher, 1947, p.360). Just as life experience was part of the Greek education, Rodger Ascham (1515-1568), the tutor for Queen Elizabeth I, said, “Learning teacheth more in one year than experience in twenty; and learning teacheth safely when experience maketh more miserable than wise” (Laurie, 1900, p. 80). Here lies the constant struggle for education and its curriculum. Out of school experience versus in school textbook, which is the best method of instruction? In the *Essay on National Education*, LaChalotais (1701-1785) writes “All that needs to be known is not contained in books...The important thing is to acquire the main principles of the more uncommon kinds of knowledge; experience-which is the best teacher-will accomplish the rest” (as cited in LaFontainerie, 1932, p. 73). Perhaps it is the combination of both, experience in life and the pages from the book, for a true and meaningful education.

The twentieth century opened this twin door for both experience and daily formal instruction when the American philosopher and educator, William C. Bagley (1874-1946), slightly twisted LaChalotais thoughts when he wrote that the pupil should live and absorb “experiences vicariously” (Bagley, 1923, p.35). But, it was in the writings of one of the greatest educators and philosopher of the twentieth century, John Dewey, which favored neither school nor life over the other.

The theory of the oneness of education and life sought rather to tear down any barrier between the two without destroying the identity of either. Thus, instead of confining itself to its four walls, the school was urged to avail itself of varied community resources for whatever educational value they might have...from excursions

into the community to making the school an adjunct of the farm and the factory. And to the extent that the school stayed within its four walls it was demanded that the curriculum pursued there be a form of living that is immediately significant. (Brubacher, 1947, p. 364)

The small published book, *Child and the Curriculum* (Dewey, 1902/1990) probably became the basic theory of the progressive educational movement (Brubacher, 1947, p.306). But, the “exact and exacting studies” (Bagley, 1938, p. 247) was the essentialists battle cry which kept America’s education moving toward a more structured and concrete curriculum. Latin was just not for the mass teaching. What also kept the facts, books, and students inside the classroom was the demand from the growing immigrant population who did not want their children’s time wasted playing store or house. These parents wanted their children to learn English and learn it as fast as possible.

The Second World War brought new problems to education due to the loss of manpower.

Few schools had been built since 1941, teachers had deserted the profession in droves, inflation was rampant and the first of a flood of “war babies” began to enter the elementary grades as early as 1946. Then too, there were the multifarious difficulties associated with deepening public concern over communist expansionism at home and abroad (Cremin, 1964, p.338).

During the 1950's, the age of Sputnik (1957) brought on the space war creating the push for more math and sciences in the schools. Even so, the age of progressive education had already diminished long time before (Cremin, 1964). With the thrust of desegregation during the 1960's to 1980's, white flight from the public school system gripped many urban public school districts (Urban & Wagoner, 2004). The concept of magnet schools developed in order to entice the white student back into the urban public school with special interest programs. Politicians and educators were hoping this would keep social rest within the large cities, but magnet schools were just another form of segregation when only the white students were selected for these programs.

History of Progressive Education and Schools

History can not start with just one man, but possibly with one idea. John Amos Comenius, was a 16th century philosopher and theologian and probably the first modern educationalist, who advocated pansophism, a philosophy referring to “a system or work embracing all knowledge” (Gove, 1981, p.1631). Relating this definition of education to the applied learning method would tie in our everyday life's experiences creating a systematic relationship that deepens our knowledge base of skills. Comenius promoted teaching in the vernacular language of the surrounding community, the education of women, and the unity or cooperation of culture and science for a better understanding of each other (Comenius, 1956; Piaget, 1993). Found within the seventh chapter of *The School of Infancy*, Comenius comments about the tie of education, life, and work with his statement of “how children ought to be accustomed to an active life and perpetual employment” (Comenius, p.91). Colonel Parker writes that the famous principle of

Comenius is “Things that have to be done, should be learned by doing them” (Parker, 1984, p.167). Later in his own book, *Notes of Talks on Teaching*, Parker writes, “We learn to do by doing” (Parker, p.117). Even in his teaching manual, *The Practical Teacher*, Parker emphasizes that, “work is the greatest means of education. To train children to work, to work systematically, to love work, and to put their brains into work, may be called the end and aim of schools” (Parker, 1957, p.1). Colonel Parker was so convinced of his philosophy that he resigned from his “position of the Supervisor of the Boston schools in order to come into closer range and contact with children’s minds” (Parker, 1894, p. iii).

The main foundation of applied learning came from the progressive movement during the 1890’s to the 1920’s under the umbrella of John Dewey’s philosophy. He is considered the central figure of this movement because of his prolific writings such as: *The School and Society* in 1900; *The Child and the Curriculum* in 1902; *How We Think* (1933/1986); *Schools of Tomorrow* (1915); *Democracy and Education* (1916/2002); *Essays in Experimental Logic* (1916/1978); *Reconstruction in Philosophy* (1920/1978); and *Experience & Education* (1938/1963). Yet, it was John Dewey who attributed his knowledge to Colonel Francis Parker. Dewey had written several times that Colonel Francis W. Parker was “more nearly than any other one person the father of the progressive education movement” (Dewey, 1930, p. 204). It is true that all men’s knowledge comes from the men before him, since Colonel Parker gave credit to his knowledge to Comenius, Froebel, and Horace Mann.

Under the leadership of Horace Mann, Secretary of the Board of Education in Massachusetts (1837-1848), free education for all was created. Massachusetts soon passed the first state-wide compulsory attendance law in 1852 followed by the other states causing the educational system to open the doors to children who were “crippled, blind, sick, slow-witted, and the needy” (Cremin, 1964. p. 127). Compulsory schooling provided both the problems and the opportunities for the progressive educator. This diversity challenge was the catalyst to force the progressive movement to become more creative inside the traditional classroom. “Progressive education began as Progressivism in education: a many-sided effort to use the schools to improve the lives of individuals...if everyone was to be educated, not only the method but the very meaning of education would have to change” (Cremin, p.viii).

In order to make open the nation’s eyes about education, public awareness about the grave conditions of the nation’s school system came from the publication of nine consecutive articles in October, 1892 through June 1893 from *The Forum* by Joseph M. Rice. It was the last article, a call for “all citizens to have the life and warmth of the progressive school for their children” which promoted the curriculum change in schools across the United States (Rice, 1893/1969, p. 518; Cremin, p.4). But progressivism was already to be found in the elementary school of Quincy, Massachusetts (1875) and later at the Cook County Normal School in Illinois under the direction of Francis Parker as observed by Rice’s journalistic reports. Influenced greatly by Froebel, self-activity for self-expression, Parker concentrated the work of the elementary school in the forms of reading and writing (Brubacher, 1947, p.411).

Another educator who departed from traditional educational methods towards a more progressive style was Felix Adler at the Workingmen's School in New York. His ideas also supported the Froebelian philosophy where learning must be with manipulating or playing with objects, but Adler with his older students actual learned by constructing real objects in the school's workshop.

Many instrumental men have been monumental in the advancement of the progressive movement, but no one can really be the chief in the early days from 1875 to 1914 or not even in 1919 when the Progressive Education Association opened their doors for their first members. Stanwood Cobb, first executive secretary of the Progressive Education Association wrote, "I should like to emphasize particularly that this Progressive Movement in various Experimental Schools throughout the country was spontaneous and flowed from widely different sources, total unconnected each from each. It cannot be ascribed to any one educator" (Beck, 1959, p. 198).

Even though the first American progressive school, The English School, was never built due to Benjamin Franklin's death, Colonel Francis Parker and John Dewey put real meaning behind their own words with the establishment of their model schools, University Elementary School, The Laboratory School, and The Institute. The University Elementary School, where "the highest motive of school government, is to give the child the power and necessary reason to control himself" (Parker, 1984, p.157), and The Institute, a teacher training facility, were under the leadership of Colonel Parker. The Laboratory School, the first primary progressive school directed by Dewey from 1896 to 1904, was eventually merged with Parker's schools into Blaine Hall in 1903 at the

University of Chicago. Later, The University Elementary School and Dewey's high school age students from the University High became known as the Laboratory Schools. This prestigious private school still exists today as a nursery (3 year olds) to 12th grade college preparatory school under the guidance from the University of Chicago, but not the directorship (Harms & DePencier, 1996; University of Chicago, 2007). Since the University of Chicago no longer has a Department of Education, the Laboratory Schools partnership with the university still provides guest lectures, equipment, and professors' children for enrollment, but not the partnership for the training of new teachers or experimenting with new curriculum.

Once Dewey and Parker firmly established the Laboratory Schools in 1896 at the University of Chicago, more progressive schools appeared throughout the United States. Evelyn Dewey and her father, John Dewey, documented several in their book with description of the schools' organization and curriculum in *Schools of Tomorrow* (1915/2002). Some of the schools that passed with high marks from Dewey and other evaluators were Francis Parker School and the Howland School in Chicago, Marietta Johnson's school, The Organic School (1907), in Fairhope, Alabama, Junius Merriam's experimental school (1904) at the University of Missouri, University School in Columbia, Missouri, Public School number 45 and the Interlaken School in, Indianapolis. Three schools in the City of New York were documented to be the pinnacle for promotion of progressive education: the Kindergarten at Teachers College, Columbia University, Carolina Pratt's Play School (1913) in the Greenwich Village, and Margaret

Naumberg's Children's School (1916) (Hartman & Shumaker, 1939; Kilpatrick, Bagley, Bosner, Hasic, and Hatch, 1926).

The progressive movement continued throughout the 1900's with the belief that education should be hands-on learning with creative problem solving, but with the advancement of World War I pacifism versus conflict began a schism between these two groups. Attempts were made to keep progressivism alive with extended opportunities of class activities during the wartime (Dean, 1918); however, the war lowered the teachers' salaries "and a wave of encroachments on the social science curriculum" did not ignite the low burning flame of progressivism (Cremin, 1964, p.181).

To revive and give new life to progressivism, *The Child-Centered School* (1928) by Harold Rugg and Ann Shumaker, directors of research at the Lincoln School, Teachers College gave true meaning of creative self expression inside the progressive education movement. Rugg then tied all three areas of science, art, and social reconstruction into the ultimate goal for progressive education when he wrote *Foundations for American Education* (1947). His enthusiasm about this book and his interest in progressivism never waned. The lack of support for Rugg's book told the hidden story of the slow decline of progressive education, but it was George Count "who severely rebuked this movement for failure to elaborate a theory of social welfare" (Brubacher, 1947, p.21). George Count's book, *School and Society in Chicago* (1927/1971), was also published to give his interpretation of the progressive movement in Chicago. A new deal was brewing in the government during the 1930's and Count wanted to pull away from the child-centered individualistic goals. George Count wanted

more of collectivism for a new social order so he became the editor of *The Social Frontier*, the progressive journal published by Teachers College. Here was the sounding board for published articles of the 1930's on social and educational reconstruction to ease the educational confusion through the chaos of America's depression. Avoiding Count's publications, newer voices who promoted various methods of applied learning were heard within the writings of Margaret Naumburg's, *The Child and the World* (1928) and in 1935 William Kilpatrick's *Limitations Upon Academic Freedom for Public School Teachers* (1961).

Another war developed and in the end the progressive movement died an internal death from within. Caroline Pratt's *I Learn from Children* (1948), and Carlton Washburne's, *What is Progressive Education* (1952) were several of the last publications for the progressive movement; however, because of the "cold war anxiety and cultural conservatism, progressive education was widely repudiated, and it disintegrated as an identifiable movement" (University of Vermont, 2002, p.1; Urban & Wagoner, 2004). It was during this time that Dwight D. Eisenhower publicly blamed America's inferior educational system completely on John Dewey (Eisenhower, 1959). In his published letters in *Life* magazine, Eisenhower wrote that Dewey "did a great disservice to the American public" (Berube, 1994, p.53). Other progressive schools were built, but many disappeared during the 1940's and 1950's with the emergence of scientific or intelligence thought from standardized testing, cost cutting management skills, and Sputnik (Urban & Wagoner, 2004). Yet, "progressive education became the all too willing ally of a corporate state structured on deep-seated inequality" (Berube, p. 13-14).

The final downfall of the progressive movement developed when the organization became too professional. “Led by Dewey, progressive educators opposed a growing national movement that sought to separate academic education for the few and narrow vocational training for the masses” (University of Vermont, 2002, p.1). What had started out as an association of parents in which teachers were also eligible for membership the Progressive Educational Association, “slowly transformed into professionals eager to identify themselves with the latest thinking in their field flocked to its standards”(Cremin, 1964, p.250). What was free and creative became scientifically proven and tested. What was designed for the individual changed for the general public. The standards were changing and so was the public for a more rigorous training of the teacher and the student inside the classroom.

In 1951 Dewey wanted to clarify that progressive education was not, ...any kind of school theory and practice that departs from previously established scholastic methods....For progress is not identical with mere change, even when the changes may incidentally here and there involve some casual improvement over what previously existed. Still less is it identical with a happy-go-lucky process or flashy, spur-of-the-moment improvisations. Progressive education in the sense applies direction: and direction implies foresight and planning. And planning-as is surely obvious-implies taking thought: the quality and depth of the thought depending upon how large and significant a field is taken for the exercise of direction foresight, and planning (Dewey, 1951 p. *vii*).

In the 1960's numerous writings led a revival in the progressive thinking under various other names called active learning. Paul Goodman's *Growing up Absurb* (1960), John Goodlad and Robert Anderson's *The Nongraded Elementary School* (1963), Elliott Wigginton's *Foxfire 5* in 1966 (1979), and George Dennison's *The Lives of Children* (1969) are examples of this revival in active education (University of Vermont, 2002). Yet, it was the activist educators, Peter McLaren's *Cries from the Corridor* (1980), Jonathan Kozol's *Illiterate America* (1985), and Stanley Aronowitz with Henry Giroux's, *Education Under Siege* (1985), who were advocating greater equity, justice, and diversity (Poza, 2004; Slattery, 2006). Active learning in the 1960's and activists educators from the 1980's helped give the voice back to the student and teacher. These two movements in education can be seen within the applied learning classroom.

Fort Worth Public School History

The history of the Fort Worth schools goes back to 1852 when classes were taught by John Peter Smith in an old army hospital. The school closed shortly and children were taught by wandering tutors in private homes. From 1856 to the Civil War several boys and girls schools were established by the local neighborhood communities. In 1866, a high school was opened by Captain John Hanna and throughout the 1870's several private schools flourished. It was not until 1900 that the first elementary school door opened, First Ward School, at the corner of Second and Crump streets (Lale, 1999). A campaign for an independent school system began as early as 1877 when the *Fort Worth Democrat* appealed to the city council to order an election to see if the people wished to assume control of the schools (Utley, 1926, p. 8). The election was carried by a sweeping

majority (425 to 45 in favor of schools) and Fort Worth finally organized their schools to become the Fort Worth Free Public Schools under the direction of the first female superintendent, Mrs. Sue Huffman Brady from 1880 to 1881 (Lale, 1999). Mrs. Brady had founded the Clara Peak Walden, the Arnold Warren Institute in 1879 and graded the public schools of Fort Worth and Decatur (Brady, 1894). Not only was she the first female superintendent for Fort Worth, but the first female superintendent in the state of Texas; however, in 1882 with the enrollment of 650 students, the Fort Worth schools were now guided under the direction of Mr. Alexander Hogg. During the 1880's many thought that girls needed little education, but Hogg insisted that girls receive the same education as their brothers, thus Fort Worth public schools started out being coed (Lale, 1999). Superintendent Hogg remained in office from 1882 to 1889, then from 1892 to 1896, and finally from 1902 to 1906 (Fort Worth ISD, Archives, n.d.).

By 1890, the population of Fort Worth was over 23,000 and later swelled to 106,000 in 1920 (United States Census Bureau, 2008, p.78). Even with the nickname of Cowtown, Fort Worth was more of an industrial town rather than her commercial sister city of Dallas. For the 1920 Fort Worth taxpayer, every \$100.00 of taxes paid, \$35.68 went to the city, \$22.11 to the public schools, \$23.37 to the county, and \$18.84 to the state (Utley, 1926, p.15). With the passage of the Divorcement Bill by the Texas legislature in 1925, Fort Worth Public Schools were allowed to be administratively and financially independent from the municipal government.

Two Class A colleges in Fort Worth, Texas Christian University and Texas Wesleyan College, allowed great opportunities for recruiting professional teachers;

however, from a 1924 superintendent survey, only 172 teachers held college degrees out of 234 high school teachers. By 1930, this number had dropped to five teachers without a college degree (Utley, 1926, p.23). What was unique about the Fort Worth school system was kindergartens were found in nearly all of the schools and Fort Worth was the first city to feed their school children at the kindergarten level. Class size was above the national average of 32.4 for the elementary schools, with 35.4 of children per teacher (Utley, p.70-75). The operating cost per pupil by schools for the average “white high school” was \$98.96 versus the average cost for the “colored” student was \$35.65 in 1923-1924 (Moore, 1924, p.85). By 1930 Fort Worth’s enrolled children had grown to 37,264, in 1940 the children’s enrollment was 33,382, and by 1950 the enrollment was 42,031.

The age of progressive education flourished in the early 1900’s with the community involvement and so did the Fort Worth community with their schools. The Neighborhood House, a social settlement in Fort Worth took the lead in sponsoring public school kindergartens (Cremin, 1964, p.64). The growing concern of waste and multiple use of school buildings opened the schools up for evening classes, clubs, and social centers. Evening courses were reading, spelling, arithmetic, English, penmanship, algebra, geometry, Spanish, mechanical drawing, millinery, commercial arithmetic, commercial law, bookkeeping, business English, salesmanship, typewriting, and shorthand (Utley, 1926, p.31-32). “The complexity of modern life and the necessity of developing individual talents lead to demand a complete revision of the Fort Worth curriculum” during the 1920’s (Utley, p.83).

National revision of the curriculum was also seen throughout the states. Curricula integrated in terms of child experience went by various names such as integrated, experience, activity, unit, and project curricula, but in every case the curriculum originated in the immediate life activities of the children themselves (Brubacher, 1947, p.312). From an early 1920's Texas survey, criticism grew against the college preparation courses since it was not the chief end for all children. "Once the financial aid had been provided, schools established, and teachers employed, the individual might be prepared to meet his daily responsibilities in a democratic society"(Utley, 1926, p.80). With the curriculum revision, social efficiency promoted by William Chandler Bagley, became the conscious aim of all educational effort. W.C. Bagley, a prominent educator and philosopher, and other leading essentialists led a last push effort to oppose Dewey's educational philosophy (Bagley, 1938).

The essentialists wanted to stabilize the educational aims and methods by emphasizing the true experience for the common good of all rather than focusing on the individual needs and differences of each student. Fort Worth educators went with Bagley's philosophy rather than Dewey and all Fort Worth high school principals listed the "aim of his school and that the character is surely the ultimate aim of education" (Utley, p. 84). During the period between the two world wars, "interest centered largely about the core curriculum. A later type of core curriculum was a fusion or correlation of a number of broad fields such as general mathematics" or general science (Brubacher, 1947, p.313). But it was the eve of the Second World War where the battle between

“Dewey and the more conservatives finally agreed on the defense of the democratic philosophy of education” (Brubacher, p.134).

With the Second World War hanging above everyone’s head and Uncle Sam gathering the young men, most of the Fort Worth high school students became active with projects centered on the war effort. The Junior Red Cross had 100% participation in most of the Fort Worth high schools. Their activities for the overseas soldiers involved mailing out literature or hunting knives made by the high school students. For the Fort Worth hospitals, students made ash trays for the waiting rooms or delivered Christmas presents to the patients (*Panther*, 1945).

The 1950’s brought in the Cold War and the fear of the Russians. This attitude pushed for more science and math within the Fort Worth curriculum besides practicing the Civil Defense drills for bomb raids at all grade levels. In the 1958 public relation brochure published by FWISD, a listing of facts was given: 2,388 classroom teachers for 67,602 students while the cost of education per student was \$290 when compared to the nationwide average cost of \$320. The brochure also listed the educational objectives needed by the Fort Worth community. The first three summed up the simplicity and structure of the 1950’s:

1. Gain a command of the fundamental subjects of learning
2. Develop ability to think and to reason
3. Learn the values of industry, thrift, safety, conservation, courtesy, and develop good habits in these things.

It could be said Fort Worth was still developing that ability to think and reason when it came to segregation. Fort Worth had always kept the African American students and faculty separated. In 1954 there were four African American elementary schools, five junior high schools, and one senior high school to serve a total of 6980 students (Hamilton, 1954). September 4, 1956 marked the day when the Fort Worth community finally had to think hard and begin to understand what the real value of courtesy was. Two African American families tried to enroll their children in two white elementary schools, Peter Smith School and Carroll Peak School, but both principals of these schools turned the children and parents away (“Negroes Turned Away,” 1956). On October 2, 1959, an attorney, Clifford Davis, filed a lawsuit in the Federal District Court to force the Fort Worth School Board to begin the process of desegregation (“School Heads”, 1959). Thus, the end of 1950’s also began the end of segregation for the Fort Worth School system.

The 1960’s desegregation of the Fort Worth schools saw the yellow school bus picking up elementary children in the Stop Six and Como area of Fort Worth and deposited them at the east and west side white schools of Fort Worth. It was time and the district had to do something. In this sense, something was better than nothing. Integration began with first grade and all adult classes by 1963. Later, all second graders were bused throughout the district, even the teachers. It took four years after Clifford Davis filed that lawsuit for the Federal Judge, Leo Brewster, to hand down his decision concerning desegregation against the Fort Worth schools (“Integration Plan,” 1963).

Besides desegregation, the junior highs began to disappear and middle schools took their place by pushing the ninth grade into the high school buildings and the sixth grade into the middle schools. The social studies curriculum for Fort Worth began to introduce other cultures in the classroom and team teachers taught a new course, Humanities, within the English Department.

The 1970's brought open classrooms for the Fort Worth schools and honor classes for the advanced students. Dress and hair code was pushed to the limit with boys' long hair and girls' mini skirts. The typical technological tools seen in the classroom was the slide rule and the Smith Corona electric typewriter. As the technology increased, so did the interest of the student to be entertained by it.

One major factor working against the racial balancing inside the classroom was the rapid change of the population ethnicity within neighborhoods. In 1966, S.S. Dillow Elementary had 308 Caucasian students representing 57.2% and 231 African American students representing 42.8%. In one year, the Caucasian population dropped to 195 or 31% and the African American population increased to 433 or 69%. This trend was seen in other elementary schools ("Fort Worth Schools," 1967). The Fort Worth School Board was under court order to integrate one grade at a time, but the board decided to accelerate the plan and integrated all elementary grades in 1965 and all grades by 1967 ("All Elementary Grades," 1965). With the demographics changing so radically upset parents continued to move out of the Fort Worth School District. In reality only 10% or more of the student population was African American in nine elementary schools, one special education school, and two junior high schools (Vachule, 1967).

To counteract the Fort Worth white flight, FWISD administrators presented a comprehensive magnet plan for the secondary schools to board members at the October 8, 1976 meeting.

Magnet schools, developed around a specific theme or area of interest such as mathematics/science, performing arts, or traditional academics, were becoming increasingly popular in the 1970's as opposition to busing.... Magnet schools offered a different means for achieving racially balanced enrollments in large cities, where white enrollment was swiftly diminishing with or without busing (Urban & Wagoner, 2004, p. 324).

But it wasn't until 1981 that the last all African American school was integrated. That September, Dunbar High School enrolled its first Caucasian student for the magnet school of science and engineering. This African American high school was built during the 1960's in the historical community of the Stop Six area of east Fort Worth. In 1984, the medical and health program was designed at North Side High School, home to the Hispanic community of north Fort Worth in 1984. By 1989, the magnet programs infiltrated into four high schools, five middle schools, and four elementary schools.

The philosophy of the applied learning was not considered a magnet school because it was not a school within a school. Applied learning was started from a district and corporation restructuring plan in 1989. From the success of this program an historical 1927 school building was converted from the Alice Carlson Elementary School to The Alice Carlson Applied Learning Center. Fort Worth opened these doors to be the first elementary school of choice in the fall of 1992 for applied learning instruction and in

1996 another applied learning elementary school on the east side of Fort Worth, Riverside Applied Learning Center, opened its doors. ALA was referred to as a special interest program, but this phrase, special interest, replaced all magnet school titles because of the racial unrest growing. Racial tension started again within the Fort Worth's schools from the African American community over the magnet schools during the 1990's. Instead of desegregation, magnet schools, populated mostly by Caucasian students, were segregating the minority students from the extra funding and supplies appropriated to the magnet schools. FWISD changed the magnet name into special interest programs in 1999 and allowed any student to be accepted into these programs. Applications were open to all students within the FWISD causing a waiting list to be created for some schools.

History of Applied Learning in Fort Worth

The applied learning project in Fort Worth grew out of the community, corporations, and classroom (C³) connection from the data writing project during the summer of 1989 after the SCANS report was released by the U.S. Department of Labor (see Appendix B). Dr. Don Roberts, Superintendent of the FWISD, sent a memo to all board members on November 14, 1991, urging the importance of the restructuring process for Fort Worth's schools. Called the Fort Worth's Community, Corporations, and Classrooms, the C³ Project's purpose was to link community, corporations, and classrooms together to help children prepare for adult success in work. As many as three hundred companies had employees' task-analyze their jobs and then rate each task according to a five point descriptor rating scale of rudimentary, basic, intermediate, adept, and advanced task

which would be necessary to perform each job. The results indicated the rigorous demands of today's workplace. Even if the job only required a high school diploma, all tasks were rated with at least an intermediate reading and math level. The workplace values two competencies not always addressed in traditional academic settings: (1) the ability to solve problems and (2) the ability to work productively as a member of a group. Fort Worth teachers across grade levels and content areas worked to design classroom projects that would address the competencies and skills that the data had indicated were critical to the success in the working world. During the 1991-1992 school year, these teachers made several important discoveries as they worked on projects in their classrooms. They learned what research has long suggested. That is, students learn best when they:

- Use interdisciplinary concepts and processes to solve ill-defined problems;
- Use documents and sources of information other than textbooks;
- Create a variety of products that others can use;
- Relate the work of the classroom to the world outside of school;
- Influence and shape the course of their own learning; and
- Model their performance upon that of competent adults.

(Victorian Qualification Authority, 2004, p.2).

The term applied learning encompasses the true focus of the Fort Worth C³ program, collaboration between the Fort Worth Chamber of Commerce and the Fort Worth I.S.D. by providing unique educational options for students to explore and solve problems in a non-traditional environment. FWISD wanted to give more opportunities to

better prepare graduating seniors for college, for the working world, and for life. Fort Worth C³ developed not only the Applied Learning Project, but the Portfolio Project, Technology 2000 Labs, and the Vital Link initiative.

In 1991, thirty teachers and five businesses were the initial trailblazers for applied learning. Applied learning projects were designed and carried out throughout the district's classrooms. It was these applied learning classes which were observed during a site visit as part of the selection process for the Scholastic National Alliance of Business Community Award and in 1994, the community of Fort Worth received this prestigious award. Fort Worth then organized one elementary school, Alice Carlson Applied Learning Center, to teach by the applied learning method only. Students from kindergarten through fifth grade would incorporate traditional academic traits such as regular homework, structured school hours, and standard assessment tests. The unusual style of teaching methods and interactive learning techniques gave the Alice Carlson Applied Learning Center a unique rating within the FWISD. As self-critics, students provide their own personal assessments as progress reports for parent/teacher/student conferences. Incorporating team building, children worked on assignments in cooperative groups. Most importantly, community partnerships were developed from large institutions such as the Fort Worth Zoo and Texas Christian University by providing opportunities for hands-on learning in real-life situations. The 5th grade parents of the Alice Carlson Applied Learning Center wanted their children to continue with the applied learning philosophy into the middle school grades, but there was no applied learning middle school to go to.

The Applied Learning Academy began in 1993-1994 with 65 students in 6th grade at the Professional Development Center on 3210 West Lancaster for a 1 year agreement from the Superintendent, Dr. Don Roberts. The idea of an Applied Learning Academy (middle school) was started from a grassroots request from the Alice Carlson elementary parents. Sally Hampton, Director of the FWISD Applied Learning Program and Midge Rich, Assistant Superintendent of Curriculum Planning and Development were instrumental in guiding the planning committee for this new school. The student selection was made by a lottery system conducted by the FWISD Research Department ensuring that the student body was composed of 33% Hispanic, 33% Anglo and 33% African American students from each of the four main geographic regions of the city.

The original pioneer staff was two teacher-directors, Kay Shambaugh, who taught language arts and social studies, and Mary Adler, who taught the math and sciences. The teacher-director role was a unique combination of teaching and administrative skills. The job description for this type of position posted June 20, 1995 described both the school and the job function as:

The Applied Learning Center provides an alternative approach to education, based upon innovative practices such as acceleration of student learning and development of real-world competencies through involvement in applied learning projects and community service, evaluation of student and staff performances with performance portfolios and other alternative forms of assessment, and negotiation of school schedules and curricula by teaching staff, student, parents, and teacher

directors. The academy operates on a year-round calendar. The essential job functions serves as an instructional model by teaching 50% of the time (FWISD Job posting # AP-158, 1995).

The other faculty members were Camilla Marion who taught art, physical education, and health and Paula Miller, a FWISD writing specialist, who taught language arts and social studies. The classes were taught in 2-hour blocks and focused on narrative reports and reflections inside portfolios rather than grades. Students were required to communicate in different circumstances (e.g., small groups and large groups); in a variety of media, visual and oral as well as written; and utilizing a variety of technologies such as computers, videotape, and audiotape. Both the teacher and students shared the responsibility for defining a problem or a need that a project will address and both the teacher and students were responsible for continually monitoring and assessing the students' work by developing assessment criteria which was based on competent adult models.

Due to this school's unique central location inside the museum district of Fort Worth, collaborative partnerships developed between the Kimble Art Museum and the Museum of Science and History. From these partnerships the ALA students produced four major projects which were open to the public: Winter Applied Learning Interactive Science Museum, the African Symposium, Dreams and Visions, and period costume docents for the Cattleman's Museum.

At the end of the first successful year, the school had to relocate and ideally the school should have been located next door to the elementary school, Alice Carlson

Applied Learning Center. Several sites were studied including a possible location on the campus of the University North Texas Health Science Center (UNT-HSC). Dr. Tom Yorio, Dean of Graduate Studies at UNT-HSC, and other professors were interested in working with the Applied Learning faculty and the students by providing opportunities for the ALA students to conduct lab investigations within the medical field, but due to UNT's expansion plans this did not happen.

The school moved into their new location at the Bluebonnet Elementary building on 3201 South Hills Drive in July, 1995, and began their school calendar as a year-round schedule with 9 weeks of instruction and then 3 weeks for intersession which was synchronized with Alice Carlson's schedule. Unfortunately, a new superintendent took over this office in 1994 and seemed to be complacent toward applied learning simply because this was not his program. This heavy mood remained over ALA until the superintendent left this position in 2004.

As the school grew, so did the faculty with six more teachers joining the staff. The 1994-1995 school year was full of student projects which had the Fort Worth community involved. An article in *Educational Leadership* (1995) by the ALA faculty, Paula Miller, Kay Shambaugh, Jill Wimberly, and Cynthia Robinson, described their student projects. In November of 1994, ALA implemented an educational tour designed by the ALA students under the guidance of Kay Shambaugh for a group of Japanese educators. The winter conference for the Harvard Performance Assessment Collaboratives for Education (PACE) Projects was held at the Academy the following February. Applied learning projects were presented to the teachers who attended and

were well received by this audience. Mary Adler and her students presented the Children's Awareness of Nutrition and Exercise Community Team (CANECT) Project at the Research Appreciation Day at the UNT-HSC. Jill Wimberly and Cynthia Robinson's students began a three year commitment with the Fort Worth Botanic Gardens to design a nature trail and native garden at the new north entrance. Casa Manana Playhouse became a new partnership for ALA that year and assisted with the play, *The Runaway*, which was initiated and directed by the ALA students. During that summer, ALA students were teacher assistants and helped at the America Airlines Summer Eagle Camp for 4th and 5th graders under the guidance of faculty member, Ray Willmuth.

For the 1995-1996 school year, ALA became a full middle school with all three grade levels of 6th, 7th, and 8th grade. The 6th grade kept the combined classes of science and math then language arts and social studies for block scheduling, but some of the faculty were now teaching just one subject rather than a mixture. A slow gradual change of the curriculum developed inside ALA as the state testing became more and more important under the direction of Superintendent Dr. Thomas Tocco.

The public interest of applied learning was growing which created a longer waiting list for Alice Carlson Applied Learning Center; therefore, one more applied learning elementary school, Riverside Applied Learning Center, opened up for the public in 1996. For the 8th graders leaving ALA, the applied learning high school program at Trimble Tech High School was finally set up and promoted during the fall of 1999.

Goals of Society

Freedom of thinking has been a common theme for the revolutionary man. This concept has naturally been absorbed into the literature throughout history, but to have freedom inside the school is a different type of freedom. It was Piaget who wrote that the first goal of education is to create minds that are capable of doing, creating, discovering new things and the second goal of education is to form these minds to be critical and not accept so easily what is given (as cited in Ginsburg, & Opper, 1979, p. 238). This freedom of thinking was also expressed by John Dewey when he wrote, “genuine freedom, in short, is intellectual: it rests in the trained power of thought” (Dewey, 1978, p.232). But today, this pathway for the child’s power of thought should be in the voice of the child’s own language (Delpit & Dowdy, 2002). Without the power of thought, what are we? Most students think learning in school is when the teacher tells the class what to do, but being told what to do and how to do it will not be retained by the student (Delpit, 1995; Finkel, 1999). What was learned in the classroom should be remembered and used throughout the student’s life. This then is the life learning skills teachers should teach in their classrooms. That is the true education we should be striving for since “education is the generation of power; and the generation of power, is the very highest economy of which man can conceive” (Parker, 1984, p.117).

A common creed among parents “is the belief in freedom in the esthetic enjoyment and artistic expression, in opportunity for individual development, and in learning through activity rather than by passive absorption” (Dewey, 1930, p.204). But where is the fine line between the freedom of power in education to allow critical

thinking and students' voices to be heard or is this educational power merely focusing on acquiring job skills? Some people think a democratic society wants and needs a strong working force rather than a thinking force. Most parents want their children to succeed in the work force. Parents send their high school graduates to college to earn a degree which will hopefully guarantee their child a higher income. Recently the researcher's college graduate daughter calls home to inform the family of her recent raise, her second raise within the past six months. Did the family ask her what she was learning on her new job? What skills has she applied from the college classroom into her new working environment? Sadly, these questions were not asked. The family focused only on her growing income instead of what she was learning at the new computer job.

Another goal for our society would be "for the teacher to become expendable" (Shor, 1987, p.98). From the beginning of grade school, the teacher directs and orders her new charges, but the need to alter students into self-motivated, self-regulating, and selfless souls requires that the teacher transforms the daily curriculum into a level of critical thinking. Teachers must strip away their leadership role creating a liberated classroom by breaking the student's daily routine away from the surrounding mass culture. "A successful class prepares students with the critical skills to become their own systematizers, organizers, and cultural analysts... The teachers are not doing things for the students or to the students, but rather are launching a process with them" (Shor, p.100-112).

Jean Anyon (1980) observed a division of labor between the social classes within the public and private schools' curriculum. Public schools had more rote memory

promoting obedience, creating non-thinking workers, while in private schools there are more problem solving, inquiry based projects. Other educationists at that time wrote about the striking difference of the pedagogy seen within the different socio-economic schools (Banks, 1988; Coleman, 1968, 1981; Cummins, 1986; Giroux, 1987; Haberman, 1991; Kozol, 1990; Sjoberg, Brymer, & Farris, 1966; Vasquez, 1988; Willis, 1977).

Paul Willis captured the dialog of twelve working class teenage boys and their attitude about schooling in his book, *Learning to Labor* (1977). Willis' narratives told the boys stories about what they had to do in order to fight the academics. It was their way of rebelling against school authority which filled their head with pride, yet kept them locked into low menial jobs.

Unfortunately, these stories and articles still ring true today with the advancement of productivity and industrialization. Brought on by Ford's assembly line of large scale production under a wage labor society, education began to resemble this system. Since society was run by the white male capitalist, so should the classroom (Donovan, 1985). Production at cost saving processes came from the capitalist mentality, but while it was exposed by Marxism, it still bled into our educational system. The modernization of the factories did not open the door to the liberal thinking student, but to the industrial modernization of the classroom. Here lies the alternate goal of today's schools. Modernization of academia produces fast track curriculum pushing the students through more levels of education. Traditional teacher instructions driven by lecture and rote memorization, allowed the students to all think, act, and do the same assembly line classwork. From the production line at work, increased specialization became apparent

in labor which naturally increased the productivity. This was the capitalist idea for the modern classroom. This was the new goal for our society, but it was a tarnishing goal.

Philosophic Tradition of Community Education

The original beginnings of community education can easily be argued that it started when mankind united to form tribes and combined their skills for a better survival. These skills were then taught to their young. But, it is the school, the one big institution in which most or all of the people in any given community have a common interest. Our schools should always be the expressions of opportunity from our social conscience at any time. Possibly the community and education in the United States can be traced back to Benjamin Franklin when his “plan for an English grammar school was first sketched in 1743 and published in 1749 as *Proposals Relating to the Education of Youth in Pennsylvania*” (Urban & Wagoner, 2004, p.58). Franklin died before he could build this practical institution, but he readily acknowledged that many of his ideas were drawn from the writings of other men.

He [Franklin] noted in particular his indebtedness to John Milton’s *Of Education* (1644), John Locke’s *Some Thoughts Concerning Education* (1745), Charles Rollin’s *The Method of Teaching and Studying Belles-Lettres* (1726-1728), and George Turnbull’s *Observations upon Liberal Education in All Its Branches* (1742) (Urban & Wagoner, 2004, p.59).

We should not have to wait for the right movement or that one strong public voice to awaken the community. The awakening can be from many different types of institutional forms such as civic commissions, ladies clubs, charity associations, church

leagues, reform societies or the social settlements that developed in the late 1800's. The philosophy of community service and education could be linked to the 1830's with the publication of *Democracy in America* by Alexis de Tocqueville suggesting community service as "habits of the heart" (Tocqueville, 1945, p.83).

To look back on the 1890's is to sense an awakening of a growing belief that this incredible suffering was neither the fault nor the inevitable lot of the sufferers, that it could certainly be alleviated, and that the road to alleviation was neither charity nor revolution, but in the last analysis, education (Cremin, 1964, p.59).

The most famous of the American heart habit settlements was Jane Addams and Ellen Gates Starr's Hull House of Chicago. This shelter offered programs for what the surrounding neighborhood needed. Whether it was first aid, reduce street gangs, trade education for the unemployed, establishing kindergartens and day nurseries so mothers could have day jobs, these settlements were the educational lifeblood of the local community. Other settlements were developed throughout the United States such as the Henry Street, New York's College Settlement, and the Harley House in New York, The Roadside Settlement in Des Moines, Locust Point Settlement in Baltimore, Whittier House in Jersey City, and Neighborhood House in Fort Worth.

To work with the unfortunate "was to work with the immigrant and to work with the immigrant was to be immediately conscious of the historic problem of Americanization" (Cremin, 1964, p. 66). Education was naturally involved, but

few agreed on what Americanization was and what it meant. Older and more established institutions, churches, libraries, political clubs, even local glee clubs assisted with the work of Americanizing the new immigrants with literacy training and citizenship classes. Schools that wanted to educate the new immigrant students had to deal with several different languages in a single class helped to alter the school's curriculum. "Manners, cleanliness, dress, the simple business of getting along together in the schoolroom-these things had to be taught more insistently and self-consciously than ever" (Cremin, 1964, p.72).

Because of Jane Addams close friendship with John Dewey and his association at Hull House during his time at the University of Chicago, Dewey's "faith in democracy as a guiding force in education took on both a sharper and a deeper meaning" (Schilpp, 1939, p. 29-30). Both Dewey and Parker's educational philosophy involved the student needing to develop a sense of responsibility to both the school community and the larger community (Dewey, 1963; Harms, & DePencier, 1996; Parker, 1894; Parker, 1915). This practical thought of education for "self and society" later developed into the progressive educational movement of the late 1800's and early 1900's (Urban & Wagoner 2004, p.59). It was at this time that John Dewey's *Democracy and Education* (1916/2002) reached the public to help explain the importance of his interpretation of Americanization.

A sense of community involvement was promoted in education with the onset of the world wars (Urban & Wagoner, 2004). Through Victory gardens or collecting scrap metal, children were asked by their schools to be good citizens and help their

community. Before the onset of the wars, the public viewed progressive education “as part and parcel of the broader program of social and political reform called the Progressive Movement” (Cremin, 1964, p. 88), but progressive education started long before this political tie. Progressives were moderates and moderates take their time in changing things. “It is this as much as anything that usually separates them [progressive educators] from their more radical contemporaries” (Cremin, p. 89).

Ralph Tyler’s 1949 *Basic Principles of Curriculum Instruction* and Hilda Taba’s 1962 publication *Curriculum Development: Theory and Practice* promoted the community within the classroom. Community service and education heightened during the Kennedy era when President Kennedy in 1961 gave his famous inaugural speech to promote the space race by not asking “what your country can do for you, ask what you can do for your country” (Kennedy, 1961/2009, ¶ 25). For the modern day educator, Rogoff, Turkonis, and Bartlett (2001) and Wenger (1998) continued to promote education through the community. In *Learning Together*, this pathway of learning is referred to as “coming home to school” (Rogoff, et al, p. 67). A community of learners develops through a partnership of parents and teachers who engage collaboratively with their children.

Community involvement meant student involvement so the hands-on method of teaching with project-based curricula provided “a structure for discovery that helped students internalized learning and lead to greater comprehension” (Delisle, 1997, p.1). Originally designed for medical students by Dr. Howard Barrows (Association of American Medical Colleges, n.d.) at the University of Alabama, problem-based learning

(PBL) entered the community high school when the faculty of the BioPrep Program designed a high school program to increase the number of premed minority and economically disadvantage students (Delisle, p. v). This community partnership of a university and a local public high school under Dr. Barrows' 1960's research at the McMaster University paved the way for effective science teaching using project-based learning and community partnerships in more high school science classes.

Not only did the sciences bring the community involvement inside the classroom, but the language arts can strengthen the community ties as well especially within the diverse classroom. "The verbal adroitness, the cogent and quick wit, the brilliant use of metaphorical language, and the facility in rhythm and rhyme" are evident in the African American and Native American communities (Delpit, 1995, p.57). This specialized language should not be lost or shadowed. Through communal storytelling, classroom learning strengthens the linguistic knowledge of the child. Even seen today at Dewey's Laboratory Schools in Chicago, their library sponsors professional storytelling which allows the outside community to come in and interact with the school children.

Theoretical Framework

Three theoretical theories interlace the Applied Learning Academy's framework. The strongest thread is the critical theory woven by Paulo Freire, Henry Grioux, Peter McLaren, and Ira Shor. Tied neatly into the critical pedagogy is the situated learning theory starting with Antonio Gramsci, Jean Lave, and John Brown. Lastly, the feminist theory from Nancy Hartstock, Carol Gilligan, Nancy Chodorow and Lisa Delpit tie the

knot on the last strand for the theoretical framework. From these theories, the specific articulated framework of ALA's educational structure is described.

Critical Theory

The first theory for applied learning could have been found within Paulo Freire's classroom since teachers and students simultaneously share roles to avoid the practice of educational domination (Freire, 1990). A partnership develops between these two different groups to stimulate and promote creative learning. "Freire's pedagogy was antiauthoritarian, dialogical and interactive, and puts power into the hands of students. Most important, Freirean pedagogy puts social and political analysis of everyday life at the center of the curriculum" (McLaren, 2003, p. xxix). Even though this partnership may not continue beyond the classroom, the students will hopefully begin to realize that the teacher is really a facilitator, not the enemy, once they are given a voice.

Giving a voice to the student rather than just inundating students with facts supports Paulo Freire's, *Pedagogy of the Oppressed* (1990) and Ira Shor's, *When Students have Power* (1996). Shor's involvement with his college students broke the traditional setting of a literature classroom by allowing open discussions that were student directed and led. Freire's description of traditional education was the "banking system" (Freire, 1990, p.58). "The more they deposit, the less they develop the critical consciousness which would result from their intervention in the world as transformers of that world" (Freire, p.60). This critical consciousness could also imply the student's critical thinking skills.

Banking education resists dialogue; problem-posing education regards dialogue as indispensable to the act of cognition which unveils reality.

Banking education treats students as objects of assistance; problem-posing education makes them critical thinkers. Banking education inhibits creativity and domesticates (Freire, p.71).

This domestication or overpowering of education strips the student of his own voice or opinion. The traditional school of lectures and note taking can leave the student bored, uneasy, exhausted or worse disruptive each day in the classroom. By removing the banking system in education, students' voices can then be heard and listened to causing this educational malaise to be prevented and avoided.

Stepping away from the banking system, some educators in the 1990's moved closer to Peter McLaren's approach to critical pedagogy. His interpretation of critical pedagogy was "to try to understand in a dialectical fashion how students and teachers have become formed by capitalist social relations-that is, by capital as a social form" (McLaren, 2003, p.28). McLaren believes that the Marxist theory should play a central role in critical pedagogy, but when the typical American ear hears the word, Marxist, closed ears and minds occur. American schools have drilled the horrors of the communistic society into the students' minds leaving no room to envision the reasoning behind Marxism. McLaren wants teachers to ask the following questions: "What is the role of labor-power in the current emphasis on educational standards, monetary rewards for successful schools, the current stress on accountability, and the push towards a national curriculum? Why do social classes exist" (McLaren, p.28)? McLaren's

revolutionary critical pedagogy focuses on the problems that the production of value is created by the work experience from teachers and students. The academia should then question how knowledge is produced. This should be the motive force to help remake society by giving material force to ideas through collective revolutionary action both in and on the world- a new revolutionary praxis (McLaren, p. 31).

“As private enterprise employs fewer people for fewer hours, the number of workers un-regimented by work increases... and as the work-world supervises workers less, school has been arbitrarily prolonged to supervise them more” (Shor, 1987, p.9). Students are forced into having school credentials due to the demand of the job market, but most of the classes train the student in trivial skills. Too many teachers take part in reproducing “capitalist schooling” where the corporate world tells the academic world what to do within the classroom (McLaren, 2003, p.23).

Central themes of the progressive educational movement were cooperative learning and learn by doing, which meshes well with the corporate world’s delegation of power and maintenance of the work ethic. Dr. McLaren writes in his EDU 284 course syllabus on *Critical Theory in Education: Power, Politics, and Liberation*, that education and vocational training fuels the capitalistic machine by generating the labor power (McLaren, 2007). Without this work pool and its divisions of labor, there would be no capitalistic society. When giving a voice to the student and teacher will then “disrupt the capitalist class relation by teaching about social justice” (McLaren, p.12). Yet, this type of “pedagogy has become problematic at the college level because working class language, thought, culture, and experience are antagonistic to the genteel

ambience of academe”(Shor, 1987, p.19; Willis, 1977). For the critical theorists, central themes are the struggle for working-class hegemony and how the working class must learn to shape society to focus on freedom and justice. “In this context, a radical theory of education has emerged in the last twenty years...however, critical pedagogy does not constitute a homogenous set of ideas. It is more accurate to say the critical theorists are united in their objectives” (McLaren, 2003, p.185).

It is these objectives that give the voice to the student. To empower the powerless and transform existing social inequalities and injustices is the ideal curriculum for the critical theorist. “Students are people whose voices are worth listening to, whose minds can carry the weight of serious intellectual work, whose thought and feeling can entertain transforming self and society” (Shor, 1992, p.26). This is a very strong voice to have for a young middle school student, yet a voice must be given early in order to develop, grow, and mature as the body and mind grows and matures. It is this voice that students have developed when they leave the applied learning school and enter the traditional high school. It is this voice that allows these students to become leaders in their high school and hopefully, within their community as they grow into adults. This is the voice for which ALA was originally designed and built. The goal was and remains to learn not just the content knowledge, but how to find and use the content knowledge to better self and society.

As the classroom size increases and teacher workload gets heavier, permitting the student to have a voice is shrinking. FWISD is requesting the curriculum to be followed exactly prescribed on a day to day basis. A cookie cutter syllabus is handed to each

teacher at the beginning of the school year and published on the district web site. What page to cover, what lab to do, what questions to ask, and what problems to solve are prescribed in a daily calendar (see Appendixes C and D). Lost is the individual voice within the classroom concerning the curriculum design both for the creative teacher and the individualistic student.

Perfect freedom should be given the teacher to do the best work in her own way. That is, the highest good of the child should be the sole aim of the teacher, without the slightest regard for false standards. The teacher who strives for examinations can never really teach. The only true motive that should govern the teacher, must spring from the truth, found in the nature of the child's mind and the subject taught.... No wonder that teaching is a trade and not an art!... Let us learn, and courageously apply the truths that shall set us free; and the day will soon come when the teacher will lead society and mould opinion (Parker, 1883/1984, pp.154-155).

The false standards that Colonel Francis Parker was referring to are also expressed by Freire. "The freedom that moves us, that makes us take risks, is being subjugated to a process of standardization of formulas, models against which we are evaluated" (Freire, 1998, p.111). This domesticated or suppressed thinking is also defined as the "bureaucratizing of the mind" (Freire, p.111). There are few employers who want their workers to "think for themselves or who demand and deserve raises and advancements" (Shor, 1987, p. 24). To be labeled as a bureaucrat, we are merely the workers for

society's growth. Most students will easily fit into the factory mold of our growing service and industrial economy. A traditional student is typically concerned with the score of the test and their rank in class, while the subject content will probably not be remembered anyway. "The school curriculum is structured so that the student must make exclusive choices between earning a living and learning how to think" (Shor, p.23). Education should not be directed solely at passing the test. This type of education will not promote the freedom of thinking in an individual.

Henry Giroux, another leading critical theorist in educational pedagogy, was interviewed by Michael Pozo (2004), concerning the crisis of education in America today. Giroux regards the top priority of the university, parent, administrator, and student to be focused on career training suitable for today's job market. "This is not to suggest that students should not learn workplace skills, but they need to be educated not only as workers but also critical citizens" (p. 4). Thus, applied learning is not just to teach job skills to the student, but it is to develop an independent voice of the student to be critical and to use this voice by becoming an active citizen for change. "Without dialogue, there is no communication, and without communication there can be no true education" (Freire, 1990, p.81). Giroux writes that:

Progressives need to join with community people, social movements, and teachers in both public and higher education around a common platform that resists corporate power, the marketing of schools, the deskilling of teachers, and the reduction of learning to the dictates of selfishness and capital accumulation (Giroux, 2007, p.3).

This deskilling of teachers is the loss of their voice due to the standardization of testing. It is this standardization that is creating the capital accumulation for the book industry while the true learning is reduced within the classroom. It should be noted that when Giroux wrote about progressives, he was using the generic sense of this word, referring to those who still believe that schooling is a public good related to the imperatives of democracy. “Of course this is what Dewey-like progressives believed, but my term is less about a political doctrine in the strict sense than about a particular view of schooling” (H.A. Giroux, personal communication, March 9, 2007).

Here lies the first theoretical framework of the applied learning method. The early progressive movement in education gave rise to the modern critical pedagogy and from these two phases in education, the applied learning philosophy developed. These men, Paulo Freire, Henry Grioux, Ira Shor, and Peter McLaren, were the building blocks for the critical theory and the radical pedagogy which are still guiding education today.

Theory of Situated Learning

The second theory building the internal structure of applied learning comes before the 20th century pedagogical progressive movement developed (Urban & Wagoner, 2004). Forerunners to this movement could easily be pointed at the 18th century philosopher Jean-Jacques Rousseau in his 1762, *Emile*. “Avoid verbal lessons with your pupil. The only kind of lesson he should get is that of experience” (Rousseau, 1762/1967, p. 40). With a more modern definition, “learning is highly turned to the situation in which it takes place” (Resnick, 1989, p.1). It was John Locke and Rousseau who influenced Benjamin Franklin’s educational thoughts on sense perception, “the

empirical and the environmental, found deep accord with Franklin's already strong orientation toward experience as the best teacher" (Best, 1962, p.12). Franklin's proposal for an Academy in Philadelphia and The English School are prime examples of educational reform for progressive education which feed into the theory of situated learning.

The realist learning, long taught by private masters or on the job in apprenticeship, was to be formalized and institutionalized, with resulting improvement enhancement of its prestige. The Academy would not only prepare young men for college; it would also offer a complete "secondary" education for the trades and professions (Best, p.13).

Situated learning is closely related to Vygotsky's, *Mind in Society* (1978), where the student learns through social development. Children transcend their level of understanding through social stimulation and interactions with the environment which includes peer interaction. This was later brought out into detail by Brown, Collins, and Duguid (1989) and Lave and Wenger (1991). From apprenticeship to situated learning to peripheral participation, Lave and Wenger make the connection to learn, to remember, and to understand. Most classroom experiences involve abstract concepts for the young students to try and comprehend such as algebra. Lave explains that learning is *situated* [italics added] around an activity, context, and culture which should be a life-long unintentional process rather than being a deliberate forced mechanical method. Too often school work is not authentic producing little learning and low quality products

from the students. Lave saw that just common people had a better grasp of math when it was coming from the grocery store or the tailor shop (Lave, 1988). Learning methods that are “embedded in authentic situations are not merely useful they are essential”... because “activity and situations are integral to cognition and learning” (Brown, et al. 1989, p.32-34). Social interaction is essential for the process of situated learning. It could be said that situated learning involves the student with a community of practice whether acquired or learned from the surrounding culture. The young student becomes more involved or active with the surrounding culture and changes from being the novice to the expert. Brown et al. (1989) bring out the idea of cognitive apprenticeship by allowing the students to acquire, develop, and use cognitive tools in authentic environments whether it is inside or outside the school compound. The situated learning theory strengthens social interaction and the social construction of knowledge which was based upon Bandura’s theory of *Social Learning* (1977); yet, here lies an overlap between the situated learning theory and the theory of community education. Both need social interaction in order for the student to learn from their peers.

For Antonio Gramsci, an early Marxist theorist and intellectual, the educational system existed for the dominant social group in society; this elitist or paternalistic class will then maintain its hegemony over all (Burke, 2005). Thus, the “general structure of university life does not create, not even at the university, any permanent intellectual hierarchy between the professors and the mass of students” (Buttigieg, 1992, p.107). Gramsci explains that schools could only be successful with active participation of pupils by relating to daily life skills. Education should not include abstract ideas, but that

concepts, logic, or grammar be demonstrated through work and reflection. The student needs to be active and creative instead of being passive. Thus, the situated learning theory makes a full circle back to the philosophy of learn by doing or the progressive movement.

Feminist Theory

The feminist theory is the third theoretical framework selected to explain the philosophical background of the applied learning. The neglect of the female voice inside the gym was altered due to the passage of Title IX of the Educational Amendments in 1972, where no person shall be excluded from any type of participation in education. No longer invisible inside the school gym, more young girls were given the opportunity to participate in different sports. This active participation slowly appeared inside the classroom as well. By the 1990's more than 52 % of the college population was female and the faces seen on college campuses were no longer all white and male (Moses, 1990). These developments have specifically contributed to the growth of the feminist movement. The feminist theorist demanded their voice in the 1960's and began shouting their opinion not only with what the curriculum was teaching, but how the curriculum was taught during the 1990's.

Looking through the eyes of the feminist theorist, would the applied learning classroom be appealing? If the definition of feminism is to stress the interrelationship of theory and practice by eliminating women oppression then the researcher would argue yes. "For most women in our society, identity and learning have to do with relations with others; while for men identity and learning have more to do with separation" (Forcey,

1995, p.216). Nancy Hartstock, another feminist writer, “urges that since alienated labor remains one of the central modern oppressions, feminists need to develop a new conception of work itself” (as cited in Donovan, 1985, p.88). Hartstock continues to define this restructuring as “creating a situation in where thinking and doing, planning and routine work are parts of the work”, but in which this work “can develop ourselves and transform the external world” (as cited in Donovan, p.88). This restructuring involves the worker, instead of alienating the worker. “The worker who specializes in screwing on bolts is obviously experiencing alienation from the product and the process” (Donovan, 1985, p.81).

Product versus process may be the argument to attack or defend the applied learning philosophy. “Attention to the processes by which we produce our research and theories are far more important than the concern with getting it right” (Skeggs, 1995, p.203). The feminist epistemologies argue that the product versus the process promotes the white male dominancy in education since women tend to be more focused with the process. From Gilligan’s, *In a Different Voice* (1982), women speak in a different voice because “they have different conceptions of self, different ways of interacting with others, different life experiences, and, hence different ways of knowing and learning” (Forcey, 1995, p.216). Research has claimed from Brock-Utne (1985), Reardon (1989), and Ruddick (1989) that women “tend to recognize the reality of interdependence and connectedness; they seem to be more concerned about caring for others” (Forcey, p.212). Nancy Chodorow (1978) and Carol Gilligan (1982) also wrote that females are different

from males both psychological and sociological since females tend to be more caring, nurturing, and more cooperative.

Applied learning emphasizes self-reflections and cooperative work. Daily logs are usually kept to document the process of skills acquired when projects are initiated in the classroom. “The individual woman’s voice is seen as the most valuable resource in the classroom and it is assumed that teachers assist students in their search for this voice” (Looser, 1993, p.55). Kramarae and Treichler (1990) found that men are more interested in the “content of the learning with the cognitive and non-personal aspects of classroom interaction” while women are more likely to talk in a collaborative manner (as cited in Gabriel & Smithson, 1990, pp.54-55). Thus, the *process* [italics added] of knowledge is seen within the applied learning classroom; however, it is the final *product* [italics added] that the student will be evaluated heavily on which seems to satisfy the male student population. Yet, even this theory is changing. A new theory is emerging within the feminist composition theory.

Such a foundation for theory often calls for students’ written products to achieve the same goals, laying the ground for empirical feminist writing.

Therefore, feminist composition theory while it has often started from process is not just about theorizing process but about examining products (Looser, 1993, p.55).

Again, the reflective narratives found within the students’ portfolios at ALA involve both the process and the product of the students’ academic world.

Wearing different glasses, would the applied learning philosophy approve of the feminist movement? Since all students at the Applied Learning Academy must strive for self-reflection about their own learning process, the researcher would also argue yes. The process of planning trips, dances, or school plays inside the classes satisfy Skegg's product vs. process theory. The cooperative work for planning out the steps for projects supports Hartstock, Kramarae, and Treichler's argument. The writing of reflections about individual selected pieces for the portfolio all tie in with recognizing the individual as a separate person would satisfy Gilligan and Looser. Small class size, small student body population, and close relationships with the faculty would please Forcey and Chodorow. Other aspects that would satisfy the feminist: students were given their choice to read any 25 books per year; Friday club day involves wood shop to cheerleading to engineering with open admissions; and partnerships with surrounding communities of museums, theaters, city gardens, and pet stores keeps the female interested outside the classroom.

Another feminist viewpoint is the aspect of power inside the classroom. The female voice is the majority voice at the Applied Learning Academy. For example in the past 3 years, the breakdown of female to male has been 186 girls to 149 boys in 2006, 174 girls to 142 boys in 2007, and 185 girls to 156 boys in 2008. (Texas Education Agency, AEIS, 2009). Not only is power found in numbers, but power is found within the culture of the Applied Learning Academy. Delpit's, *Other People's Children* (1995) expresses this power in five different aspects. The first power is the issues of power enacted in the classroom. This could be the power of the teacher over the children, the

power of one group of children over the others, or the power of the class assignment intimidating the student who does not understand. The power culture at ALA begins when the rules are taught to the sixth graders on how to actively participate in open discussions, debates, and give class presentations. “Students must be taught the codes needed to participate fully in the mainstream of American life, not by being forced to attend to hollow, inane decontextualized subskills...but to acknowledge their own expertness” (Delpit, p.45). When the student is learning this culture of power, especially other cultures power, greater self awareness and responsibility develop.

What really strengthens the feminist theorist to the philosophy of applied learning may be John Dewey himself. Even though he never wrote on women or racism (as cited in Seigfried, 2002), women can find value in his philosophy due to two aspects that are extremely empowering.

One was the pragmatist principle that theory arises from experience and is accountable to it. This changed the subject matter of philosophy from continued rehearsals of the works of generations long dead and the formalism of problem solving based on purely logical considerations to concern with. This changed focus allowed women to trust their own experiences as a starting point for reflection even when they contradicted the received views of the time (Seigfried, 2002, p.51).

Dewey’s mantra, learn by doing, gave women their voice to reflect and think upon their actions. “The other principle was that the purpose of inquiry into experience was not to replicate it, but to interrogate problematic situations in order to satisfactorily

resolve them” (Seigfried, p.51). These radical transformations for women to grasp met their needs for academic strength whether as an individual or combined as a group. Found within the applied learning philosophy is this unique transformation of self-reflection and cooperative work to satisfy not just the feminist theorist, but Dewey’s and Freire’s principles.

Lastly, modern feminism is simply locating yourself. It is not trying to balance opposing powers at all times. Reviewing, editing, revising papers generated by the applied learning student develops this individual to be self-critical. Here the feminist theory can overlap into poststructuralist thought, but not where the radical criticism emerges, but more on the whole, positive, and stimulating convergence of emancipatory projects. “Indeed, perhaps more than any other groups of thinkers, feminists are particularly involved because the crossover between feminist theory and poststructuralism has been especially vibrant and productive” (McNay, 1992, p.2). Found within the poststructuralist writings of Michel Foucault, this self individualism was considered a struggle.

[There] are struggles which question the status of the individual: on the hand they assert the right to be different and they underline everything which makes individuals truly individual. On the other hand, they attack everything which separates the individual, breaks his links with others, splits up community life, forces the individual back on himself and ties him to his own identity in a constraining way. These struggles are not

exactly for or against the ‘individual’, but rather they are struggles against the ‘government of individualisation’ (Foucault, 1982, p.211-12.).

This government of individualisation could be referred to as losing the creativity of choice for topics of interest to study due to the acceptance of a forced set curriculum from a school district in order to guarantee high TAKS scores. The female student’s voice is no longer heard when there is no choice. Luckily, governments’ opinion and policies do change as new faces enter the political scene and today’s young woman sees the world different now. “Social circumstances have changed; various career options are available, in contrast to previous limited opportunities for women” (Villaverde, 2008, p.2). Now that the political scene offered a female candidate for the presidential role in 2008, the female voice is being heard across the nation and inside the classroom.

Interlocking Connection of Theories

Examining the three theories of critical, situated learning, and feminist a visual display could represent the main similarities (see *Figure 1*). A typical interlocking Venn diagram with three circles representing each of the frameworks ties the similarities together. Commonalities can be found between two of the theories and when all three circles overlap common threads connecting all three theories together materialize.

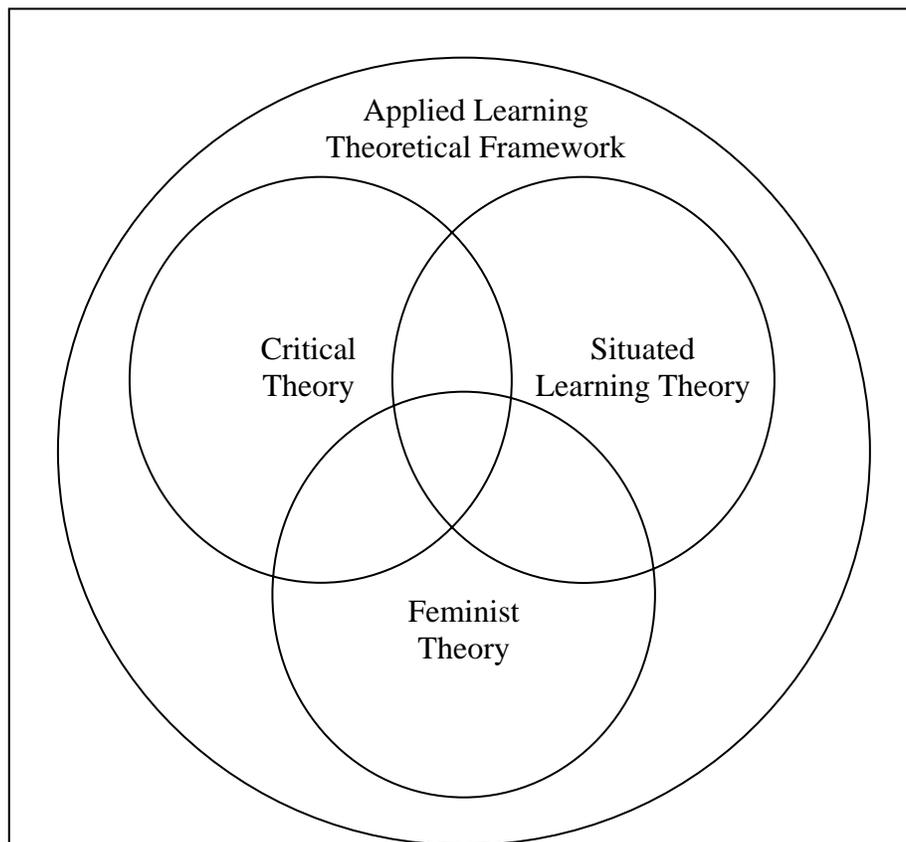


Figure 1. Three theories build the theoretical framework.

Isolating the terminology and phrases for the critical theory are words such as interactive, antiauthoritarian, critical consciousness, problem posing, social justice, dialogue, critical citizen, social interests, world transformation, and student voice. Situated learning theory brings out experience, social development, connections, lifelong unintentional process, authentic products or situations, social interaction, culture or community involvement, and active participation with life's skills. Lastly, the feminist

theory emphasizes the voice, eliminates female oppression, learns through relationships by thinking and doing, process involvement rather than products, becoming self-aware, working cooperatively, caring for others, transforming the external world, reflecting, finding the interdependence, interrogates problematic situations, and connectedness.

The similarities between critical and feminist theory would be the recognition of the student voice creating dialogue and learning by problem posing situations. Both theories strive to give the voice back to the student in order to wake up their self-awareness through reflection. The connection between the critical and situated learning theory is the involvement with the community through social justice or interaction. Both are action learning. Next, situated learning and feminist theory are similar by finding the connectedness. Culture plays a major role within these two theories as well as learning through a process with authentic situations or products. The common thread to hold all three theories together would be the interactive experience of education for social change or involvement within the community. Just as Dewey and Parker wanted children to learn by doing so encompasses the critical, situated learning, and feminist theories. All three theories provide ample opportunities of nontraditional teaching methods for the classroom. These three theories could then be the theoretical framework which protects the structure or solidifies the applied learning teaching method while there is an internal framework which should be addressed.

Articulated Framework of the Applied Learning Philosophy

From the 1990's, the technological movement has engulfed most classrooms including the applied learning classroom. The applied learning program has a strong

commitment to technology (Malyn-Smith, n.d.). “Schools need to forge new alliances between the applied and the academic”... by preparing students for... “higher education and for technologically intensive work” (Forman & Steen, 1996, p.33). Forman and Steen expose several myths about the work force and the applied learning technique. Because of the conflicting standards found in each program, tensions between these two groups [academic and vocational programs] have existed. This conflict comes from the confusion of what applied means. If vocational programs allow the student to work and study new job skills, then should not applied education be classified under the vocational department? To keep these two programs balanced and separated, the fulcrum for the student to pivot around could possibly be: portfolio assessment of the student, project-based or inquiry learning, and partnerships with the surrounding community for volunteer service. These three components will be investigated to see if they have contributed to the success of ALA.

A new definition for applied learning is emerging. These three aspects cover a variety of ideas pertinent to a reconceptualization of applied learning that captures the relationship between the surrounding community, project-based inquiry, portfolio assessments, and service learning instruction. This “reconceptualization does not try to rewrite history or disregard existing research” but tries to expand the interpretation and use of applied learning by “increasing our intellectual flexibility” (Villaverde, 2008, p.11). By reconceptualization, applied learning brings in the surrounding community to help evaluate students’ projects and portfolios. Thus, a continuous revolving door must

exist between ALA and partnerships to strengthen and give credibility to applied learning.

Portfolios and Assessments

Freire sees “education suffering from narration sickness” (Freire, 1990, p.57). The instructor merely talks and talks, never allowing the student to voice their opinion. As far as the instructor is concerned, the student has no opinion. They are simply sponges to absorb every word from the instructor’s mouth. The contents of these narrations, words emptied of their concreteness; “hollow, alienated, and alienating verbosity,” are detached from reality (Freire, p.57). Of course, these narrations are not describing the students’ narrations which are required within the portfolios for student assessment of the applied learning framework. These narrations are the teacher’s domination of the learning environment. Even Rousseau writes if he [student] only reads, you are substituting authority for reasoning of the mind since “he learns nothing but words” (Rousseau, 1762/1967, p.73).

Portfolios are the first component of the applied learning method and have always been the main focus for student assessment. A student must document and keep track of their work throughout the year and select critical pieces to present at the end of the year portfolio conference. Portfolios demonstrate individual responsibility, research techniques, graphing ability, and organizational skills. From these selected pieces, a reflected page or narration is submitted. Allowing students to indirectly voice their opinions about their understanding of the content through their own written reflections can increase the student’s self-efficacy and writing skills, involve student empowerment

and dialogue, strengthen the partnership between teacher and student, promote learner achievement, and develop metacognitive awareness (Borowski, Thompson, & Zaccaria, 2001; Devlin-Scherer, 2005; Ediger, 2000, 2001, 2002; Krusekopf & Karr-Kidwell, 2003; Pereira de Eca, 2005; Pollari, 2000; Zou, 2002).

Some schools' restructuring policy involved student and teacher portfolio assessments displaying the projects which were developed throughout the school year. Within the portfolio, problem solving, planning and organizing an event, improving a system, or designing a product all fall into the applied learning portfolio. The Secretary's Commission on Achieving Necessary Skills (SCANS) began the foundation for contents of the applied learning portfolios by presenting "three principles from cognitive science to guide real contextual learning" (United States Department of Labor Employment & Training Administration, 2009, p.16-17) for schools. This report included five competencies in resource, interpersonal skill, information, systems, and technology which developed the core knowledge and skills needed for the classroom, and the workforce.

There is an ironic twist to portfolio documentation that the student must exhibit for assessment. Since the roots of applied learning ties into John Dewey who wrote, "the first approach to any subject in school, if thought is to be aroused and not words acquired, should be as unscholastic as possible"(Dewey, 2002, p.181). Students learn best by doing and thinking through problems, but lengthy documentation with reflections is necessary from the student and by the instructor with any selected student project or teaching method displayed inside the portfolio.

To understand the reason why schools do not use portfolio assessment can be attributed to the volume of paper generated from students' reflections, storage space inside the classroom for students' ongoing work, and the enormous amount of time to train teachers to critically review and assess the portfolios from a standard rubric generated for that grade level (Avraamidou & Zembal-Saul, 2002; Borowski, et al., 2001; Roeber, 2002). But, a paradox is then created when a standard rubric is used to measure the accountability of the applied learning student. Keep in mind the freedom, the originality, and the creativity of each student must be seen and heard within the applied learning classroom. How should a teacher assess individuality if a standard is the basis for all students (Dudley, 2001; Gearhart, Novak, & Herman, 1994; Gomez, 2000; Pierce & O'Malley, 1992; Smith & Juska, 2001)? Another negative aspect of portfolio assessment is the selected pieces may enhance "the danger of paying too much attention to the final product rather than on the process" (Avramidou & Zembal-Saul, p.6).

Technology assists teachers and students with some of the negative aspects of portfolio creation and storage by creating web-based portfolios. Student generated electronic portfolios supports reflective thinking, problem solving, and learning, while eliminating paper waste, storage space, and with wireless capability the digital divide can be prevented (Avraamidou & Zembal-Saul, 2002; Gibbs, 2004; Knight, Hakel, & Gromko, 2006; Liu, 2005; Mason & Dodds, 2005; Niguidula, 2005; Reardon, Lumsden, & Meyer, 2005; Tavalin & Gibson, 2000). The digital divide refers to the schools with rich technological resources versus the schools that have limited number of computers.

Inquiry and Project/Problem-based Learning

The second component of the applied learning is using project-based learning along with the inquiry method. The idea of the project-based learning is not new. William Kilpatrick “began to develop his project method about 1915” at the Horace Mann School used by Teachers College as a practical educational laboratory facility (Tenenbaum, 1951, p. 225-226). Kilpatrick, et al. (1926) attempted to rename the problem method to the project method in his 1921 speech, “Dangers and difficulties of the project method and how to overcome them- a symposium”.

Kilpatrick proposed that one class be set aside as an experimental class, in the true meaning of the word... He wanted children to engage in activity leading to further activity without badness. ..He wanted the children to think up new things...feel freer...learn new skills while working at these activities...that they might build interests while they worked (Tenenbaum, p. 225-226).

Whether it is referred to as project or problem-based learning confusion can be generated. Woods and Morgan (2008, p. 57) give an honest comparison between these two teaching methods. The main difference would be the final outcome because the project-based produces typically a 3-D object while problem-based solves a problem on paper. Both teaching strategies try to solve or explain a local problem causing the traditional classroom’s walls of non-inquiry based (typically note taking for rote memorization tests) instruction to be challenged.

Competency in inquiry involves the student having “a deep foundation of factual knowledge, understanding the facts and ideas within the context of a conceptual framework, and organizing this knowledge in ways to facilitate retrieval and application” (Bransford et al., 2000, p.16). No longer should the teacher teach, but coach the students with constructivist based learning models where cooperative groups are formed to develop and problem solve the daily lesson. An example of a popular inquiry based program was the Jasper Series developed by the Cognition and Technology Group at Vanderbilt University in 1992. The Adventures of Jasper Woodbury technological programs were designed to blend the natural learning environments with the school learning environments and provide students with an authentic task to see that school knowledge can be applied to solve real problems using science, math, reading, social studies, and writing skills (Bransford et al., 2000).

In 2006, the FWISD adopted the Learning Research and Development Center program for promoting academic rigor through foundational understandings from the University of Pittsburgh. This program uses the Biological Science Curriculum Study (BSCS) series to promote more scientific inquiry within the classroom. This scientific inquiry approach could be the first step to begin the structural change of a very traditional school district. Another inquiry approach offered to schools is the science, technology, engineering, and mathematics (STEM) branch where teachers are taught to develop applicable project-based curriculum. Real-world connections rather than abstract processes are focused on within the classroom. Slough and Milam (2008)

describe the mechanics of how to understand the framework of STEM Project-based learning to build better inquiry between the teacher and students.

“All education involves either problem solving or preparation for problem solving” (Delisle, 1997, p.1). Problem solving became the mantra for the math and science curriculum as a result of the integration of technology in the classroom during the early 1980’s and 1990’s. Given the right technological tools, many different types of problems could be solved. It was documented that after 1 year engaging in problem solving activities, 5th grade students still remembered and talked about their projects with excitement and pride (Barron, Schwartz, Vye, Moore, Petrosino, Zech, & Brandsford, 1998, p.305). From problem solving lesson plans to authentic pedagogy, teaching real world problems paved the way for applied learning since independent critical thinking skills was nurtured within the student (Newmann, Marks, & Gamoran, 1996). This nurturing of the independent thinker combined with the goal-based, target skills to achieve a specific goal, designed curricula laid the foundation for the applied learning thinker (Schank, 1993; Schank, Fano, Bell, & Jona, 1993). Since the student learns by total involvement to satisfy a common or basic goal, the applied learning instructor can twist this goal to satisfy a local community need.

The term *applied learning* [italics added] represents “experiential, hands-on, active learning promoting rigorous academic and technical content in problems and projects which connect school to life and work” (Malyn-Smith, n.d., p.1). The original problem should be relevant to the student and allow for student driven solutions. From the solutions or products designed by the student, an outside audience for assessment

and evaluation is desired. Applied Learning Standards have been developed for secondary schools through the New Standards Project (McREL, 2009a; 2009b), a voluntary association of states and school districts committed to school restructuring.

The interest in problem-based learning is evident. For example, the November, 2006 issue of the *Science Teacher* focused on problem-based learning, the central theme for applied learning. Problem solving curriculum encourages the student to direct their learning away from the teacher and out of the classroom to real-life applications, but this terminology seems to overlap with the inquiry method. Krajcik, Blumenfeld, Marx, Bass, Fredricks, and Soloway (1998) combined both terms, inquiry and project-based within their article. Even though the *Science Teacher* focused on science, problem-based learning or inquiry is popular in all core subjects.

Since the BioPrep project had students scoring significantly higher on their American College Testing Program, a project-based curriculum was soon widely accepted at other schools (Knopke, 1986; Knopke, Northrup, & Hartman, 1986). Besides BioPrep, other project-based curricula developed due to the increase of technology. Real world problems outside the classroom began to be solved inside the classroom which redefined the traditional classroom (Cohen, 1997).

During the 1990's, inquiry and problem-based learning began to sound like goal-based scenarios where the students learn a variety of skills through an authentic activity (Schank et al., 1993). Teacher guided, cooperative learning, modeling, scaffolding, and reciprocal teaching all contribute to the shared responsibility for learning within a classroom (Resnick, 1989). The teacher does not abandon self-directed learning, but

allows the computer to assist with self-directed learning. With the increase of technology in the classroom, computers can aid the teacher with many simulation programs, such as, The Jason Project, Mars Project, Jasper Woodbury Series, or the Project Globe (Bransford et al., 2000; Deters, 2005). Kucharski, Rust, and Ring (2005) centered their research on a project-based approach in a small school. The results of their study show the positive impact of this teaching method. Examples of problem or project-based learning are found in a wide range of fields and professional literature, such as environmental health (Silbart, 2006), geography (Drennon, 2005), educational professional development (Dottin & Weiner, 2001; Evensen & Hmelo, 2000; Levin, 2001), leadership (Cunningham & Cordeiro, 2006), reading/language arts (Bailey, 2005), advanced physics (Hademnos, 2006), chemistry (Deters, 2005), and mathematics (Lipka, Hogan, & Webster, 2005; Munakata, 2005).

In addition to the positive results of problem-based learning, research has also documented roadblocks to the implementation of this learning strategy. One is the daily evaluation process and the accountability on the part of the teacher to prove all children are working equally (Boud & Feletti, 1997; Moust, Van Berkel, & Schmidt, 2005; Savin-Baden & Wilkie, 2004). It is important to note that these articles are fewer in number when compared to the articles promoting project-based learning.

Community Service Learning

The third component of applied learning is community service learning or student involvement with the community. Inspired by the philosophy of John Dewey and Lev Vygotsky, a community of learners grows with educational collaborations. For the

past 14 years, ALA has been directly and indirectly involved with local community partnerships. The original building location of the school was within walking distance of the museum district of Fort Worth. This convenient access developed partnerships with Casa Manana Playhouse, Amon Carter Art Museum, Museum of Science and History, and the Fort Worth Botanic Gardens. Dewey wrote, "Education, as we conceive it, is a process of social interaction carried on in behalf of consequences which are themselves social-that is it involves interactions between persons and includes shared values" (as cited in Boydston, 1986, p.80). John Dewey's conception of his model school had business, home, park/garden, and university/research on each of the four sides of a central square school figure. Parallel arrows directly pointing into the school structure and to the outside community partnerships (business, home, park/garden, and university/research) created a perfect embryonic community for the children to learn from (Dewey, 1900/1990, p.73). This design cemented the educational system unifying life with the whole social system.

Within Dewey's diagram of an educational system, the first arrow is the transition of learning from home to school. In Rogoff, et al. *Learning Together* (2001), schools with open classrooms are a parent-teacher-child co-operative. Within this book, this pathway of learning is referred to as "coming home to school" not just an open classroom concept (Rogoff, et al., 2001, p. 67). A community of learners develops through this triangle of partnerships. Parents and teachers engage collaboratively with the children, coordinating responsibilities to foster children's learning. "Adults are responsible for guiding the overall process and for supporting children's changing

participation in their shared endeavors. Adults provide leadership and encourage children's leadership as well and they learn from the activities in which they engage with the children" (Rogoff, et al., p.7). This method will then eliminate the dichotomy of adult-controlled learning versus children-controlled learning.

Even though Rousseau wanted *Emile* to be away from the social ills of society and learn from the natural environment, it is through shared experiences with the community that connections are made for the student to learn and process (Rousseau, 1762/ 1967). Again Dewey writes about the importance of community and educational ties:

Education is the process of realization of integrated individualities. For integration can occur only in and through a medium of association....

Hence for the sake of individual development, education must promote some forms of association and community life and must work against others. Admit that education is concerned with a development of individual potentialities and you are committed to the conclusion that education cannot be neutral and indifferent as to the kind of social organization which exists. Individuals develop not in a remote entity called 'society' at large but in connection *with one another* (Dewey, 1986, p.80).

The rural one room school used this philosophy when older children were asked to help tutor the younger students. "Learners of all ages are more motivated when they can see the usefulness of what they are learning and when they can use that information

to do something that has an impact on others-especially their local community” (Bransford et al., 2000, p.61). When the student sees a reason, or especially a *need* [italics added], for doing something, interest and motivation is increased while discipline problems decrease. (Barron et al., 1998; Ediger, 2001; Haberman, 1995; McCombs, 1996; Pintrich & Schunk, 1996).

Each year service learning organizations send schools brochures to promote volunteerism among students. Additionally, graduating seniors must document volunteer hours on their college applications. The Presidential Service Award can be earned by students who volunteer from 50, 75, or 100 hours of service during a school year.

Whether the student volunteers their time or as a class designs a project to assist one part of their community, the fellowship of humanity is strengthened. With this developing bond, it is hoped that service will continue as the student grows into an adult and joins the surrounding community. Schools throughout the country allow students to help organize and plan an event in conjunction with the surrounding community. A national grant program, Learn and Serve Program promotes this philosophy. For example, Inola High School in Inola, Oklahoma, has developed a 5- phase Outdoor Classroom Project which brings the outdoors into their classrooms. Each year the Inola community and students build one natural structure at a time. The butterfly garden began phase 1, the pavilion and amphitheater was phase 2, a wetland area for phase 3, a tree walking trail for phase 4, and the last phase of construction, a greenhouse.

Paulo Freire wrote about people who were oppressed within their own community. He understood the capability and strength when voices were organized.

Even though the students in Inola, Oklahoma were not oppressed, they were organized within the local community to continue to find sponsors for their outdoor educational facilities. “Thus cooperation leads dialogical Subjects to focus their attention on the reality which mediates them and which-posed as a problem-challenges them” (Freire, 1990, p.168). No longer silent voices, men and women can learn to give back to their community in order to transform their own world. Because of this transformation, can it be proven that learning was accomplished and more especially, was learning achieved through the applied learning method of instruction?

What ever the reasons may be when explaining the applied learning method of instruction, it is far more important to understand the importance of the community. In the design of our educational system we must keep the community involved otherwise “the loss of a feeling of community, not just the loss of closeness among those with whom we work and with our students, but also the loss of a feeling of connections and closeness with the world beyond the academy” could occur (Hooks, 2003, p. xv). The community teaches us and in turn our students will create the new community. Taking students outside school walls for activities “can combine the best aspects of community service, problem-and project-based learning, and lessons in good citizenship. Community service learning-which emphasizes both service and learning-can be an important way to make education interesting and relevant for students” (Mertz, 2009, p.8).

Quantum Mechanics Model

Educators will always debate on which is the best teaching method just as “the transition from Newtonian to quantum mechanics evoked many debates about both the nature and the standards of physics...” (Kuhn, 1996, p. 48). Scientific paradigms or educational paradigms constantly stir the academic world. Kuhn (1996) also explains that paradigms remain secure whether there is agreement or rationalization from the audience and explicit rules to the paradigm need not be followed (p.49).

The quantum model design best represents what can happen to a student when engaged and energized with any stimulating class activity. To comprehend this metaphor the whole aspect of the quantum theory is to understand the electron which will then explain the atom's properties. It is the electron, a subatomic particle with insignificant mass, which dictates the atom's physical and chemical properties. Something so little can be so powerful. In the atomic world, “the energies of orbitals are important because we normally find an atom in its most stable state, referred to as the ground state...the lowest possible energy” state (Brady & Holoum, 1993, p.186). The electron is not stationary, but constantly moving inside the designated orbitals. If the atom becomes energized, the electrons move into higher energy levels, emitting light as they fall back down to their original state. Borrowing this concept of the atom with higher energy levels (principal quantum number), the p orbitals or subshells on the x , y , and z axis (second quantum number), and the central core, nucleus, a conceptual design was created to illustrate the application of applied learning. Perhaps it would be easier to define applied learning with a figure rather than using other people's definitions. A

conceptual design to illustrate the meaning of applied learning from a quantum mechanical viewpoint was created (see Figure 2). While Dewey illustrated two way paths in 1900 to explain how an ideal school should be set up in his *School and Society*, this research reveals that there should be constant motion of the student within each of the three components for applied learning unifying the whole social system inside a school and the surrounding community.

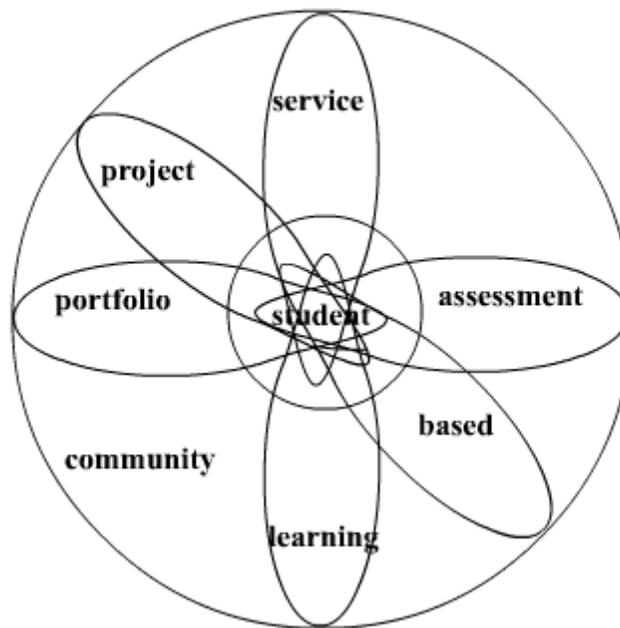


Figure 2. The design of modern applied learning allowing the quantum mechanics of Dewey's principles to raise the educational level of each student.

Inside the central core of this social system lies the student. As the student enters into these three different components (orbitals) of applied learning, a higher order of learning is acquired by the student. In other words, as the student grows and learns by

applying the three major components of project-based instruction, portfolio assessment, and service learning curriculum with partnerships, the student achieves a higher order of skills or energy. The community surrounds this first order of the student's energy level of skills. Continuing to learn and grow the student will then move on to the next level of education, a higher order of energy level. Applied learning is atomic. Just as the single atom enlarges in size with the addition of more protons and electrons, a higher order of energy is created or quantized illustrating the quantum mechanics of applied learning.

The community will always surround the student and these three orbitals maintain stability within the student's educational life. This is not a static system of education. The student cannot be stationary nor can their acquisition of knowledge and skills be stagnating. Even though the atom is most stable at ground state, the lowest level of energy, this metaphor must step away from the physics model. Of course many students prefer to do the least amount of work in order to get by in class, but once the student finds their passion whether it be academics, sports, music, art, or a trade, ideally the student will want to learn as much as possible within that field. This engagement of the student's interest and the parallel effect of classwork and positive behavior have been documented (Doyle, 2009; Kelly, 2009; Schussler, 2009).

As the child matures there will then be more orbitals for the student to become involved with, but the outer circle will always be the community. This then develops into a dynamic equilibrium, a "restructuring based on the reinterpretation of experience, history, and events as interdependent in a continuum of time and space. This reconceptualization is a continuous movement in curriculum studies reclaiming/re-

energizing subjectivity as central to learning and to the creation of curriculum”
(Villaverde, 2008, p.14).

Lack of Literature Evidence

The most intense study of an applied learning program was started in 1932 under a grant of freedom by the Progressive Education Association (1943). The Commission on the Relation of School and College was created to track the men and women who graduated from progressive schools and then went on to college. Thirty schools were selected to redesign their curriculum according to their own school and student needs. Principals met with the Commission on an annual basis for 8 years. The schools were free from the outside political or government domination. The studies ended in 1941 and 5 volumes of published material were produced from 1942 to 1943. Volume 1 by Wilford Aikin (1942) begins the five part series with *The Story of the Eight-Year Study*, volume 2, *Exploring the Curriculum* (Giles, McCutchen, & Zechiel, 1942), volume 3, *Appraising and Recording Student Progress* (Smith & Tyler, 1942), volume 4, *Did They Succeed in College?*(Chamberline, Chamberline, Drought, & Scott, 1943), and volume 5, *Thirty Schools Tell Their Story* (Progressive Education Association, 1943). Almost 10 years later, a dissertation was written by Frederick Redefer (1952) to follow up on the remaining 30 schools and their educational progress. Few articles have been published concerning the schools of applied learning. Today’s focus of published material about nontraditional teaching involves project-based learning, inquiry, or using the problem solving method.

The expression applied learning has its roots in many educational phrases such as service learning, goal-based designed framework, problem solving, inquiry based, and project-based learning (Mayln-Smith, n.d.). The exact definition should no longer be up to the individual. In researching applied learning, the zenith of papers published on any one of these topics was during the mid and late 1990's. Studies of particular core subjects using applied learning as project-based or inquiry based were found, but only one dissertation study of an elementary applied learning school was published in 1999. Applied learning could even be referred to as authentic pedagogy since this term is strongly associated with authentic academic performance from student centered classrooms (Newmann et al., 1996).

In 2002, a small project-based learning book for young children was published to help the elementary teachers understand about class projects and applied learning. (Diffily & Sassman, 2002). Since ALA uses project-based, inquiry based, service learning, authentic performance, and portfolio assessments all under one school roof, the researcher found little research that parallels this particular type of public middle school with other middle schools that have the same components. Other applied learning schools that specialize as applied learning were also few in numbers. A listing of applied learning schools whether privately or publicly can be viewed on the Department of Education's web site (United States Department of Education, National Center for Educational Statistics, n.d.). This data base is small since the school may follow the methods of applied learning, but this phrase may not be in the name of the school. Two elementary schools and one middle school belong in Fort Worth, Texas. Two elementary

schools in Kansas City, Missouri, one elementary school in the Bronx, New York, one elementary school in Delta, Colorado, one high school in Bapchule, Arizona, and one high school in Shelby Township, Michigan, refer to their school name as applied learning. Yet, even this is changing since the Bronx school in New York has requested for a name change from the Department of Education of the City of New York in October, 2007 (Principal of Bronx school, personal communication from October, 23, 2007).

It could be said then that applied learning reverts to a post-structuralism flavor as directed by Michel Foucault where the concept of self must be studied first in order to understand how other work could be related to an individual's own personal self. Applied learning focuses on the students' growth of their internal self through the portfolio pieces selected and which must be explained by the students. Under the post-structuralism school roof, having the teacher analyze the text for the student does not exist. The student becomes the primary subject of inquiry especially when the effort of the student to really understand the pieces which are selected for their portfolio presentation pulls from their inner self-concept.

This self-perception of the individual's own interpretation touches the post-structuralism's theme. With the inconsistencies found in having numerous interpretations and definitions of applied learning, again post-structuralism is reinforced. In order to fully understand applied learning then it must be deconstructed from its assumptions and knowledge systems which has created any illusion of having just one meaning. One absolute, concrete meaning should not be tied down to applied learning. The application of applied learning must alter and change as the students change each year; therefore, an expanding definition is sought.

On the international level of defining applied learning, there is a directory for applied learning programs found within schools in the United Kingdom which uses supporting resources and lesson plans from the Specialist Schools and Academies Trust. This organization promotes real world and life to work problems for the student inside the classroom by promoting applied learning with the emphases on vocations not just in Great Britain, but in Spain, Italy, Denmark, Sweden, Norway, and Hungary.

Key Terms

- The Academic Excellence Indicator System (AEIS) is the Texas Education Agency accountability system for to rate individual schools, districts, and regions from the standard state test.
- Applied learning is student driven curriculum to solve a local problem by producing or revising a known system for outside evaluation.
- Alternate Schools (ALT) are schools that provide alternate curriculum programs for the student.
- Adequate Yearly Progress (AYP) is a statewide accountability system mandated by the No Child Left Behind Act of 2001 which requires each state to ensure that all schools and districts make Adequate Yearly Progress.
- Banking Education as described in Paulo Freire's, *Pedagogy of the oppressed*, where education is the process of depositing all knowledge to the student by the teacher.
- Benchmarking is classroom practicing for the TAKS test throughout the school year.
- Biological Science Curriculum Study (BSCS) another new curriculum program from the constructivist philosophy of Trowbridge and Bybee, 1990. We all have experiences from which we build (or construct) knowledge upon.
- Community, Corporation, and Classrooms (C³) is a program started in 1988 within the Fort Worth ISD and the surrounding community. Businesses were

asked by the school district on what type of skills will the Fort Worth students need in the next ten years

- Community Education Programs (Comm Ed) a school and community partnership which provides educational programs and opportunities for the students and local residents.
- Critical Mass is the minimum number of qualified instructors needed to maintain the desired standard level of curriculum found within a school.
- Crystallization is the process of writing from a variety of angles and different approaches in order to see and understand the data collected rather than synthesize only through triangulation.
- Memoing refers to jotting down crucial notes to bring out the concept or possible theme of the researcher's notes, interviews, or journal entries (Schwandt, 2001, p.156).
- No Child Left Behind (NCLB) The Educational Act of 2001 was signed into law by President Bush to increase the efforts of all states and school districts to increase the academic achievements for all students.
- Orbital is the electron cloud where there is a high probability of electrons.
- Problem-based Learning (PBL) an instructional method which challenges students to learn by working cooperatively in groups and seeking solutions for real world problems.

- Project-based Learning (PBL) another comprehensive educational method of instruction which allow students to solve real world problems cooperatively by following a scientific approach.
- Public Educators Accelerating Kids (PEAK) is a monetary incentive program for the teachers to increase the TAKS scores for fifteen low performing schools within the FWISD.
- Pull outs remove students from their scheduled classes by school administration to be tutored in their low performing content skills.
- Quantum Mechanics the mathematical explanation for the probability of the electron's location.
- Reconceptualization is a continuous movement in curriculum studies.
- Secretary's Commission on Achieving Necessary Skills (SCANS) The Secretary of Labor appointed a commission in 1990 to determine the necessary skills students will need to succeed in the real work force. These findings and recommendations continue to be a valuable source of information.
- Texas Assessment of Basic Skills (TABS) in 1979 the first of the high stakes testing for school districts accountability.
- Texas Education Agency (TEA) the State of Texas public educational system oversees all the public schools in accordance with the Texas Education Code.
- Texas Educational Assessment of Minimum Skills (TEAMS) in 1984, the TABS test was replaced with the TEAMS test for districts accountability.

- Texas Assessment of Knowledge and Skills (TAAS) in 1990 TEAMS test was replaced with the TAAS exam for grades 3, 5, 7, 9, and 11.
- Texas Assessment of Knowledge and Skills (TAKS) in 1999 TAKS replaced the TAAS exam.
- Texas Essential Knowledge and Skills (TEKS) standard state curriculum set for clear objectives to be met inside the classroom.
- Triangulation is the process of interpreting the collected data using three different points of referencing such as journaling, interviews, and newspaper articles to verify the accuracy of the report (Lincoln & Guba, 1985, p.305).

CHAPTER III

METHODOLOGY

Locating a Paradigm

Today researchers do not have to defend the argument anymore if qualitative research is scientific. Both quantitative and qualitative scientific reports were described by Thomas Kuhn's in *The Structure of Scientific Revolution* (1962). Paradigms of scientific inquiry were explored and discussed by Kuhn permitting the social scientist to graciously enter into the realm of the natural sciences. Kuhn "offered a convenient conceptual shorthand for pointing to apparently significant differences in methodologies...but it was not always entirely clear; however, what the term (paradigm) actually meant in this context" (Schwandt, 2001, p.183). If the definition of paradigm refers to as a type of cognitive framework then most scientists would agree to a standard model and compare their own collected data to this model, which as Kuhn referred to be the "normal sciences" (Kuhn, 1996, p.10, 23). But for the social scientist, when dealing with the human behavior, is there really a standard model? If the definition of paradigm is what Kuhn described as a "disciplinary matrix of practices or methods which are shared within a discipline" (p. 109-110), then this definition best fits this research for the evolution of the Applied Learning Academy. To set the model for the qualitative scientist, E.G. Guba began to discuss the naturalistic paradigm with his publication, *Toward a Methodology of Naturalistic Inquiry in Educational Evaluation* (1978) while M.Q. Patton defined the strength and weakness of a paradigm in his *Utilization-Focused*

Evaluation (1978). Following Kuhn's, Guba's, and Patton's publications, the authorities for qualitative research increased with N. K. Denzin (1970), J.C. Greene (1994), J. Hamel (1993), Y.S. Lincoln with E.G. Guba (1985), and S.B. Merriam (1988), throughout the 1970's to 1990's for comprehensive qualitative research design.

From these publications can the researcher be so bold as to refer to a personal paradigm shift when her own educational philosophy dramatically shifted? Arguments could naturally erupt, but Kuhn refers to a paradigm as everyday normal science when following the scientific method as the day to day working routine of coherent traditions (Kuhn, 1996, p.10). Yet, others argue that Kuhn's general model of how a science changes does not fit any particular science (Mayr, 1988). "Because of the contingent nature of history, no two paradigms or paradigm shifts are ever the same" (Shermer, 2001). In fact, many can now argue that there is no scientific method.

It was stated in Chapter I that the researcher's own personal paradigm was changing on education and teachings, but can a researcher have a personal paradigm? This is not the dictionary's definition of a paradigm nor do many professors agree to the fact that an individual can have a *personal* [italics added] paradigm shift. Many refer to Kuhn's description of a paradigm shift within the natural sciences as a revolution which replaces a mature, accepted belief for a better one. In *The Structure of Scientific Revolutions*, "successive transition from one paradigm to another via revolution, is the usual development pattern of mature science" (Kuhn, p.12). Yet, this terminology has moved to the social sciences and in other contexts representing any major change of a personal belief by simply replacing the former way of thinking to a different way. Handa

and Skolnik (1975) brought in the phrase “social paradigm” when dealing with the economics of the labor market while Michaels, Brown, and Mirabella (2005) used the title, *Personal Paradigm Shifts for Positive Behavior Supports*, in their paper for applied behavior. Within the educational field, Sercu, Garcia, and Prieto (2005) stated that teachers are being urged to embrace the constructivist paradigm in education while on a more personal level, Dew and Waggoner (1993) presented a paper at the annual meeting of the Association of Teacher Educators where their research participants responded to their own personal paradigm shifting when using different model lessons.

Again and again the explanation of having a personal paradigm shift can be found within the educational field (Mulkey & Malm, 1999; Polite, 1993). Yet, to satisfy the accepted literature and academia, personal perspective shifts or epiphany should be considered when referring to an individual’s change of thinking. Thus, learning to restructure a content driven, teacher directed, test oriented classroom into a more student centered, project-based, peer reviewed, portfolio assessed classroom caused a personal perspective of teaching to shift which helped to guide the rationale for the selected methodology in the applied learning study.

Understanding that three theories encircle the applied learning method, the methodology and methods was critical for a complete investigation. To begin any study, guidance should come from many sources. Guba’s, *The Paradigm Dialog*, establishes the basic belief systems or personal perspective shift. These, “are the starting points or givens that determine what inquiry is and how it is to be practiced” (Guba, 1990, p.18). Since positivism sees its central purpose to be predictive and deterministic,

the new paradigm is concerned with understanding, probabilistic and speculative (Lincoln & Guba, 1985). Reading more into Lincoln and Guba's *Naturalistic Inquiry* (1985), the best approach to find the answers for this case study involving the applied learning teaching method was listening to the stories from the participants. Their voices telling the stories are parallel with the research from Freire.

It is possible that this case study “can become both synchronic (focuses on a limited set of events in a specific time period) and diachronic (dealing with a phenomenon as it changes over time)” (Schwandt, 2001, p.168). The specific time frame is under 20 years with the limited educational events of community involvement and applied learning, yet the school has undergone extreme changes since its conception. Within the naturalistic paradigm, the realities are multiple, constructed, and holistic keeping the knower and known inseparable (Lincoln & Guba, 1985).

Methodology and Methods

To understand the difference between methodology and methods, a layered sandwich is visualized with the discussion of methods on the bottom and the deliberation of the philosophy of social issues on the top so that the “inquiry of methodology lies in between and connects these two terms” (Schwandt, 2001, p.162). Methodology is the process of how inquiry should develop before the actual research begins while method is the researcher's technique to get started with the collection and analyses of data. The pathway or pursuit of how the researcher will pursue to solve the problem will need to be defined with the exact method. Describing a detailed method will enable other researchers to follow and verify the research being discussed and questioned. What a lab

technician would call the experimental procedure, the social scientist would call a method. There can be many different types of methodology within a qualitative research such as “social phenomenological, objectivist hermeneutics, or the narrative and interpretive interactionist” (Schwandt, p.163). For each methodology selected, the researcher’s method of generating data could be different. Since a progression of living history must be revealed to understand the evolution of ALA, a dialogic process of communication was favored. In order to enhance the accounts of social interaction with “conversation, and reflection,” a qualitative case study report was selected (Schwandt, p.163). Finding the voice of the five subgroups proved and illustrated the theoretical framework of applied learning.

Case study research is nothing new. Historically, significant cases are part of the disciplines of medicine and law.... Recently education has turned to case study research to explore the processes and dynamics of practice. This type of research received considerable support and recognition in the late 1960’s and early 1970’s when the federal government funded in-depth studies of school integration, innovative science curriculum, the New Math.... In education as well as other areas of social practice, case study is a legitimate methodological option for researchers to consider when designing a study (Merriam, 1988, p. xi).

Modern case studies can easily be found within the literature especially with the explosion of new technology inside the classroom (Dinan, 2002; Mohon, 2008).

A story needs to be told about this small urban public school in Fort Worth since its creation and slow evolution; therefore, a qualitative method was preferred using a case study approach for the methodology with narratives stories included to emphasize the importance of community partnerships and applied learning projects. By choosing the qualitative method of study the theoretical framework for all three theories will be explored. Dialogue and active participation could not be undertaken from a quantitative approach.

Rationale for Selected Methodology

This study was a case study report of narrative stories from the interviews because the natural setting was preferred since the human is the primary data gathering instrument. The secondary source of data was field notes from school observations, archival material, teacher's journals and personal communication through email, and public records. "Just as the scientific report appearing in journals or projects reports is well suited to the conventional paradigm, so is the case report suited to the naturalistic paradigm" (Lincoln & Guba, 1985, p.214). The case report provides thick description for the reader. Lincoln and Guba (1985) outlined a case study starting with the problem of the study, the context, the issues related to the study, and the conclusion with the final lesson learned; however, personal touches with charts, diagrams, tables, and questions directed towards the study helps plan out the research. But, Merriam (1988) goes so far as writing, "There is no standard format for reporting case study research" (Merriam, p.193). Most of the data collected came from the stories the participants told. "For the most part, the cases of interest in education and social service are people and

programs”(Stake, 1995, p.1). Since the research focused on a small, urban, public middle school, the people, their stories, and this unique educational program were studied. The methodology that was favored came from Creswell’s (1998) description of a case study since “the epilogue at the end of the study brings our personal experiences into the narrative without disrupting the flow of the narrative in the study” (Creswell, p. 36-37). Personal experiences were especially looked for by bringing in the voice of all participants found from this ALA case study as well as the ALA experience or interaction from the participants. Involvement tied the theoretical frameworks together, thus personal experiences will be watched carefully. Just as Lincoln and Guba (1985) give a few summary steps to follow in a case study, Creswell (1998) does also. He first identifies the case for study as a bounded system of a certain place and time frame. Next, extensive multiple sources of information should be utilized for the data collection to give a complete and detailed description of the case. Finally, an immense amount of time will be spent describing the context or setting for the case.

Besides bringing in personal experiences, Stake (1995) suggested storytelling can be avoided by pulling in background history of the case.

Instead of storytelling, the development of the report will more likely follow the sequence identified as a chronological or biographical development of the case, a researcher’s view of coming to know the case, and a description one by one of several major components of the case.

(Stake, 1995, p.127)

A chronological history of applied learning was given along with the history of the school. Another critique to consider for a naturalistic case study is a twenty question checklist provided by Stake (1995). Any researcher can easily go down the list to make sure the method of study remains within the perimeter of a case study as outlined by Stake (p.131). The critique checklist for a case study report is given in Appendix E of this research. Avoidance of Likert measurements was critical while understanding the educational program of applied learning through the socialization of a case study. At the end of this research, suggestions to the ALA principal and superintendent about what this applied learning case study revealed are presented.

Description of Methods

“As a research technique, the study of experience is through stories. Emphasis is on the stories people tell and on how these stories are communicated”(Merriam, 1998, p. 157). In this section, the research method selected will be discussed. The present study’s methods follow the assumptions of naturalistic or constructivist inquiry (Lincoln & Guba, 1985). The data was collected in the natural setting of the participants’ home or dwellings’ and if not, then an everyday location, such as a quiet restaurant. The “unit of analysis” (Creswell, 2002, p.159) is determining who can best answer the research questions about ALA. Several methods for data collection were employed such as recording personal interviews, reviewing school board notes or minutes, and inspecting superintendent’s memos in the FWISD archives. Next, data was collected from published articles related to applied learning and lastly, applied learning teachers’ notes, emails, and journals were examined.

Interviews were conducted from a diverse group of students, teachers, parents, administrators, and local community leaders to ensure crystallization occurred from several populations. At the end of the research there were 4 business associate participants, 9 student participants, 7 parent participants, 6 teacher participants, and 6 administrators giving a total of 32 participants interviewed for this case study. Single, one-on-one interviews were carried out, but three focus groups were also attempted. Methods of sampling for the qualitative data collection are recorded with many variations depending on the author. Merriam (1998) gives the common sampling types to be: typical, unique, maximum variation, convenience, snowball, chain, and network sampling (p.62). Patton (1990) offers purposeful sampling types as: deviant, opportunistic, or random purposeful sampling. The decision was made to select the three sampling types of:

- Snowballing
- Purposeful
- Opportunistic

The snowballing method builds a wider participating audience inside the first round of sample participants. Because of possible “snowballing” (Creswell, 2002, p.168) from the first participants’ suggestions, other participants may be pursued which could ensure a richer source of information.

The second sampling method is not random or convenience, but selective or “purposeful sampling” (Lincoln & Guba, 1985, p.102). Patton (1990) suggests that this convenience sampling is the poorest rationale with the lowest credibility producing

information-poor cases. Conversely, purposeful sampling allows interviewing and hearing the hand picked extreme cases of the ALA students who were not the typical, independent learner from the above average socio-economic homes (Patton, 1980). Hopefully, this will minimize the problem of convenience or purposeful sampling by searching for a wider variety of diverse participants.

Opportunistic sampling allows any researcher to follow new leads during fieldwork and takes advantage of the unexpected especially when the group of businessmen is selected (Patton, 1990). Using these three different methods of sampling, a richer documentation of data should be collected to answer the research questions.

Transcripts were analyzed using a content analysis approach for data reduction. “All qualitative data analysis is content analysis in that it is the content of interviews, field notes, and documents that is analyzed” (Merriam, 1998, p. 160). After the interview was transcribed the pages were printed out, cut into sections to fit on large index cards. From these cards contents or repeating themes were noticed. Once the textual information was highlighted the content became coded by marking text passages which were then analyzed. Frequency of statements and particular phrases were counted to help pinpoint the theoretical framework. Inferences were drawn through memoing to help pull in all themes and outside data. Memoing is considered as “one of the most useful and powerful sense-making tools at hand” (Miles & Huberman, 1994, p. 72). It was through memoing that “critical mass” was repeated from several of the subgroup participants and recognized later as a key term. This captured thought helped to crystallize a clearer understanding the number of qualified applied learning teachers

found within a school building and helped to tie in the responses from the research questions into clusters of ideas. Data was analyzed individually rather than by an inquiry team as suggested by Lincoln & Guba (1985).

Participants were also coded by subgroups and later identified with fictitious names to ensure confidentiality and anonymity; however, “this problem takes on ethical proportions because the persons from whom informants may need to be protected are usually themselves intimately familiar with the situation” (Lincoln & Guba, 1985, p.215). It is critical to maintain the honesty and integrity of the report with the findings. Lincoln & Guba (1985) refer to this problem as an audit trail versus the author’s own imagination or bias opinion dominating the data (p. 215).

Categorizing the contents from the pilot study helped to shape the original research questions. These questions grew from five to nine and are centered on the changes within the ALA school, portfolio assessment, and community involvement. The research questions for this case study are restated:

1. What are the factors that may have contributed to the success of The Applied Learning Academy with high reading and math TAKS scores?
2. What have been the benefits of the applied learning method for the administrator, teacher, student, parent, and business associates?
3. What have been the drawbacks of the applied learning method for the administrator, teacher, student, parent, and business associates?
4. How did the past students adjust to a traditional school concerning portfolios once they left the Applied Learning Academy?

5. How did the past students adjust to a traditional school concerning project-based learning once they left the Applied Learning Academy?
6. How did the past students adjust to a traditional school concerning community partnerships once they left the Applied Learning Academy?
7. For the business associates, how did they impact the Applied Learning Academy's educational program?
8. How has the applied learning program impacted the Fort Worth Independent School District?
9. What are some of the misconceptions of applied learning?

Selected Participants

The target population is finite since this population is the people involved directly or indirectly within ALA. The samples will then be representing the five main groups that help define this school. The business associates (group one) were still involved with the public school system or have remained close to ALA. The students (group two) represented three different academic levels ranging from gifted, average, and at-risk. The parents (group three) showed a broad spectrum of socio-economic backgrounds and education. The teachers/administrators (group four and five) were directly chosen because they have been teaching the applied learning method the longest within the FWISD. Within each group of participants, the number range was from four to nine. The level that the data was gathered is individual with one to one interviewing since the researcher can then focus her attention completely on that one participant;

however, the researcher did not rule out focal group interviews if and when the opportunity arises.

Common threads between each group were explored and analyzed through the demographic questions asked before the interviewing process starts. The demographic questions are designed to help break the ice and are based on the educational background of family members, occupation of parents and future career interest of students. Selections of the sample demographic questions are listed in Appendix F. These diverse groups of participants displayed important common patterns and threads rather than a tangled web of discourse information (Miles & Huberman, 1994). Common patterns of phrases and terminology were also noted from the participants' dialogue to isolate and support the theoretical framework.

Collection Methods and Organization

In order to recruit the participants, initial contact by phone call and requesting permission for the interviews were conducted. The phone numbers were accessed from the local Fort Worth phone book. The majority of the participants were known throughout this investigation since the researcher has been teaching at ALA for the past 10 years. It is this knowledge of knowing the participants that the case study will be strengthened (Lincoln & Guba, 1985; Merriam, 1988). A stranger must break the initial ground to put the participant at ease and gain their trust. Knowing the participants did allow the interview to proceed at a more relaxed atmosphere. This relaxed atmosphere permitted more indepth discussion for each question; however, there can be some disadvantages being an insider rather than an outsider. Distortion of the evidence could

result. The evaluator must use prudent judgment in coding and classifying the data. Because content analysis is systematic, human participants should be committed or at best interested in the research. “The dangers of bias and reactivity are great; the dangers of being insulated from relevant data are greater... Relevance cannot be sacrificed for the sake of rigor” (Erlandson, Harris, Skipper, & Allen, 1993, p.15). It is imperative that the researcher must find ways to control any biases which may inhibit, overshadow, or tamper with the flow of vital information.

Before the interview can start, Lincoln and Guba (1985) emphasized the importance of trust between the participant and the researcher. From these questions, internal validity, external validity, reliability, and objectivity can strengthen the qualitative research. The four questions Lincoln and Guba (1985) asked:

1. How can one establish confidence in the truth of the findings of a particular inquiry for the subjects (respondents) with which and the context in which the inquiry was carried out?
2. How can one determine the extent to which the findings of a particular inquiry have applicability in other contexts or with other subjects (respondents)?
3. How can one determine whether the findings of an inquiry would be repeated if the inquiry were replicated with the same (or similar) subjects (respondents) in the same (or similar) context?
4. How can one establish the degree to which the findings of an inquiry are determined by the subjects (respondents) and conditions of the

inquiry and not by the biases, motivations, interests, or perspectives of the inquirer? (Lincoln & Guba, p. 290).

Challenging the trustworthiness of qualitative research continues to be questioned and Merriam (1988) refers to six basic strategies which any researcher should follow in order to safe guard the validity, reliability, and ethics of the data collected:

1. Multiple sources of data to promote triangulation
2. Having participants look over the data and interpretations
3. Maintain long-term observation at the site
4. Allow peer examination on the findings
5. Involving the participants throughout the different steps of the research
6. Clarifying the researcher's viewpoint at the beginning of the study (p. 169-170)

“Giving the interviewee pertinent information about the study, ensuring anonymity, explaining what will and will not be done with the data obtained in the interview, and confirming with the respondent” how their participation is needed can help the participant feel more comfortable for the interview (Erlandson, et al., 1993, p.92). If permission was granted, then the participant was given the consent form to sign. A copy of the Institutional Review Board approved consent form was brought on the day of the interview. Audio recordings of the interviewing process were conducted. Recorded observations of the participants' facial expressions and their reaction to the

questions were attempted (Spradley, 1980) along with a detailed description of the surrounding setting (Bogdan & Biklen, 1998) through note taking and memoing. Once the participants' dialogues were written into a script and terminology pulled out, a colored matrix was developed to find the patterns between the critical, situated learning, and feminist theories between each subgroup.

Instrumentation for Data Collection

The main data collecting instruments were the pen, notepad, personal journal, audio-cassette recorder, external microphone, and an audio program to download recordings into a personal computer. The method of collecting the research was interviews, field notes from observations, documents, journals, and archival material. The research questions of each subgroup asked (see Appendix G) framed the interview because "the ways humans experience the world" can weave so many different and unique stories for the investigator to explore and filter (Connelly & Clandinin 1990, p.2). Recording directly into a laptop computer was attempted with the new computer program of Express, yet transcribing by hand dominated the data collection. After each interview, the dialog was transcribed into a word document. These sheets of information were printed out; codes were written related to the research questions or topics, contents were then cut up, and these strips were then pasted on index cards to undergo a content analysis method of analyzing the data. No photos or video recording devices were used during the data collection. The length of the interview was planned to be from 45 to 60 minutes and the participants were informed of this allotted time frame. If the interview was going well and the participant was enjoying the interview, the time frame did go

beyond 60 minutes because allowing the freedom of the participant to express themselves enriched the data from an uninterrupted story.

There is no fixed prescription for the researcher to follow, though the general advice to the researcher is simple: Gather data in a manner that presents the most complete picture of what has happened in the research setting, but never allow your data collection procedures to cut you off from access to additional data that you may need (Erlandson et al., 1993, p 103).

During the interview, non-verbal communication of the participant was recorded on the notepad. From a previous pilot study, these body movements can add hidden meaning to the story being recorded. After the interviews, personal reflections were written down in a log journal and later used within this report when the comments were critical to the report since “first-person accounts of experience form the narrative text of this research approach” (Merriam, 1998, p.157). Repeated phrases or ideas were memoed into the margin to make stronger connections for the conclusion.

To maintain the validity and ethics of the collected data, four committee members were allowed to run a continuous check on the interpretation and analysis of the ALA case study. The questions that were asked to the participants were categorized by their level of involvement: business associate, student, parent, teacher, and administrator. Triangulation was established from these five different sources (Denzin, 1970, Erlandson et al., 1993). The questions were open ended to follow the qualitative method strategy (Creswell, 2003; Erlandson et al., 1993; Lincoln & Guba, 1985;

Merriam, 1998; Patton, 1990; Stake, 2005). The main emphases of these questions were not information questions, but truly open-ended questions which were utilized to keep an “easy rhythm” and “talk turn with the respondent” (Lincoln & Guba, 1985, p.270). Three to six questions were designed for each group; however, more questions were developed during the interview when it was necessary. From Bogdan (2003), “Questions developed to guide a qualitative study need to be more open-ended and concerned with process and meaning rather than cause and effect” (Bogdan, p. 150). The research questions focused on the following topics: 1) the teaching method, 2) the portfolio assessment, 3) changes experienced. These selected questions for the participants are listed in Appendix G.

From these questions, the factors influencing the success behind ALA were explored while the risks for the participants during this research were minimized through compliance with established Office of Research Appliance procedures (Office of Research Compliance, 2007). If the selected student was less than 18 years of age, then the parent was notified first, a copy of the questions was faxed or emailed to the parent along with the consent form. The student was not contacted if the parent did not agree to the interview. Arrangements were made upon the parent’s approval as to the time and location of the interview. This was the only time that the research questions were viewed by the participant (parent of a minor) before the interview. Also, one student under the age of 18 signed an assent form.

Data Analysis

“One of the assumptions underlying qualitative research is that reality is holistic, multidimensional, and ever-changing; it is not a single, fixed, objective phenomenon

waiting to be discovered, observed, and measured ... What is being observed are people's constructions of reality" (Merriam, 1998, p.202-203). Since the ALA participants are the primary source of data collection, the participant's interpretations of their reality from the ALA experience are taken directly from the recorded observations and interviews. Once the interviews began, all data was kept locked in a file cabinet at the home office and stored for two years. Access to these files is limited. There were no interviews on the ALA school property or any of the FWISD school property. The interview scripts were transcribed, divided into units of data, and grouped into categories with arbitrary codes assigned to each category for classification (Creswell, 2002; Erlandson et al, 1993; Lincoln & Guba, 1985). These codes are "nothing more than assigning some sort of short hand designation to various aspects of the data so that you can easily retrieve specific pieces of the data. The designations can be single words, letters, numbers, phrases, or combinations of these" codes (Merriam, 1998, p.164). These categories generated themes or titles that distinguished unique ideas. In managing the study, integration of the processes of data collection, data display, data reduction, drawing, and verifying conclusions with a possible matrix were conducted according to Miles and Huberman (1994). From simple sentences came "units of data" and hopefully "critical incidents" (Erlandson et al., 1993, p.103, 117). Data was summarized on 4 x 6 cards of a single unit of idea. These cards were placed in similar piles and themes as they developed through this method of content analysis. Coding and memoing (Schwandt, 2001) were informed by *Analyzing Social Settings* (Lofland & Lofland, 1995) and from Miles and Huberman's, *An Expanded Sourcebook Qualitative Data Analysis* (1994).

From the management of the transcripts, coding, and reorganizing data into the selected key topics of repeated ideas, the analysis of this information was grouped or clustered around a central theme and then phrases were isolated to examine the theoretical framework. It was this clustering that allowed crystallization to slowly grow into definite, sharp ideas. Yet, unlike the quantitative study, this process did not come from a computer assisted management strategy. Personal and individual conceptualization from the data collected used the critical tool of the rational self. Experiencing the data crystallized personal reflections and lead to the emergence of new insights and interpretations. “Essentially the analysis is to immerse yourself in the data, - if you are analyzing an interview text, become alive through the text” (Crabtree & Miller, 1999, p. 180-183). The basis behind the crystallization term is time and patience, the same for a true crystal to grow from the original seed crystal. Without the patience to go through the notes again and again, fractions or splits may occur within the crystal which reduces the size and strength of the final process. Just as the crystal has different facets which determine its specific chemical and physical properties, Laurel Richardson (2003) refers to crystallization as the different approaches to her style of writing. By writing in different styles or format, then aspects of the research can be seen from several important angles. “For the postmodernist mixed-genre texts, we do not triangulate; we crystallize. We recognize that there are far more than three sides from which to approach the world” (as cited in Denzin & Lincoln, 2003, p.517). Pulling away from the fixed simple shape of the triangle for triangulation, the geometry for today’s research is “an infinite variety of shapes, substances, transmutation,

multidimensionalities, and angles of approach.... What we see depends upon our angle of repose. Not triangulation, crystallization” (p.517).

In the fall of 2006, a small pilot study was conducted with ALA faculty, parents, and ALA alumni, thus informing this study. From the notes of these interviews, four main topics developed and two of these topics branched off into subtopics of what was important about the applied learning method of instruction. These topics and subtopics were:

1) Skills & Activities

- a. communication
- b. writing
- c. time management
- d. problem solving
- e. maturity and independence
- f. hands-on activities

2) Relationships

- a. student to student
- b. teacher to teacher
- c. student to teacher
- d. student with outside community partnership/mentor

3) Community & Real World

4) Individuality & Choices

Each group was studied independently and then collectively to develop a conclusion on what has been the success of the applied learning method.

In addition to the data collected from the pilot study, documents from the FWISD archives on past board meetings were collected as secondary sources of data. Minutes from these meetings did reveal alternative interpretations (Erlandson et al., 1993) about applied learning. Original documents and school records from The Laboratory Schools' archives in Chicago during the time frame of 1886 to 1904 were investigated to give the researcher a better understanding of the historical development of one of the first applied learning schools designed by John Dewey and Francis Parker. Archival material from the Columbian Library and Teachers College in New York City were investigated to show the growth of progressive education and schools after the development of the Laboratory Schools in Chicago.

Throughout this research, an interactive process was attempted from the created realities of the participants. Joining or synthesizing the participants' dialogs with other information formed a consensus. Each participant's story or dialogue guided the research within the hermeneutic dialectic process where a continuous interplay of comparing and contrasting everyone's viewpoints occurred. Only when the businessmen and businesswomen were interviewed did a hermeneutic-dialectic process developed as described by Guba and Lincoln (1989) since this was the group that was left out of the original pilot study and this group's affiliation remains outside the walls of ALA. The cross-case display of collected data from all five groups and secondary sources of

information developed triangulation and crystallization as stated by Merriam (1998), Miles & Huberman (1994), Patton (1990), and Richardson (2003).

Report of Findings

The final written presentation of the data contains detailed descriptions from the constructed data. This research evolved around the theory of the naturalist paradigm that Lincoln and Guba defined in the *Naturalistic Inquiry* (1985) as: “one is interested in inquiry that is ongoing at the forefront of disciplines, the naturalistic paradigm is *the* paradigm of choice, the paradigm that provides the best fit to virtually all phenomena” (Lincoln & Guba, p.50). Reporting this research is usually through a case study. The rationale for selecting the case study report is to increase the reader’s level of comprehension on the main focus of the study, to allow the interaction between the researcher and the participants, and to give a “thick description” for transferability (pp.359-360). With the thick descriptions of the diverse participants’ viewpoints and selected narrative stories found in the Appendices H and I, the reader should vicariously experience the applied learning method of teaching from the written report. Finding the commonalities between the theoretical framework and applied learning generated a visual display providing the reader with a clearer understanding of this teaching method.

Study Limitations

While limitations of biasness were actively avoided when possible, every study has limitations as a result of the methods chosen. A problem that was noted during the pilot study of the narrative interviews was the selection of students. High level academic achievers were only interviewed. These students presumably would have excelled in any

type of school program since they were already driven to earn high scores on assignments. New research examined a cross-section of all the students who have gone through ALA from the low achiever to the advanced student. The study attempted to identify the academic skills that ALA taught which helped the students' educational path into high school and college. A transition period was investigated to see if there were any problems while the student changed from applied learning to regular classes.

Using purposive sampling within the groups has been cited as providing poor and low credibility resulting weak data and summaries (Lincoln & Guba, 1985; Patton, 1990). The ongoing student sample selection process did pull from different levels of academic achievement which avoided a monoculture effect in the responses. An initial sample was chosen for its obvious relevance to the research problem, but this type of personal selection rather than random achieved species diversity out in the field because of the wide variety of participants selected.

Another limitation of this study may result from participants providing shielded responses rather than completely honest and frank answers. Because these participants are personally known, the responses may reveal only the positive aspects of ALA. To avoid this limitation, questions were not asked pertaining to the subject matter that was once taught by the researcher to these past students. Assurance to the participant that their viewpoint and participation did not affect the investigator in any way was stressed.

Lastly, a weakness of this study could be an over generalized interpretation of the collected data. At all costs, rules in keeping this report valid, reliable, and ethical were followed. If someone else attempted this same type of research, asking the same

questions to the same participants, then the collected data should be identical, but within a case study, the interpretation may differ due to the differences of opinion experienced by each principle investigator.

CHAPTER IV

RESULTS

Overview of Chapter IV

Chapter IV begins with a quick overall descriptive view of each particular subgroup. Background information, schooling, and ages were provided when it was helpful. Examining more closely, the participants' comments were compiled into a summary for each subgroup. The summaries start with the smallest group of participants, the business associates (n=4), the students (n= 9), the parents (n=7), teachers (n=6), and lastly, the administrators (n=6). When a particular quote from an individual participant was critical for a truer understanding of the response, fictitious names were used to give some meaning of the person sharing this valuable thought or expression. Following the description of the participants, each research question was answered in detail. After the research questions, personal narratives from the teacher and administrator subgroups are found in the Appendix section (see Appendices H & I). These participants and their selected narratives provide such a rich experience that sharing their actual thoughts and expressions truly highlights the method and philosophy of applied learning. The applied learning program is based on portfolio evaluation, project-based learning, and community partnerships; therefore, these stories told by the teachers and administrators best illustrate completely what applied learning is all about.

Introduction of Participants

Found within the 5 main subgroups of the 32 participants (business associates, students, parents, teachers, and administrators) are threads of similarity and differences.

Diverse populations for each subgroup, especially the student population were interviewed. The participants came from all types of ethnic and economic backgrounds with the exception of the business associate subgroup (n=4), who did not display this diversity.

Business Associates Description

The business associates (n=4) all had the same background by being over 50 years old, with college degrees, upper to wealthy economically, and Caucasian. The 2 business females held a wide variety of jobs which included teaching or wanting to be a teacher in their personal background. The 2 males had less diverse work backgrounds with at least 20 years of experience with one particular employer. All of the business participants sent their own children to the public school system for the elementary years, but some of these children did go on to private schools for their secondary schooling. None of the business participants' children had applied learning classes in their schools, but all the business associates agreed that their favorite classes when they were in secondary schools were the classes where they were more involved with the course such as science or foreign language. Each business participant classified themselves as above average to a high average student who did their school work and earned good grades. They gave this credit to their parents since not one of them wanted to see what would happen to them at home if they had low grades in school. They all agreed that education is extremely important for our youth and our future society. These four business participants had in fact gladly volunteered to assist any teacher in the past and would gladly do so in the future if and when asked. They know and understand how important

it is to make the connections for the student who is inside the classroom to see how the real work force applies education to everyday work tasks.

Students Description

The students (n=9) age ranged from 27 to 17. Several high school students were initially solicited, but the consent forms were not returned to follow up with an interview. Four of the student participants were married and one of the student participants had a young child under the age of 2. All of the participants finished high school, and only one of the students did not go to college. Two of the participants have completed 4 years of college and are now in the work force using their college degree. The youngest participant was 17 and starting junior college. The career interests of the student participants included architecture, business, communications, education, medicine, and psychology. The ethnically diverse students were typically from racially mixed marriages. Out of the 9 participants, 5 came from homes where their parents were from two different ethnic backgrounds of either Hispanic and Caucasian or African American and Caucasian. Two of the participants had divorced parents and did not have the father living in the same household. Considering their academic skills, these students would be classified by their elementary and secondary teachers as being just average students in the classroom or above average; however, 1 of the student participants was labeled gifted and 2 of these participants were National Merit Hispanic Scholars when they were in high school. Two of the students had to attend several different high schools before finally graduating because of their dislike of the high schools they were attending. All but one graduated from the public high schools and all had applied

learning training for their middle school years. The years they attended the Applied Learning Academy ranged from 1995 to 2005. Six students had applied learning training in their elementary grades while 1 participant did go on to the applied learning high school to finish her secondary education in 2007.

Parents Description

Five mothers and 2 fathers were interviewed for the parent subgroup (n=7). The educational background of the parent participants included five who had college degrees, one was a high school drop out, and one who was taking classes at a local junior college for an associate degree. All but one of the parents was working full time when their children attended the Applied Learning Academy. Their jobs involved being a truck driver, data clerk, librarian, substitute teacher, public relation officer, and advertising agent. Two of the 7 parent participants were non-Caucasian, but 4 of the 7 parents had interracial marriages. Most of the parents sought out the applied learning school because of its philosophy since they were dissatisfied with their children's local elementary school experience. Two of the parents did not have their child go through the elementary applied learning training. One parent will have their child graduate from the Applied Learning Academy in 2009 while the other parents have children in the public high school system, in college, or their children have already graduated from college. One parent had four children go through the applied learning training, two of the parents had three children go through the applied learning training, one parent had two children, and the rest of the parents had one child go through the applied learning training at ALA.

Several of the parents did share dual hats by not only being a parent with an ALA student(s), but also the parent may be working at ALA, being a board member representing the district neighborhood of ALA or being one of the original businessmen who helped with the initial surveys of what skills were needed on particular job sites that helped create Vital Link from the C³ program. Thus, several parent participants came from dual backgrounds to enrich the responses for the interviewer's research questions.

Teachers Description

Because of the vast information collected from the last subgroup of teachers (n=6) and administrators (n=6), this subgroup was divided into two separate subgroups after all interviews were completed. For the teachers, only one had children who went to the applied learning school during their elementary school years, but these children were later transferred to a private secondary school. Four of the teachers do not have children. The teachers represented the three major ethnicities of Fort Worth, Caucasian, Hispanic, and African American. The teachers were all experienced inside the classroom having an average of 17 years of teaching experience. The most experienced teacher had 25 years of teaching experience and the youngest with 15 years of teaching. All teachers started teaching in a regular classroom, four were immersed into the applied learning workshops that the Fort Worth ISD offered during the 1990's prior to teaching at the Applied Learning Academy, and two of the teachers did not go to any of the applied learning training before coming to teach at ALA . These two new teachers simply learned by osmosis or simply shadowed what the other teachers were doing at the Applied Learning Academy. One of the applied learning trained teachers had never taught in an applied

learning school, while another one of the applied learning trained teachers left an applied learning school to teach in a regular school. One of the teacher participants is a district trainer of the applied learning method to the Fort Worth teachers today. The least amount of applied learning experience is 3 years by one teacher while most of the older teachers have at least 15 years of experience teaching applied learning. It was expected that the older participants revealed more historical information than any of the other subgroups.

Administrators Description

The administrators (n = 6) all started out teaching in the classroom, but some quickly moved to administration. Their administrative positions included superintendent, assistant superintendent, principal, vice-principal, educational consultant, and academic coordinator. Only one of the administrators was from a minority group. Two of the administrators were the district trainers for applied learning during the 1990's for the Fort Worth teachers. These administrators had the largest age difference ranging from 27 to 77. This was the group who gave the most historical information during their narrative interviews about the history of applied learning in Fort Worth. This historical aspect was another facet for the answers to crystallize from the research questions.

Review of Research Questions

Looking again at the main research questions, they are:

1. What are the factors that may have contributed to the success of the Applied Learning Academy with high reading and math TAKS scores?
2. What have been the benefits of the applied learning method for the administrator, teacher, student, parent, and business associates?
3. What have been the drawbacks of the applied learning method for the administrator, teacher, student, parent, and business associates?
4. How did the past students adjust to a traditional school concerning portfolios once they left the Applied Learning Academy?
5. How did the past students adjust to a traditional school concerning project-based learning once they left the Applied Learning Academy?

6. How did the past students adjust to a traditional school concerning community partnerships once they left the Applied Learning Academy?
7. For the business associates, how did they impact the Applied Learning Academy's educational program?
8. How has the applied learning program impacted the Fort Worth Independent School District?
9. What are some of the misconceptions of applied learning?

Successful Factors Affecting Applied Learning Academy's Tests Scores

The factors which affected the success of ALA to have high reading and math TAKS scores are summarized in Table 3. A comparison of the subgroups can be determined since the data is shared separately for each subgroup and then compiled for a summary of all identified factors.

Table 3

Factors That May Have Contributed to the Success of the Applied Learning Academy

Group	Success Factors
Business Associates (n=4)	(a) creative and rigorous curriculum, (b) talented and dedicated teachers, and (c) early intervention program
Students (n=9)	(a) innovative applied learning instructor, (b) real world curriculum, (c) community and parent involvement, (d) learning cognitive development, (d) creating relationships, (e) comfortable environment, (f) allowing to have futuristic visions, and (g) nurturing applicable skills
Parents (n=7)	(a) wrap around curriculum, (b) children developing researching and communication skills, (c) strong parental involvement, and (d) family atmosphere
Teachers (n=6)	(a) total buy in by the faculty, (b) freedom to develop curriculum around the students' needs, (c) small size of school and classes, (d) strong leadership, (e) independent, adaptable, and driven students, and (f) involved parents with community partnerships
Administrators (n=6)	(a) teacher, family and community all supporting each other, (b) small size of school environment, (c) unique curriculum providing opportunities to the student, and (d) administrative staff believing in each child
Summary (n=32)	(a) curriculum nurturing applicable skills, (b) parental involvement, (c) dedicated teachers, (d) small size school, (e) community involvement, (f) application of cognitive development for the child, (g) continuous program from K thru 8 th grade, (h) open-minded, adaptable, independent, and futuristic thinking, (i) relationships developed in a comfortable environment, (j) leadership, and (k) connections and opportunities provided from the real world

Expanded data is summarized for each of the subgroups. Their thoughts are expressed separately about the successful factors of teaching applied learning and then compiled to understand the similarities and differences between the groups.

Business Associates Summary

Business associates thoughts on the successful factors of applied learning were the creative and rigorous curriculum, talented and dedicated teachers, and the early intervention program of starting applied learning at a young age.

Even though the business associates did not have any children go through the applied learning educational program, they all agreed for any type of innovative program to be successful would require trained teachers. They wanted to see lesson plans designed by these creative teachers which went along with actual tasks used in the workplace.

Another successful factor for the applied learning was starting this program at the elementary school age first. Just like the major fast food corporations do, “hook your customers when they are small so Alice Carlson starts applied learning at the earliest stages. Good market perspective and philosophy. Get them young and you will have them for life” (C. Cornwall, 2008).

Students Summary

The comments on successful factors from the student participants centered around the innovative applied learning instructor with real world curriculum, community and parent involvement, learning about cognitive development, creating relationships with the faculty in a comfortable environment, allowing to have futuristic visions, and nurturing applicable skills.

For the students, the majority thought the success of the applied learning was the teachers. Teachers who understood the concept of applied learning and truly

implemented it in their curriculum. The teacher who really loves learning and tries new things with the students builds this partnership between the students and the teacher. Regardless of the barriers that may develop, the teacher will not give up the applied learning concept. That is what makes ALA different from a regular school. A teacher or the whole system who understands the importance of collaborations within the community because it was those experiences outside the school building that made everything come to life for the student. Of course, many of the students said having tough, but fun teachers kept their interest in class. Teachers who understand the personal one-on-one relationship with students, who really cared about the student's progress was a comment shared by all student participants.

The value that ALA instilled on all of the student's work builds into the success of ALA.

It's not so much a goal as some overall average of the quality of your work. That is not the main focus. It is more like, what does your work say about *you* [italics added]? How does your work show that you have grown? How does your work show that you have learned? It makes the student more accountable than the teacher because it is more of a dialogue between the parents and the students about the academic progression of that child while the teacher is merely the mediator (Enrique, 2008).

"The school helped the student find who we really are. You are not just a student, but you are you" (Tablisha, 2008). You matured in applied learning because you

are you own *master* [italics added] (Enrique, 2008). “You are responsible for your down falls by not completing or redoing the work” (Tablisha, 2008). Students now know they can make a difference with their own lives or with their surrounding community.

All students agreed that they looked forward going to school when they were at ALA since “it was a comfortable environment where people were more open-minded to different people from different backgrounds. It was not boring since we were pushed to think outside the box” (Karen, 2008). Kids seemed to be more involved with the school when allowed this freedom to expand their thoughts and act upon these ideas or projects.

Several students commented about learning people skills such as communicating with people of different age groups, designing resumes, going through interview sessions, and knowing how to dress for these interviews made ALA stand out. Individual thinking such as critical thinking was also mentioned over and over rather than individual learning and memorizing. “I was taught how I could approach my thinking, how I could approach my learning, but like on my own terms and it may be in a different way when compared to other students” (Liliana, 2008). Applied learning was more visionary and futuristic about education. The school was willing to change and keep abreast of what is going on with the world rather than focusing on the state test. “College was easier by going to ALA. ALA made learning a lifelong experience” (Luz, 2008). Connections were made from the classroom to the real world.

Lastly, what was also shared by most of the students when trying to explain why applied learning was successful for them was parental involvement. Parental involvement was important because as an elementary and middle school child, “you

learn as much from your parents as you would from your teachers” (Enrique, 2008). Seeing this interaction between the teacher and parent benefited the student.

Parents Summary

Parents’ thoughts on the successful factors of applied learning were the wrap around curriculum, children developing researching and communication skills, and the strong parental involvement and family atmosphere.

The applied learning program is a wrap around curriculum where teachers would reinforce the necessary skills and concepts. Students live the education in the classroom and think outside the box rather than just reading about it. Theory is actually put into practice with real life experiences. Project development drives the learning process not education drives the learning. There is a reason for learning when there is an authentic need and the outside society needs this product/project. Research and study skills are focused on rather than the competitive aspect seen in other schools.

The small campus and student body allowed a community with a family atmosphere which would then build into a feeling of community within the classrooms. Because of the campus size, personal attention was given to students within the portfolio and narrative conferences. Parents appreciated this aspect of ALA and siblings were then expected to follow their older siblings by attending ALA.

ALA tried to develop the students’ socialization skills creating the “self-esteem school. That was what my son called it, the self-esteem school” (L. Lufkin, 2008). It really did not matter to the parents if ALA was following the textbooks. The parents saw

their child grow with the development of their child's confidence and self assurance from portfolio conferences.

The required 20 hours of volunteer commitment from the parents each year is requested by the applied learning elementary and middle schools. Documentation of these hours is kept in the office of the school. Volunteering could be helping with the yearly book fair, chaperoning a field trip, or just tutoring their child with homework. Parents try to comply which can add success to any school and keeping strong parental involvement gives a feeling of a united community. Keeping the parents informed with what was needed by the teacher usually implies an open door of communication between home and school.

Teachers Summary

Teachers expressed their ideas on the successful factors of applied learning were the total buy in by the faculty into the applied learning system, the freedom to develop your own curriculum around the students' needs, the small size of school and classes, strong leadership to support the applied learning philosophy, independent, adaptable, and driven students with involved parents who brought in community partnerships.

What made ALA so successful was the total "buy in by the *teachers* [italics added]. It was like a community of teachers"(W. Williams, 2008). Everybody at ALA was an applied learning trained teacher and shared the same philosophy. The applied learning philosophy should be incorporated into every subject's curriculum at every school. Applied learning helps you to think, to analyze a situation, and the organized steps that you need to follow. "After all of these years, we are still considered out in left

field by remaining different”(W. Williams, 2008). The teachers understood about having a kid doing something fun and challenging. There was always something going on. “We didn’t mind staying late after school trying new things out. We had the freedom to come up on Saturdays to work. We just had a lot of freedom”(D. Dunbar, 2008).

Teachers believed in the system and they were ready to go the extra mile with their planning and the effort to make it happen. They would stand together when they dealt with the students. At the traditional school you were ready to go home at the end of the day (J. Johns, 2008).

“Smallness makes a big difference” (W. White, 2008). ALA is a small school that provides a safe haven for students, promotes projects by the kids to work on, and “a lot of personal attention. Applied learning made a lot of connections and grounded the kids better with stronger reading skills” (W. White, 2008).

Strong leadership was held for many years providing ALA with a strong foundation. Funding was always found and secured by the past administrator. “We never heard the word no or had to worry about the finances. If we needed it, we got it” (D. Dunbar, 2008). Parents trusted the teachers and administrators on what and how to teach to the students and the administrators trusted the teachers that the job would get done with no questions asked.

Having the student trained in elementary school to begin thinking about portfolios and explaining their work so by the time they arrive in middle school, the teachers can go deeper into the program. This creates a good base and keeps the kids consistent with their work for their portfolios. It has to be a uniform practice. The kids

should already know about grouping and projects. Time is too much of a problem and a challenge when you have “to reroute students into accountable behavior and working in a functional group” (J. Johns, 2008). “It is successful because it is experiential and I think that is the best way for kids. Experience is the best teacher. We allow the kid to own the experience and to *own* [italics added] their learning” (W. White, 2008). “The kids were social, caring, and just average kids. The ALA kids were taught to be more flexible and adaptable” (D. Dunbar, 2008).

A successful school relies on having involved parents which can be the driving force to get things done or changed. “A lot of parental involvement was required by the school. With the 20 hours of service that makes a big difference. If you do not have parental involvement, the students do not see that you are connected to the school” (O. O’Hara, 2008).

Administrators Summary

Administrators ideas on the successful factors of applied learning were the teacher, family and community all supporting each other, small size of the school environment which developed close relationships between student to teacher to administrator, the unique curriculum being taught which provided many opportunities to the student, and an administration who were willing to believe in each child.

“You had the teacher buy in, the families buy in, and the community buy in. You can not find that at many schools” (D. Dubois, 2008). This triad of forces developed which brought then strong students to follow. “What really put ALA over the top was the group of parents. We had some very loyal and influential parents at the beginning.

Not only were they loyal, they were *very* [italics added] vocal” (W. Wells, 2008). These vocal parents would rally the other folks for support. Nobody came to ALA to squash it; nobody said it was not working since ALA had developed a good relationship with Lockheed for the Robotic team and a healthy relationship with Casa Manana.

Whatever any school needs are supportive parents and for a new program the district had to sell and convince parents first; otherwise, applied learning would not succeed or take hold into the community. One of the hardest things was you had to prove yourself a lot. Neighborhood schools get the same population, but we got kids from all over the district. We had to prove ourselves *all* [italics added] the time. Once we did, we had *very loyal parents* [italics added]. I think their benefit was the fact that their kids felt safe in an emotional way. (N. Nicholas, 2008).

ALA provided a small environment where the student could be nurtured and supported. There is a sense of community inside and outside of the school. Teachers are not isolated since they work together with their colleagues. The blocks of scheduled time with the same children developed real relationships between each child and the teacher. “You really knew what they needed when you had them for 2 ½ hours each day with 35 kids in the morning and 35 kids in the afternoon” (N. Nicholas, 2008).

Teachers do not get bored with their class since they do different things such as real work for a real audience. Academics have rigor and integrity which are demonstrated in the student’s reflections. The student must be able to convey what is good and bad about their own work which indicates knowledge of the standards or goals.

“I think it takes teachers who are willing to relax commonly held beliefs about how they teach and when that happens. It is magic” (D. Dickens, 2008). This sort of program depends heavily on the initiative imagination and courage of a teacher. The teacher must have the willingness to rethink what they do in the classroom, finding new kinds of assignments and new ways to cover the course content efficiently. “When applied learning really succeeded, it was because teachers were willing to let students work on ill defined problems for audiences that needed to have those problems solved ” (S. Smith, personal communication, October 17, 2008).

“Great opportunities are provided at ALA but only if the student takes advantage of them. If so, then the student had a chance to become really prepared to speak in public and develop important social skills” (D. Dubois, 2008). “I think the kids loved it. The parents see their children excited about learning. It brings a whole new depth to what happens in the classroom” (D. Dickens, 2008).

There has to be administrative support or at least willingness to allow this sort of work to go on. The principal knew each child since she remained in the classroom throughout her years at ALA. She never gave this up. Teaching kept her a part of the school rather than being a me and them grouping. She simply related to the kids better by developing these relationships. “I think it takes a principal who has the vision and who isn’t afraid of what is going to happen to ‘me’ to relax commonly held beliefs about classroom learning” (N. Nicholas, 2008).

Shouldn’t all schools be required to read 25 books a year? Why is it just ALA? No one at my new school seems to know about the scholastic book

fair, not just high school, but also middle schools. It could be a community involvement. It is a different type of community here in this neighborhood. I think applied learning is successful if it is done right. Eighty percent of any school's evaluation is based on TAKS, so they aren't going to chance anything. My school is not willing to risk this and try something new at this time (D. Dubois, 2008).

Summary Results of Successful Factors of Applied Learning Academy's Tests

Scores

In summary the factors that affected the success of ALA to have high reading and math TAKS scores were: (a) curriculum to nurture applicable skills, (b) parental involvement, (c) dedicated teachers, (d) small size school, (e) community involvement, (f) application of cognitive development for the child, (g) continuous program from K thru 8th grade, (h) open-minded, adaptable, independent, and futuristic thinking, (i) relationships developed in a comfortable environment, (j) leadership, and (k) connections and opportunities provided from the real world. Teaching to make connections, teaching necessary skills, or teaching for real world applications was the overall factor for the applied learning success. It is notable that curriculum was the one factor which occurred across all subgroups of participants. It should also be noted it is not just what is being taught, but the *how* [italics added] of teaching which was brought out by the participants.

The next successful factor that was brought out by all of the groups was parental involvement. For the business associates indirectly they agreed that it was their parents

who pushed and expected high grades from them rather than directly saying parental involvement is a successful factor for applied learning; however, all other groups did directly mention strong parental commitment when it came to the success of ALA.

Four of the groups, business associates, students, and administrators said success came from the quality of the teachers. Creative, dedicated, rigorous, yet fun, out of the box teachers allowed the applied learning program to flourish and be successful. Because of the quality of the teachers, administrators were confident about the curriculum selected or designed by the teachers. Because of the teachers' commitment to the philosophy of applied learning, community partnerships opened up providing great opportunities for the students and strong relationships developed between the pupil and teacher. Indirectly the parent and teacher group also mentioned the quality of teachers when one-on-one attention was brought out.

Three of the groups, parents, teachers, and administrators thought the small size of the school and student body made ALA so successful. Due to the small size the feeling of a family was achieved, one-on-one relationships developed, individual attention and safety was easily handled.

Two groups, the business associates and the teachers mentioned the importance of starting early with a program to ensure a success. Once you have captured an early audience to a product it is easy to continue to sell this product as the child gets older.

Another two groups, teachers and administrators expressed the importance of leadership for the success of applied learning. Even though only 2 subgroups brought out the importance of leadership, these particular 2 groups of participants allowed all other

items for applied learning to fall into place. The teachers and administrators could be considered the driver gears to get all other mechanisms moving inside the applied learning school.

Lastly, two groups, students and administrators, brought out the success of the Applied Learning Academy with high reading and math scores was teaching the student to become responsible by learning how to learn. Allowing the child to make decisions and express their academic growth from their portfolio conferences made their education very successful which built their self-esteem and confidence. Students were not numbers on a test or a report, but it was their quality of work which the student had to explain and defend during the portfolio conferences.

Benefits of Applied Learning

The benefits of teaching the applied learning method expressed by all subgroups are summarized in Table 4. Data are shared separately for each subgroup and then compiled for a summary of all identified benefits.

Table 4

Benefits of the Applied Learning Method

Group	Benefits
Business Associates (n=4)	(a) applicable skills, and (b) creating a national award winning program used throughout the United States
Students (n=9)	(a) complete communication between student to teacher to community, (b) critical thinking with rigorous projects, and (c) real world curriculum connections
Parents (n=7)	(a) rigorous academic demands, (b) creative focus, (c) outside evaluation, (d) cognitive learning, (e) real world connections, and (f) freedom of choices for the student and teacher
Teachers (n=6)	(a) freedom of curriculum choices for the student and teacher, (b) student responsibility about learning, and (c) dual roles of administrators who kept teaching
Administrators (n=6)	(a) dual teaching and leadership roles, (b) relationships developed, (c) family atmosphere, (d) community opportunities for the students, and (e) top quality education
Summary (n=32)	(a) being part of a community, (b) working with partnerships, (c) project-based curriculum with real audiences, (d) acquiring applicable skills, (e) learning how to learn (f) having teachers and administrators as facilitators, (g) freedom of choice, (h) being able to think outside the box, and (i) relationships

Each subgroup's thoughts are expressed separately about the benefits of teaching applied learning and then compiled to understand the similarities and differences between the groups.

Business Associates Summary

Business associates thoughts on the benefits of applied learning were applicable skills being taught to use outside the classroom. Creating a national award winning

program adopted throughout the United States was another benefit from applied learning.

The benefits of the applied learning method gave the students actual skills which were really needed by the workforce. Young students worked shoulder to shoulder at Alice Carlson with the architects when it was time to design their new playground. The children knew what they wanted and needed for this particular area. They learned from the architects what could and could not be done. It was applied learning “that made The College Board include the writing section on the ACT and SAT exams” to apply the skill of writing by each student (H. Henry, 2008).

The benefits from the C³ program included a nationally acclaimed educational program, a stronger community connection with the public school system, and the formation of applied learning institutions. Starting with one elementary school this program swelled to another elementary school, a middle school, then to a high school. Individuals from the professional business community actually worked with the teachers as they developed the lesson plans from the C³ survey. “Business is positive about the school system. They aren’t as jaded dealing with the difficulties in the system. They are from the outside of the system” (B. Blacksmith, 2008).

Students Summary

The summary of the students’ thoughts on the successful factors of applied learning were the complete communication between student and teacher inside the classroom and with the surrounding community, critical thinking with projects fueled by

the rigorous demands from teachers, and curriculum which made connections to the real world.

ALA allowed all of the students to open up with their teachers. For some students they knew they would still be shy if it had not been for ALA and the way classes were taught with presentations, portfolio conferences, and group work. Their concept of society and knowing people had been widened. ALA opened up more worlds to the students when compared to the other middle school students. Social and global issues were discussed more often in ALA. ALA allowed the students to be involved with the community more so than the other middle schools. It was up to the student to get involved, but all of the student participants did participate in outside partnerships and this gave them wonderful memories. It was a great way to build their resume for college and expand their horizons by networking with people. Field trips were a positive aspect, but the “field trips were more meaningful since it actually dealt with what they were doing in class. It was not a reason to get out of class, but a reason for the class” (Liliana, 2008). Several students began to realize they could make a difference and actually began to change things.

Academically the students were pushed harder (pushed outside the box) in this middle school when compared to their high school. Problem solving was a major theme throughout the students’ opinions along with free-thinking. All students agreed that hands-on learning with one-on-one instruction were beneficial at ALA. Several of the students agreed that ALA got them more ready for college than their high school due to the leadership, organizational, and study skills being taught to them. Becoming self-

sufficient inside the classroom was what ALA instilled for all students. These concepts were brought out with the students by introducing projects with money budgeting, working within a timeline, watching the progress of a product, and completing a product set at a particular deadline provided the applied learning processes. All students agreed that their textbooks were merely guides or to use when a substitute came to their class.

Parents Summary

The summary of parental thoughts on the benefits of applied learning were the rigorous demands from the teachers to produce a high level of academic performance by the student, yet allowing their child to be creative and think outside the box, requiring an outside audience for any type of academic performance, cognitive learning, connections to the real world, and freedom of choices for the student and teacher which provided ample opportunities to grow and share.

Core teachers are the pillars of the school and the high academic performance which embodies the community. ALA does not dumb down the academics for the students. From the teacher's passion of the program, this excitement keeps students engaged in learning. These teachers are more like facilitators, coaches, or directors rather than taking a teaching role since students are given choices. Students are taught to become problem solvers rather than problem takers and learn to think outside the box which limits the attention to just taking tests even though ALA does well on the accountability system set up by the state.

When asked to define applied learning, it is an artistic way to pull out the subject content and make it meaningful. "This method allows us to see how we can help and

learn from our experiences since it is hands-on learning rather than just read about it” (B. Bell, 2008). The program applies to something external so it gives a reason and meaning to an audience.

The students are learning for a reason. It is not trite or dead. Applied learning is learning to learn which is centered on applying your knowledge or the applications of what you are learning. It assesses and promotes you trying to explain and do things (O. Owa, 2008).

Students help guide their own learning by using academic skills in a project to refine those skills, hone those skills, and perfect those skills. It also has team work and project management components that are valuable to most professions. It is a way of taking academic knowledge and putting it to use where school life is actually integrated into real life. Students have the fun of discovering themselves by bouncing ideas off of each other and the teacher. They learn to question and keep asking questions to find a better method of learning. Resources and research is emphasized so students learn to grab and reach out in all directions, they are not limited to just one textbook. Students are taught how to study and organize a project with teams so students learn how to learn. This metacognitive approach opens the door for students to tutor other students. This emphasizes the philosophy that kids are never an island at ALA.

We are no longer an industrialized country so no more industrialized education; therefore, we must work in groups, locally, and globally.

Applied learning teaches you how to think differently, how to be able to

work in the new world which is developing differently each year due to the growth of technology (L. Lufkin, 2008).

ALA makes the connections with classwork and gives kids more responsibility to experience and function in the real world. “The school allows learning to be fun with project-based hands-on learning and parents see their children excited about their own work and having the ability to talk about it” (B. Bell, 2008). The year-round schedule and hours of 9 to 4 were conducive to a child’s learning along with the Intersession classes. ALA provided intense academics through team teaching, having a third party being present for the final evaluations or projects, and service learning projects.

Having a diverse population provides many opportunities in and out of the classroom. Students are taught to speak up and share their opinion with each other which builds their self-esteem and confidence around adults. These were the real skills needed by all students for future interviews and presentations.

Teachers Summary

The summary of the teacher participants’ ideas on the benefits of applied learning were having the freedom of choices for the student and teacher which allowed creativity behind the textbooks, students who learned to become responsible about their own learning, and dual roles of administrators who remained in the classroom to teach and connect with their students.

Most of the teachers agreed that allowing the student to have more freedom in class gives the students the opportunity to think for themselves whether it be right or

wrong. This thinking can be basic such as selecting the members for the next group project or more complex by deciding which reference to use for a research project.

The number one benefit is the outcome for the students. Secondary to that is the rewarding feeling when you see your students making real connections. It is the light bulb experience. You get excited for them especially when the student takes charge of their independent learning.

(J. Johns, 2008).

Students have the freedom to work on their projects. They are free now to think on their own and not be told this step by step method. They have to think for themselves and figure out how to get to an end product that is going to be successful. “Kids should not be put into a box and not have to be teacher monitored all the time. Students became the trend-setters and go-getters when given an idea and the freedom to run with it” (G. Gomez, 2008). Students are better prepared by going to ALA. They are flexible and not rigid when new things are tried in the classroom. ALA students are use to doing different things since many of their classes are not following a daily routine.

They learned how to be adaptable and didn't have to learn to play the game. They pretty much can do their own thing. You can throw something at them and they will get on the task. If you throw something at the traditional kids who are so use to textbook questions at the end of the chapter they will freak out since they have not been taught to think (W. Williams, 2008).

When a new student comes into an applied learning setting without the trained background in applied learning, it might be too much for that student at first. The student will not be use to this freedom of not being told what to do all the time. For example there are no bells when school is in session to dismiss the classes. People are expected to know the time and when to change for the next class. Many times, it will be the student who reminds the teacher that it is time for class to end.

They sort of have to learn in steps on how to do things since applied learning requires responsibility on the part of the kid. That motivation comes from within, but I think it can be captured from the other kids because the other kids are excited about the project (J. Johns, 2008).

“Teaching can be so regimented and monotonous in a traditional school while applied learning allows you the freedom and creativity to follow what your students really want and need to learn” (D. Dunbar, 2008). Both the teacher and student grow while learning. The authoritarian role of the teacher disappears and more of collaborative partnership develops inside the classroom since the final outcome may not be known. “Seeing the kids develop their own personalities when they are in charge can be wonderful especially when the withdrawn students can open up and realize their capabilities” (W. Williams, 2008).

Class time is not spent preparing for the TAKS test. A quick review is all that is necessary. The freedom of the curriculum was a great benefit for the teacher and student because this would allow the curriculum to go deeper rather than be spread so wide.

If applied learning is done right you can do anything and your TAKS scores are going to be great because your kids can actually reason through things and look at things and not panic. They have internalized everything that is really important to do since a well educated kid is not the kid who memorizes, but the kid who knows how to look at the problem, break it apart, and know where to go find the information that will help solve it or find the people who can help solve it, and put it back together the way he or she needs it (W. Williams, 2008).

Lastly, a benefit from the applied learning method at ALA was having dual roles for the original administrators. “The past administration was the velvet hammers” (D. Dunbar, 2008). They would actually discipline the students and still allow the student to maintain their freedom since both administrators kept one foot in the classroom teaching and the other foot in the office as principal and vice principal of the school. Very few public or charter schools demonstrate this quality of dual roles for the administrator to be an instructor. Allowing the role of instructor and administrator is more often seen in the private schools. This characteristic of having both administrators teaching their favorite core subjects to the students brought out the uniqueness of ALA.

Administrators Summary

Administrators summary of ideas on the benefits of applied learning were also dual teaching and leadership roles at the administrative level, relationships tied to the administrator, faculty, parents, and students which developed that necessary family

feeling, ample opportunities for the students with outside partnerships, and top quality education provided for all the children throughout the applied learning schools.

Besides relating to the students, the past principal and vice principal continued to teach part of the day and then continue with the administrative roles in the afternoon. “She wanted to teach, but it was necessary since she was not yet certified for mid-management. It was an added plus for her and certainly ALA to have her in two roles” (W. Wells, 2008). She knew how valuable it was to have the principal back up the class projects. When she was first started teaching she had her own principal help and support her classroom projects. “My principal helped us pay for the newsletter to be printed that my students wrote and then the printer donated about half of the cost” (N. Nicholas, 2008).

Another positive aspect of ALA was the relationships. It would be hard to imagine a strong school without having lasting relationships between administration to faculty and faculty to students.

I think for the teachers it is the closeness and being able to go to somebody for help. When a new teacher started teaching they will have easy access to mentoring and what the curriculum should be. I don't think many new teachers would get this. They may have a friend, but that friend does not have the time to sit down and plan the entire 9 weeks with a new teacher like we did at ALA.

I see a lot of students still. Everywhere, a lot of kids did well when they were having a rough time elsewhere. They became family. We worked

with them. But more than that, how many people in the world look back with nostalgia on their middle school days. As good as teacher as I was, in middle school I think it was a hairy schedule. Nobody knew anybody. Nobody took responsibility for any student.

When I was in graduate school, I did interviews with children and nearly every student said first they were close to teachers and it was a first time they felt really that. I remember one child saying in elementary school he got to do everything because he was really smart. In this school (ALA) everybody does a whole lot of things whether they are smart or not. Well, I think that is a pretty good observation because he knew he was really, really, really smart and he knew that everybody in the world was not as smart as he was, but at this school you still get to do a lot of special things no matter what (N. Nicholas, 2008).

Knowing that a quality school takes dedicated teachers, the lesson plans from these creative teachers must follow to keep up with a rigorous and relevant program by allowing each child to strengthen his or her skills to grow emotionally and academically. The curriculum was designed by the faculty knowing that it should meet the National Standards criteria. ALA faculty did not worry about the state testing since they were following the National Standards and the SCANS Report. At first ALA was labeled academically acceptable for 7 years, then ALA became recognized in 2000 -2001, and remained recognized from 2002 until 2007-2008 when it dropped back to academically acceptable then again being recognized during 2008-2009.

The unique characteristic and major benefit that attaches to the Applied Learning Academy was the number of partnerships which worked with the school throughout the years. The Fort Worth ISD schools all have at least one partnership per school under the slogan, Adopt a School Program, but the Applied Learning Academy had at least 10 partnerships ongoing per year for many years. Several administrators commented on the Working Wednesday program which lasted for 3 years. Each Wednesday a chartered bus would pick up students on campus and drop them off at various partnerships throughout Fort Worth. Stops would be made at a pet store, animal clinic, outdoor educational facility, science museum, botanic gardens, historical village, and a historical museum on a weekly basis. Once a month the chartered bus would make stops at a nursing home and three or four times a year the bus would take the students to an art museum. Locating funds for the chartered bus would be handled by the staff and the students would help offset the cost by paying a monthly transportation fee. Unfortunately, with the cost of fuel going up and the loss of the faculty member who coordinated the bus scheduling and secured new partnerships, Working Wednesday was cut from the Applied Learning program. "I think Working Wednesday was a part of the success. Not everybody did the Working Wednesday, but the fact that the kids had to apply and do interviews. There were certain things that made ALA, ALA" (D. Dubois, 2008).

Lastly, another benefit of applied learning was the quality of education for the children. "I think the children who have gone through the applied learning program have excelled where they have gone. I have had a number of children who have gone through

there and they have done well in high school and college” (D. Dickens, personal communication, October 15, 2008).

Summary Results of the Benefits of Applied Learning

In summary of the results for the benefits from the applied learning method are: (a) being part of a community, (b) working with partnerships, (c) project-based curriculum with real audiences, (d) acquiring applicable skills, (e) learning how to learn (f) having teachers and administrators as facilitators, (g) freedom of choice, (h) being able to think outside the box, and (i) relationships.

A major benefit from the applied learning method brought up by all the groups was community involvement or partnerships. Working and learning with the professionals outside the classroom gave the students many opportunities to apply their acquired knowledge.

Another benefit from the applied learning method that was shared by all of the group participants was the unique and professional curriculum which started out to satisfy the SCANS Report and the National Standards. Originally business professionals and teachers designed the curriculum to satisfy the necessary skills needed for the workforce such as communication, organization, and problem solving. From the parent group they said that the curriculum gives a reason and meaning to the student, teacher, or any audience.

Because of the curriculum the next factor that four of the five group participants (business, student, parent, and teacher) mentioned as a benefit from the applied learning method was skills. Academic skills such as thinking for themselves, communication and organizational skills when presenting their projects or portfolios, these were the skills that were honed in and refined for perfection.

Three groups, parents, teachers, and administrators identified gave another benefit from the applied learning method as the removal of the teaching role and becoming facilitators, coaches or directors inside the classroom. Students are now given choices since the authoritarian teacher figure is eliminated. Problem solving is truly necessary since the teacher no longer provides all the answers.

Freedom was a benefit mentioned by the student and teacher participants. The freedom of free-thinking, the freedom of choice with the curriculum, and the freedom to be creative with the projects is a benefit shared by these two groups inside the classroom. The phrase *outside the box* [italics added] was used over and over by all the groups throughout the interviews. This freedom of choice is the beginning parameter of this expanding box.

The last benefit brought out from the teacher and administrator groups was relationships. The closeness of teachers working as a team and the relationships between student and teacher creates a class that is no longer a dictatorship, but an applied learning classroom.

Drawbacks of Applied Learning

The drawbacks of teaching applied learning are summarized in Table 5. Data is shared separately for each subgroup and then compiled for a summary of all identified drawbacks.

Table 5

Drawbacks of the Applied Learning Method

Group	Drawbacks
Business Associates (n=4)	(a) lack of school immersion, (b) regulated textbooks, (c) lack of quality assessment, (d) and difficulty to teach the applied learning method
Students (n=9)	(a) lack of having truly committed parents or students, (b) feeling like outsiders, and (c) lack of an applied learning high school
Parents (n=7)	(a) lack of unity among faculty and administration, (b) lack of partnership opportunities, (c) lack of quality assessments, (d) lack of ownership of building facility, and (e) lack of communication between all groups
Teachers (n=6)	(a) lack of curriculum choice, (b) incomplete understanding of applied learning philosophy, (c) large class sizes, (d) lack of technology being used, and (e) sharing school facility
Administrators (n=6)	(a) lack of experienced applied learning teachers, (b) lack of curriculum choice, (c) students and parents lack of applied learning understanding, (d) sharing building structure, and (e) increase size of the school
Summary (n=32)	(a) lack of total school immersion, (b) shallow or inconsistent assessments, (c) dictated curriculum and textbooks, (d) lack of commitment and understanding, (e) difficulty teaching applied learning, (f) loss of partnerships, (g) loss of small size, and (h) scheduling problems

Each subgroup's thoughts are expressed separately about the drawbacks of applied learning and then compiled to understand the similarities and differences between the groups.

Business Associates Summary

Business associates thoughts on the drawbacks of applied learning were the lack of immersion of a true applied learning high school, the push for regulated textbooks, lack of quality assessment, and the difficulty to teach the applied learning method.

It was suggested that an applied learning high school should have been totally immersed into one building rather than a school within a school or “applied learning should have been provided to all high schools within a matrix of the course selections offered to the student” (H. Henry, 2008). If applied learning had been introduced for all the high schools rather than just one school within a school then “the stigma that some students have of this program being for special students might have been diverted and the new superintendents following might have supported it more rather than ignoring it” (H. Henry, 2008).

Another barrier is the push from the district to use particular textbooks. It is required that all students must be issued a textbook which limits the sources of information for the teacher. “A barrier to prevent the applied learning program from expanding is the lobbyist who promote textbooks”(B. Blacksmith, 2008). A school without textbooks would send many a politician into a panic mode. A school system without state mandated tests could possibly bankrupt the publishing companies.

Another drawback or barrier is “the ability to measure the outcome of applied learning” (H. Henry, 2008). Needed would be different skills sets and evaluators which “university trained teachers just do not seem to understand why it is critical to relate all

classroom applications of the educational arena to a real world classroom” (B. Blacksmith, 2008).

This radical method of teaching may be too difficult and few want to attempt and fail. Many seasoned teachers do not want to change their own designed lesson plans. “They have set a concrete learning curve and do not know how to apply a new philosophy to their teaching style” (B. Blacksmith, 2008). This resistance to change is seen throughout the educational system since change comes so slowly from the business associates viewpoint.

Students Summary

Students expressed their thoughts on the drawbacks of applied learning were not having truly committed parents or students to the applied learning philosophy, feeling like outsiders when the school ran on a different calendar schedule and curriculum from other schools, and the older students expressed a concern about not being provided an applied learning high school when they left the Applied Learning Academy.

Several students mentioned that not all students would be adaptable for applied learning even though that statement goes against the backbone of most applied learning teachers. A student who needs structured classroom activities or who can not follow through with a continuous project would not do well inside an applied learning classroom. A student must be able to think outside the box was a common statement shared by the students. Applied learning did not help one student form study habits so she went into high school without the commitment to open up a textbook to do

bookwork or as she put it “to sit down and study the material in order to regurgitate it later” (Isela, 2008).

Almost all students mentioned the lack of sports and not being qualified to immediately enter into competitive sports’ teams for their selected high school or being able to represent ALA in a competitive sport. The only time ALA is represented when there are other schools competing would be Wiz Quiz, Future City Competition, UIL music competitions, or the district art competitions. “It would be nice to represent ALA in sports. We are not just brains all the time” (Enrique, 2008).

Half of the students agreed that the year-round calendar was not a benefit since outside friends were already out of school or their friends were still in school. This scheduling made their summers too short and the school even more different. Some of the students mentioned the social aspect was different. They were considered outsiders by going to ALA since area middle schools think ALA is a special school for troubled youth, handicapped students, or for the gifted. They were not considered part of the established group of middle school students.

Several of the students mentioned the most negative aspect of ALA was not having the high school ready or having the applied learning high school at the present location in Fort Worth. Their selection of high school was basically determined by where their friends were going, not necessarily the program that was offered at the high school.

Student’s self-esteem was brought down if the parents were not involved with ALA by not attending narrative conferences or portfolio conferences. Parents must be

involved with the school and stay continuously involved by asking the student what is going on at ALA or contacting the office.

Parents Summary

The parent participants' ideas on the drawbacks of applied learning were lack of unity among the faculty and administration, lack of partnership opportunities and long term projects, lack of quality assessments, lack of ownership of the building facility when sharing with another school, and lack of communication between the hierarchies of the school from administration, teacher, parent, to student.

Within the structure and curriculum of the ALA school, there are too many teachers because the classes are no longer combined and team work does not seem to be working. The unity among the teachers is not felt by the parents. This faculty disunity perpetuates the lack of communication needed for any working structure.

Lack or loss of communication between the lines of administration, faculty, and parent adds to the lack of parental involvement and lack of family atmosphere on the campus. This lack of communication is also seen at the upper administration level since district policies seem to change yearly causing confusion for the applied learning parent. The district continuously changes the application process to enter a special interest school which causes confusion for the families of siblings who have gone through ALA or for the 8th grader who is ready to transfer to a high school by choice.

Parents have noticed that students entering ALA now "want to be spoon fed in class" rather than become independent learners (L. Lufkin, 2008). Elementary classes are not exposing the young student as often to critical thinking skills, but bending to the

requirements of the district to become more structured with the district curriculum.

Parents are seeing more of TAKS infiltration rhetoric rather than applied learning in the elementary and middle school classes and the loss of projects. The district has too many boundaries set for the curriculum and required books to read. More electives are offered, but not higher level courses or sports. Less freedom is seen within the classrooms and halls.

Students are not involved or no longer pushed into community service due to the loss of options available for them. It is more convenient for ALA to offer help to the community by the community adjusting to what ALA can do rather than seek out what the community wants or needs.

There is a lack of continuity and uncertainty concerning the assessment or shallowness of narratives which goes back to a lack of vision for the campus. Portfolios seem to be losing their value and importance causing more of a push for grades or testing.

The building structure forces ALA to comply with the other school's rules created by the International Newcomer Academy. ALA continues to grow creating a waiting list and remains the only applied learning middle school. Rather than the district providing another campus for ALA so it could be a self sustained facility, ALA continues to share the school building with another 6th-12th grade school; however, the waiting list for ALA is getting shorter each year.

Teachers Summary

The main drawbacks from the teacher participants were lack of choice with the curriculum and the scheduling of classes, inexperienced students, parents, and teachers with the applied learning philosophy, growing class sizes, lack of technology being used, and the sharing of school facility.

Each year, ALA is slowly turning into a traditional school year by year. Loss of block teaching for the 6th and 7th grade, then loss of Intersession classes due to the elimination of the 3 week break from the year-round calendar schedule was next. Intersession from the year-round schedule was the time local professionals come in to teach and mentor ALA students. During the 2008-2009 school year, ALA's school calendar is now the same as the other district middle schools. One teacher wants to see her students each day for better connections with projects, but instead she sees her students every other day from the new block schedule of A and B days which is also found in several other traditional middle and high schools.

This is a typical college schedule so let high school have that schedule since they must prepare the kids for college. We are becoming boxed in when we have to physically escort the students down to lunch in two minutes intervals or follow the district guideline on which page to teach from (D. Dunbar, 2008).

Over half of the faculty is completely new, new to teaching, or never went through the required applied learning training. "The fact that the new personnel haven't really penetrated and grasped the understanding of applied learning. They have a general

concept of what it is perhaps, but do not know how to get there and what to do with it” (J. Johns, 2008). With the constant turnover of faculty or the loss of critical mass any school program can weaken.

The more the teachers are from regular schooling background and regular scheduling, the more the school gets to being a regular traditional school. Having 9 weeks to teach with 3 weeks off year-round actually provides more instruction time wise than what we have now. It seems that is a good way to work intensively, acquire knowledge then let the brain take a break and absorb what was learned and then come back and do it again. It makes sense to the head. Putting ALA on a regular schedule may make this school disappear into the woodwork even more.

(J. Johns, 2008).

If teachers are coming and going each year, then the applied learning curriculum will naturally suffer. The break down of connections and continuity between the applied learning faculty slowly erodes the applied learning structure. Too many of the new faculty at ALA does not have a clear understanding on what to do so they are timid about applied learning, projects, portfolios, and service learning. They want to change it to what they are use to. “We never seem to get off of the first page in a training manual since every year we have new faculty. We keep repeating ourselves” (O. O’Hara, 2008). It takes time to absorb and understand how to do applied learning. It also takes time for the new leadership to develop a synergy with the faculty that produces a better environment for applied learning. If the teacher does leave, then those project ideas or

partnerships go out the window. A project may take more than one year to get going and get established. Partnerships and trust take several years to develop. Continuity and relationships between the teaching staff has definitely decreased creating little communication and networking between the teachers.

Adjustment for the new teacher coming into the applied learning program may be 6 to 7 months to let go of the authoritarian hat and not be threatened by the kids who are wanting to compromise or do it their own way. The teacher must keep in mind they should no longer stand in front of the class giving instructions, showing the students what to do day by day, or demonstrating to the students. “You will always be formulating thoughts about teaching and finding new ways for experiences and connections” (J. Johns, 2008). There will be spurts of growth and periods of questioning.

Too many teachers are control freaks. You can not be an applied learning teacher if you like to keep the control. Achievement gap is compared to the teaching gap. “There are teachers who have the attitude that some kids do not want to learn. I want to say to them, they are your clients [students] and you need to figure out what makes them tick and what will get them into position to learn because their product is their education and you are not looking at your audience (W. Williams, 2008).

From personal observation the curriculum has changed at ALA due to the influx of new faculty and because of the district’s demands. How do you make applied learning work really well in a math class when repetition and drills are necessary? It is a different format and a different way of thinking. Just like the science curriculum, there is the

structured and guided student's essentials that must be taught for the state test which leaves little room for the student or teacher to have any choice. Great explorations can be done, but they become more like a school assignment than the real life work by finding a client and designing a product.

Another negative problem with the curriculum is the guilt feeling when teaching the applied learning method while trying to follow the district's required curriculum guide. Problems for the applied learning teachers scattered throughout the district is the calendar set curriculum. Some principals want everybody in the building to give the same test at the end of the unit, use the same syllabus as everybody, hand out the same assignments for everybody, and give the same six weeks tests. "This philosophy is to make sure everyone is on the same page and on the same playing field so all students will have the same experiences" (W. Williams, 2008).

We, teachers, have fallen into some easy traps to do things now in order to comply more with benchmark testing on a regular basis. It is easier to do it this way rather than buck the system. It is the lack of trying, loss of interest, or simply laziness from the teachers. Teachers really need to push themselves to do more projects or work with other classes. All of ALA faculty and administration should stand up and say this is the way we want to teach, the way the parents want it, and it is the right way to teach the students (O. O'Hara, 2008).

Teachers should refocus their energy and really take seriously training the students and not get caught up into having no time and the district constraints with the

curriculum. The way things are now and the way things are running, one teacher commented, “I used to let the kids find the needs. Now I just give the kids the need and then together we look at the schedule (W. Williams, 2008). There are so many disruptions throughout the day the teachers and students have to work at a fast pace and modify the steps of applied learning. They just do not have the time anymore due to the district’s curriculum scheduled policy.

Teachers are the ones who are taking those constraints (time, money, transportation, and curriculum) too seriously rather than confine them to the students instead of the students feeling those constraints. It becomes a bigger barrier than it should be. Within the faculty meetings too much talk is generated and not enough action is getting done.

You can always write about anything and explore the connection of history and sociology with today’s world, but a school wall is run into with the math and sciences. Teachers may have the lack of caring or the manana manana feeling of doing it always tomorrow. It is up to the teacher to make the professional contacts and the connections inside the classroom so there is application of the program. This will not fall out of the sky for us (O. O’Hara, 2008).

Making the connections from the page to the child or from the classroom to the outside is a challenge for any teacher, but it always has to be. “A lot of ideas just fizz since the teacher does not make it a continuous thing” (G. Gomez, 2008). Projects and

applied learning has to be a uniform consensus among the faculty. One teacher alone can not do this without the support of other teachers or administrators.

For a class size to have the optimum conditions for applied learning a few of the teacher participants made comments. If the class size was over 35 students, as seen in some of the traditional high schools, then only the experienced applied learning teacher with excellent management skills could pull projects off. A class of 20 to 24 students is perfect for project groups even for the inexperienced applied learning teacher. The teacher can move around easily and check on each group. Having more than 28 to 30 students seems to defeat the one-on-one instruction time.

The advantage of using technology within the classrooms for projects is not seen as much as it should be. The teachers seem to be holding back when using these instruments within the classroom. Using the computer for electronic portfolios should be the norm, but it is not the case at ALA. Several teacher participants said time was the issue and continuous problems with the district's server when accessing into their separate accounts have been a major problem. All students are encouraged to use Renzulli, an electronic educational program which acts as a file system, for their electronic documents; however, space is limited when portfolios are trying to be created.

Another drawback to applied learning was the quality of students. "Even with training in applied learning as 6th graders, the 8th graders still do not seem to understand the full impact of this program" (J. Johns, 2008). Many students do not understand the full power of what they could be doing with this training. The students seem not to have any prior knowledge about applied learning projects from their elementary years. "They

do not work as well in groups like they use to” (D. Dunbar, 2008). More discipline on group management is seen. Many of the students do not seem to mind having one student do all the work and everyone gets the credit. “There is a correlation between these types of freeloading students and their poor portfolios” (J. Johns, 2008). It is too big of a challenge trying to change student’s behavior about group work. This slows down the class progress and students who are ready to go with the project. For the past 2 years, one teacher has also seen some changes in the student’s productivity and responsibility. It has declined and she wonders if some of that is due to the change of leadership and or changes in the personnel.

Besides the quality of the student changing there is the quality of the ALA parent changing. Parents would never criticize how the teachers would teach. “Now, we are told by the parents to give more homework and worksheets and grades” (J. Johns, 2008). One experienced applied learning teacher says she can now be intimidated by these new parents.

While most of the teacher participants gave negative comments about the lower quality of student entering ALA, one experienced applied learning teacher spoke out to say this is what applied learning is all about. “Teachers have to rethink about our new student population and generate new ways to teach them. This is our new cliental and we need to know and possibly adapt to them” (W. Williams, 2008).

Negative comments came from the entire ALA faculty participants concerning the last relocation of their school 8 years ago into a redesigned department store building. The new building is shared by another school with a different philosophy and

traditional administration. Loss of space and accessibility to other parts of the building has caused problems with this arrangement. Whose rules do the ALA teachers comply too since there are two principals who walk the halls and one with a stronger, dominating personality?

The design of the new building was not set up for a school, but a department store. Continuous halls are not to be found, instead small separated buildings connected to the main building. Students have a limited space for group work when trying to work outside of the classroom. This arrangement makes joint class partnerships difficult and seeing all faculty faces on a daily basis. There is no family unity created by this building arrangement. Having applied learning K-12 in one building rather than sharing it with another different school would produce a continuity of the program was a suggestion by only one of the participants. Most of the teacher participants expressed a desire to move to another location so ALA could be a stand alone school.

The transition of the applied learning middle school to the applied learning high school was never completely successful. Many parents did not want to have their new 9th grader bussed to the minority hospital district and go to a school within a school. The original applied learning parents wanted their *own* [italics added] applied learning high school. If they had to share the building, they would just go back to their own neighborhood schools or transfer to the advanced academic high school program at another high school.

This ALA middle school was started by the wish of parents to continue with applied learning for the middle school years, yet lack of parental involvement seems to

indicate that the majority of the parents no longer want applied learning since they are demanding grades and homework drills instead of narratives and long term projects.

Parental involvement has declined. Parents use to be more active. Other than the PTA, parents no longer come to help in the classes. The lack of monitoring the required twenty volunteer hours from the parents is not kept up and probably forgotten. Accountability for this commitment should be followed up and enforced.

ALA has tried to explain to parents what applied learning is, but parents still do not have any concept of what it is or what the assessment of portfolio conferences are about. “They just think it is a good school because the kids make good grades on the TAKS test” (D. Dunbar, 2008). Many parents do not attend the meetings when explanations are given about the program and portfolio assessment. One of the ALA’s administrators declined to introduce the structure and philosophy of applied learning to the incoming 5th grade parents, by stating, “I do not wish to share this information at this time since they would just forget about it anyway. We will do that once school starts in August” (researcher’s personal communication, March 16, 2009). The past administrators of ALA are willing to come back and help with workshops for the new parents (and for the new teachers), but they have never been asked by the new administration. “They would make great consultants” (D. Dunbar, August 22, 2008). Several of the teacher participants thought the legacy of the past administration is being left behind and completely forgotten by the new students and parents along with sharing the philosophy of what applied learning is all about.

Administrators Summary

The repeating drawbacks of applied learning have been revealed from the other participants and are also shared by the administrators. These drawbacks are inexperienced teachers, restricted curriculum, poor understanding from students, parents, and new administration about applied learning, sharing of the building structure, and increased size of the school. To begin the opinions about the curriculum will be shared first.

There is so much emphasis on high stakes testing that it is hard to get the district to do anything that doesn't seem to relate directly to improve test scores. It takes a lot of imagination to make sure students are learning the concepts from the curriculum even though they are not doing the usual sort of assignments (S. Smith, personal communication, October 17, 2008).

The assignments and curriculum were expressed in another way by team teaching. When ALA was just beginning with few students, team teaching was a perfect match. One administrator/teacher would teach half the students the language arts while the other administrator/teacher would teach the other half of the students the math and sciences.

ALA needs to get back to the math/science and language art team teaching. Find somebody who can be trained if they are not coming out of college with this combination. Hire minorities. That would help. It would really help especially for the 6th and 7th graders. You would really get to

know the kids. You would see them half of the day with this combination of classes. It is just not the same anymore. It doesn't feel like ALA, the same homey feeling where everyone knew what you were going through. You had real teaming where you work with somebody and you worked together since they had the same kids you had, so you got to know the kids more (D. Dubois, 2008).

With the curriculum changing to keep up with the district's requirements, it seemed that the ALA teachers either became insistent or complacent with what they taught in their classroom. Curriculum is extremely critical for the educator more so now with the mandated state testing. Allowing the instructor to follow through with what is needed in the classroom is also critical. Rigor and relevance must be kept even in any applied learning classroom. Quality level student work with acceptable and understandable rubrics is more than just sitting a child behind a book.

Besides losing team teaching when combining the subject matter at ALA, professional development for applied learning was waning. Most districts do not choose applied learning because it is hard work. People are not pushing it anymore; therefore, there are no longer workshops for applied learning since it always costs money for summer training for teachers. There are too few models that show teachers how to make applied learning accomplish traditional goals within a standard curriculum. There are few or no rewards for teachers who want to do this sort of work. There are few administrators who can guide teachers in this type of work.

I think the professional development for the teachers was not ongoing. I just wonder if the people who were being hired really believe in applied learning. I think there are *so* [italics added] many traditional people there *now* [italics added] at ALA. They just don't understand what applied learning is. I think when I came, I was traditional, but there are so many people there that were nontraditional, even I had a nontraditional background, so I was still a little familiar with it, but you acclimate to it. I think that the traditional is sort of seeping over to the few people who are left (D. Dubois, 2008).

When the new superintendent came to Fort Worth in 2006, a new pull out program was initiated to train experienced teachers to become better educational mentors for their individual campus. Becoming a Literacy Coach Teacher (LCT) would provide guided instruction whenever a teacher on the school campus would have questions about the curriculum; unfortunately, having experienced teachers being pulled out of the classroom on a weekly or monthly basis was causing disconnections between the LCT's own students in the classroom.

The LCT training is a good thing, but at the same time, it took us out of the classroom and where I would know half of the 6th graders. Now, I only know one fourth of the kids today which didn't incite that closeness that ALA used to have (D. Dubois, 2008).

The transition of applied learning curriculum within other schools or just the transition of any new curriculum or program in traditional schools can be challenging if

it is not sold from within. Should applied learning be spread into the other Fort Worth schools? Here is where the administrators differ on their opinions. “I don’t particularly know if applied learning is the answer for an elementary school. I really don’t know because I’ve never run an elementary school, but it *is* [italics added] the answer for a middle school” (N. Nicholas, 2008). On the other hand, another administrator said, “There was never any approach to get more ALA’s, but instead more elementary schools with applied learning. Nobody ever came to us to replicate ALA” (W. Wells, 2008).

Alice Carlson [the applied learning elementary school] started after Vital Link and Tech 2000. Word of mouth from parents and grandparents telling my wife and I what that school was doing for the children woke me up. We got something going on out there and see if we can really make that work and we did. It really was a great school. We didn’t have to have all schools just like that, but we needed some like that. I think applied learning should be pushed in high school. I think we had some people pushing that in some of the schools about not just sitting a child in a seat with a book. That is about it. That was the education I got in Arkansas. I had no idea what a real education would be. I fortunately went on to college and they helped me understand that there was more than what I got from this little school down in south Arkansas. All I did was play basketball and made C’s. I only had six in my class. I just didn’t get much (H. Hoffman, 2008).

Another drawback mentioned by one of the administrators was the community partnership program at ALA. The community partnership program, called Working Wednesday, changed completely when an experienced applied learning teacher left ALA to teach at the high school applied learning program. This loss crippled the partnership program at ALA since this teacher recruited and established the community partnerships for ALA. Of course it is up to the individual teacher to secure partnerships for their students' projects; however, this one individual spent most of her teaching and individual time constantly on the look out for new and innovative partnerships to keep ALA's students working out in the community. "Losing the Working Wednesday and the teacher who ran the program really hurt ALA's reputation that was needed by the school. I know a lot parents who are glad their child is out of ALA. They hated the place" (D. Dubois, 2008).

Several of the administrators consider the new principal to be more traditional. The test scores showed ALA was doing something right. Now it seems downtown central administration and the principal were enforcing more with what downtown wants. Before, the teachers did not have to deal with downtown. The first principal seemed to keep downtown's hands off of the faculty and school. This gave the faculty a feeling of trust and respect for knowing what to do inside each classroom. "We were told we were doing fine, so just keep it going. Now, downtown says this or that and we have to comply. Now, we have to change what we were doing, but what we were doing was working" (D. Dubois, 2008).

Changing principals does give a different feel to any school. There was a lot of concern over when the new principal came and what new direction or new things would be important. The fact that there was fairly significant number of new people after he came abroad that is always a good concern. You have to be concerned about those things. It wouldn't take much now to change ALA to a regular school, more TAKS oriented than applied learning. I am not really sure now you don't have the parent populous that would rise up and say, *Do* [italics added] you really need this for our kids because they don't see that distinction in that learning and what is happening in the other schools for them to make that distinction. I would be concerned about the administrative support period, since it would be so easy to kill [ALA] (W. Wells, 2008).

Concern over the topic of principal was brought out from all the participants. It should be noted that the first principal for ALA stayed with the school until her retirement. This principal was extremely dedicated to the applied learning program since she was part of the original team who helped generate the elementary applied learning school. When the doors opened for the applied learning middle school, she was there holding the doors open. Thus, her dedication would not be found in many schools since a principal is generally rotated out of the building every 3 to 5 years by the central administration.

Educators are always concerned about turnover and that is a valid point for any public education facility whether it concerns ALA or anywhere else. That is not

necessarily people leaving education, but it is the general flow of people having babies, husbands' getting a different job, or a different opportunity opens up.

There are probably about 30% annual turnovers in most schools and if we can lower that at ALA then you're ahead of the game. Initially we were able to do that with just a loss of one or two, but not a significant amount. I am not sure we are holding that now. We are awfully concerned about that it in the beginning. We wanted to have the comradely that the learning happens at the school site instead of bringing in the information to the school site (W. Wells, 2008).

For the teachers, if the turnover is great, then teaming and continuity is difficult. Relationships and comradely weaken each time staff are interchanged. New personalities must adjust to old faces. When the program is a difficult one to keep up with for the experienced teacher, it is twice as difficult for the inexperienced teacher. An established program was beginning to settle in once all three grades were established at ALA and the staff remained each year with little turnover for 7 years straight.

When it came to the topic of students all participant groups had their comments. Where would a school be without the students? The reason there is education in the first place is for the students. Can applied learning be for every student? This question was answered by one of the administrators.

For the teachers, I think that we tried very hard to teach students to be self directed. In the 6th grade they were made to feel like part of the ALA family and learn the drill of portfolios and presentations. In the 7th grade,

I think they got a heap of discipline and your stuff has to be in. In the 8th grade, that was the most rigorous academically 8th grade anywhere to me, but there were those *students* [italics added], (bad for the student and bad for the teacher) who really never, never, *never*, [italics added] caught on to the self direction thing and generally these students had parents who would rescue them *each* [italics added] time. It's odd those children had parents who would rescue them. I think for the child who never got self direction and for the parent of that child and for the teacher of that child, they were *all* [italics added] miserable those three years. It is not that they didn't learn, if they still learned, it just made them miserable all three years at ALA. And there were parents who would be counseled to say your child needs to do this and come up to bat and have a portfolio. We understand the 6th grader comes to a brand new world, but by the time they get to the 8th grade they may need more of a traditional school. If I [traditional student] get this done in the 45 minutes I have here then my goose is not cooked. I do not know if the ALA traditional student can work in that kind of an atmosphere either. They may have failed there as well. I think for a teacher that it is the hardest work they will ever do just keeping up. Not that students don't take a lot of the load and they do, but it still means that the teacher has to be on top of everything at school, at the partnerships, with the parents, and that is very tough on the

administrator too because you can not be a CYA (cover your ass) administrator. You just can't be (N. Nicholas, 2008).

As ALA evolved, changes naturally occurred whether brought on by staff, administration, student body, or parents. It is rare for anything to remain the same when people are involved. Changes were not only at the middle school level, changes were seen at the applied learning elementary level. "I have seen the changes within the applied learning elementary school. I think they have modified the original direction somewhat so it has become more traditional. I think that is not a good thing" (D. Dickens, 2008).

The last negative concern from the administrative participants was the loss of the family atmosphere due to the loss of having their own facility. A large building was shared between two schools and friction between two head strong principals developed. Not only was the age of the students different, one school was 6th through 12th grade, while ALA was just 6th through 8th grade, but the language of the students were also different since these students were the new immigrants in the district. ALA parents did not like the high school foreign students interacting with the young ALA female population and the International Newcomer Academy (INA) did not like the ALA parents always coming into the building.

We had to share the building with INA and they didn't like the parents hanging around the halls. It wasn't the same since there wasn't any place for them [parents] to be. The office was kind of closed off. There was no change in the closeness with the teachers and the kids. I was afraid of losing this when we moved into the new building because we were so

many. We were adding a lot of teachers now. I expressed this that I was really worried that we would not be close as a faculty. The new school building was so spread out. I was really frightened of this. The small school was much homier. Parents came inside to pick up their kids. They always talked to us. We met all the smaller children who we would get later. When we moved to the larger building, it was harder to keep that family feeling. When you are teaching in a traditional school the student body is so large. When you have over 180 kids a day in your class you are doing good just to know everybody's name I think (N. Nicholas, 2008).

Another administrator thought the ALA family feeling was also lost.

It seemed like ALA was a family because everyone was a family towards each other and also because families came through there and so they made sure that at ALA still had that family feeling. Now, you have people there who don't send their kids there, yet their older kids went there. They opt to send their younger children to other middle schools in the district rather than ALA. Before people would automatically send their children to ALA and now they don't anymore (D. Dubois, 2008).

Summary Results of the Drawbacks of Applied Learning

Many barriers were discussed by all participants giving rise to the effect that applied learning is not an easy path to follow. Examining the summary results of the drawbacks of applied learning are: (a) lack of school immersion with the applied learning method, (b) shallow or inconsistent assessments, (c) dictated curriculum and

textbooks, (d) lack of commitment and understanding from the students, parents, and teachers, (e) difficulty teaching applied learning, (f) loss of partnerships, (g) loss of small size within the classroom and the building facility, and (h) scheduling problems with block classes.

The drawback that involved four participant groups centered on the student. Even the student group suggested applied learning is not for all students. It was ironic to find that the main drawback to education can be the student. The student participants agreed that the ALA student should be adaptable, the parent participants said the ALA student should be independent, the teacher participants said the ALA student should be manageable, and the administrator participants said the ALA student should be self directed.

TAKS driven curriculum was a drawback to applied learning from four groups, business associate, parent, teacher, and administrator. The majority of the students just took it in stride when it came to TAKS testing. With the constant drilling of TAKS, three groups, parent, teacher, and administrator, considered ALA slowly becoming more traditional with the loss of time for partnerships, projects, and team teaching.

Three groups, student, parent, and teacher, expressed a drawback to be the decline of parental involvement. The administrator group blamed the new building which destroyed the family feeling while the parent group considered the lack of communication from the administration caused the decline of supportive parents. Because of the new building two other groups, parents and teachers, said this structure was a definite drawback since ALA is no longer a school, but a school within a school.

Not having the applied learning high school ready or placing it as a school within the school was also expressed as a drawback from three groups, student, parent, and teacher. The intent of having a K-12 applied learning program existed, but never really materialized.

High teacher turnover, too many inexperienced teachers, or poor teacher training was a drawback from parents, teachers, and administrators. Because of the lack of teacher training or inexperienced teachers, parents voiced a drawback seeing a lower quality of narratives.

Within each separate group participants were individual drawbacks unique to that particular group. For example, the student group mentioned not having sports or having the year-round schedule kept them feeling like outsiders when mixed with other public school students. The business associate group said the resistance of change seen in education and the lobbyists stimulating the push for textbooks and tests are drawbacks for applied learning. Teacher participants said lack of technology use or class size can be a drawback for applied learning while the administrator group expressed that lack of leadership could be considered a drawback.

Adjustments Concerning Portfolios

Adjustments to the portfolios dealt are summarized in Table 6. Data is shared separately for each subgroup and then compiled for a summary of all identified factors for portfolio adjustments.

Table 6

Portfolio Adjustments from the Applied Learning Method and Traditional Schools

Group	Portfolio Adjustments
Business Associates (n=4)	(a) importance of portfolios depending on career
Students (n=9)	(a) report cards were easier, (b) report cards displayed no thought process or communication, (c) portfolios instilled responsibility and discipline, (d) lack of portfolio presentation choices, (e) portfolios demonstrated students' skills, and (f) portfolios became a visual incentive for both student and instructor to measure their success
Parents (n=7)	(a) explanation of personal work seen in portfolios, (b) total engagement during portfolio assessment time, (c) student ownership of work, and (d) portfolios can become redundant
Teachers (n=6)	(a) portfolios becoming less and less rigorous, (b) third party was reinstated for final presentation, (c) lack of electronic versions, (d) time limitations needed, (e) better assessment tool than report cards, and (f) focus on quality rather than quantity of work
Administrators (n=6)	(a) portfolios better than report cards, (b) less emphasis on each required template, (c) student ownership, (d) increases communications skills for students, and (e) portfolios are harder to standardize than report cards
Summary (n=32)	(a) complete ownership, (b) personal academic growth and skills displayed, (c) more engagement, (d) articulated reflections instead of grades, (e) outside audience for final evaluation (f) quality work demonstrated, (g) becoming electronic, and (h) increased number of reluctant students completing portfolios

Each subgroup's thoughts are expressed separately about the adjustments of portfolios and then compiled to understand the similarities and differences between the groups.

Business Associates Summary

The business associates did not make many comments on portfolios throughout their interview. They did share that portfolios were not used when they were students at the secondary level, but they all knew portfolios were important depending on the career choice taken.

Students Summary

For this summary all students agreed that report cards were easier than portfolios so portfolios were not really missed once the student left ALA. Report cards did not show the achievement as the student developed the necessary skills nor was there any thought process or communication demonstrated with report cards. Portfolios did instill responsibility and discipline for most of the student participants. Students were allowed to discuss what they knew, but they were not given a choice on how to present their final portfolio conference. Portfolios displayed the students' skills much better than a report card which only indicates a numerical grade from a collection of detailed assignments. Lastly, the portfolio was a visual incentive for both the student and instructor to measure the success of each other.

The majority of the students favored the portfolio and narrative assessments rather than progress reports and report card grades. The focus of the portfolio is on the student and the quality of the work rather than the single report card grade. "You do not have to have a conversation with your parent only a signature and sometimes that was faked" (Enrique, 2008).

One student did not like the report cards since she confronted a teacher to explain the grade and the teacher really couldn't explain the total grade on the report card or the value from a particular assignment. Several of the students hated the A's in high school and would prefer all their classes to be designed with portfolio assessments. "I would rather show and explain what I can do or think I know rather than have some statistical test tell the instructor what I know" (Tablisha, 2008). Yet, due to the vast number of students and teachers in high school, all student participants understood why portfolios were not required in their traditional high school.

It was through the portfolio that several students could actually see what they were good at since some sections of the portfolio were easy to put together and write about. This method of self-reflection helped these students later on in high school to make their future career choices. It was also through portfolios where students could help teach other students. "The organized ones helped the unorganized students in the class" (Liliana, 2008).

Portfolios built responsibility and discipline. It displayed the overall broad spectrum of the student rather than focusing merely on one grade of a class. "With report cards the teacher is the end, the all final product, and if the student is not learning it is then the teacher's fault which is just the opposite of the portfolio" (Enrique, 2008). The student's portfolio is the end product which summarizes the student's work during the grading cycle.

Portfolios could be a stressful time if the student waited at the last minute to compile the work and reflections or if the intended work was lost at the last minute. It

would be a hurried mess and then the portfolio would fail the student and the portfolio conference would be a very poor presentation.

During portfolio conferences, the students were more nervous in front of the teachers rather than their parents. Third party members during the final portfolio conferences were not involved with these student participants and most presented using a simple binder with cover sheets and work samples. Other portfolio options were not offered to most of these students, but if they had to do it again they would choose the electronic version since it allowed for more of a creative display. All the students knew the importance of growth and could easily see it when they had their classwork spread out in front of them. When parents were out of town or unable to come to portfolio conferences, the narratives were far more detailed to inform the parent on the child's progress within the ALA classes. One student regrets not taking the time to explain to her own father any of her portfolios since he was never able to attend the portfolio conferences.

“For a teacher, there is this visual incentive to keep doing better, to show that your students are growing in their classwork” (Enrique, 2008). They would want to show quality of the work that they do is consistent and to be really committed to improving that quality when the student's work is on display within the portfolio.

Some of the students implied that the portfolio was a show and tell rather than a display of reflection and growth. Only one student did not see the importance of showing the work to the parents after it was graded during a portfolio conference, but then the student did mention more effort should have been placed on explaining what the selected

pieces meant and what was learned. To her it was just a means to an end. The majority of the students did think the portfolios pushed you to do better on your work and helped with organizational skills. Another student referred the portfolio conference as “talking time” where she could easily express herself (Luz, 2008). “Portfolios are a one-on-one thought process” (Isela, 2008). Showing the student’s work adds value to the education. “It makes you more capable to approach something new, some new kind of learning, and some new kind of problem. You are equipped with the skills instead of nit-picky details of information” (Enrique, 2008).

Parents Summary

The parents’ summary about portfolio adjustments was the least amount of comments from the other groups. They did agree it was a thorough way of explaining your work which kept both the student and parent completely engaged during the assessment time. This involvement was not seen at all with report cards. Student shows more ownership to the work when they have to explain why the piece was selected for the portfolio. The only negative comment about the portfolio was that it could become redundant when there are many children in the family with portfolio conferences.

Portfolios are far more thorough and explanatory than a report card which is simply a card (L. Lufkin, 2008). Consider the analogy of a plain post card vs. an elaborate talking Hallmark card. A parent can actually hear a teacher’s or student’s view point on a particular piece of work. The student has a chance to not only show off their work and growth, but has the ability to communicate or verbalize this growth. The parent can then question their child about their learning. “I was more engaged in the

grading process” (E .English, 2008). Self-reflection and showing improvement can be seen within the portfolios, not through the report cards.

Portfolios should not fall under the entertainment category, but remain professional since it is a cognitive presentation. “I don’t want to be entertained” (B. Bell, 2008). A span of worst to best work should be displayed within the portfolio, not just the best work, but a variety of different grade levels (6th - 8th grade). This is far more comprehensive and engaging than a report card brought home each 6 weeks. There is ownership of the portfolios by the child since many children still have their final portfolios under their bed or in their closet at home. “The more involved the kids are to learn and explain their work, the more effective way of learning becomes” (L. Lufkin, 2008). One parent participant still has her children’s portfolios in three-ring binders sitting neatly on their den’s book shelf. Parental involvement can develop during portfolio time since children asked two of the parent participant’s opinion to help pick out the child’s best pieces of work.

On the down side, some parents thought their children’s portfolio were becoming redundant over the many years of having to do portfolios throughout their elementary and middle school academic years. A variety of presentations would have been better.

Teachers Summary

It was the teacher group which gave the most comments about portfolios. It seems the first ALA portfolios started out with third party audiences, lengthy presentations from a three-ring binder, and professional attitude, but then each year the portfolios were becoming less and less rigorous. Each year, it is harder to get both

parents of the student to come in for the final portfolio presentation. It wasn't until 2009, that the eighth grade class was required to bring in a third party, more electronic versions of work rather than a three-ring binder, and presentation time was limited to 20 minutes. All of the teachers regarded portfolios a better assessment tool since the student must think about their own learning. The teachers agreed that it should be quality not quantity in a portfolio and this is the hardest concept to teach to the student. Before coming to ALA none of the teacher participants had required portfolios from their students.

In the beginning of ALA, portfolio conferences were opened to outside audiences besides parents, but it was the teachers who mostly found the third party audience since it was only for 30 to 60 students. Friends, other administrators, and colleagues of the teachers were called to come in and sit throughout the afternoon to hear portfolio presentations. Outside audiences might also be business people or other people in the community.

We always tried to have the eighth graders present to outside people. The sixth grades learned the wording, the posture, the applied learning style as to what a presentation was. You do not say, I guess, yea, or I don't know. It was things that they were taught throughout the year and how to do a professional presentation (G. Gomez, 2008).

The portfolios in the beginning were very professional. The students spoke eloquently and professionally since they presented to the outside community. They took pride in the work that they were doing. Some portfolio conferences went over an hour because the student wanted to explain *every* [italics added] single piece in detail. The

parent would then ask questions as if to parry the student's presentation. The student would then riposte with an explanation to answer that particular question. They were not 15 to 20 minutes long; some presentations became 45 minutes to an hour or an hour and half long in length.

Strength behind the portfolio assessment is having the students compile their own portfolios. The student is operating at the highest level of Bloom's taxonomy in order to prepare the portfolio.

I do believe Bloom's taxonomy is a good way to think about learning and every part of it is important. Some of what they present may be more knowledge based or something lower on that ladder, but during that process of making that portfolio, they are making value judgments and offering opinions. That is when they can really look back and access what they are learning. I really see that as a very big plus for the portfolios. It is their assessment tool which may then be a drawback (J. Johns, 2008).

Some teachers wanted to do portfolios in the classes when they were teaching at a traditional school, but they just never had enough time to get it done. For the applied learning trained teachers portfolios were not attempted in their traditional schools. They did not require students to do portfolios because of the time, their schedule, or the logistics of the large class enrollment. "If the student had grown up with them, if they started with portfolios at the middle school level or if the entire class as a consensus, but we would have to do it in all of my classes" (W. Williams, 2008). Coming to ALA, all

teachers in all subjects would then have the opportunity and the requirement to have student portfolios.

Looking at the negative side of portfolios, some of the teacher participants have seen a change. “I do not know why parents are not coming for portfolio conferences like they use to? Should there be consequences for the no shows? Should there be consequences for the parents” (D. Dunbar, 2008)? There has been a change for parent participation and parent volunteers. Parents are not attending the portfolio meetings at night where the principal explained the applied learning philosophy concerning the portfolios and assessments. Not all the parents really listened in the meetings when the principal tried to share the concept of grading.

Of the 26 portfolios that I saw and conducted the conferences for the first semester, probably 80% of the parents get it and maybe 50% of the students got it. Even though it was verbalized, I showed them examples, and it was in writing even at the end of the year. I saw improvement over the first semester, but not vast improvements (J. Johns, 2008).

Another teacher who has been teaching applied learning for over 10 years has also seen a change in the quality of the portfolios. Several teachers briefly mentioned this idea and their explanations were varied.

Over the years it seems that the pieces that are put in the portfolio, the students just put them in there because their teacher tells them to put math or science or whatever in there. They are not able to explain and use those

big words and speak eloquently about why this piece should be in and what it symbolizes (G. Gomez, 2008).

Portfolios do not seem to be as dedicated and as professional as expressed by more than one teacher. But this might be due to the lack of the teacher not showing what good examples are in the classroom or being an inexperienced teacher. “The kids do not explain themselves as well. They concentrate too much on having quantity rather than quality” (D. Dunbar, 2008).

There are some students who just dig their heels and do not want to do the portfolios for identifiable reasons. “When you try to work with the student and you contact the parents and still nothing happens and then you wonder why and you can not get an answer” (J. Johns, 2008). Some teachers think there are students who are just overwhelmed with the idea of the portfolio and they wonder why they came to ALA. Some teachers think that it appears that students are not as willing overall to accomplish the portfolio outside of class. A great deal of class time is then spent getting the student to prepare a quality portfolio. “In some of the subjects at our school, I know there were some of the teachers who spent at least 2 weeks in class time to do this. I gave about four and one-half days”(J. Johns, 2008).

One teacher did not miss portfolio assessments from her students or her own children when they left the applied learning classroom to attend a fine arts program at another middle school. Students in her new classroom did not have the language skills to accomplish this task since English was not their first language.

Since I am an involved parent, I checked on what my children were doing all the time. Their teachers would always communicate with me. It was a type of atmosphere where it was small so you got to know everybody at this private school. So, if there was a problem, I would get a communication and I was up there all the time anyway because of what they were doing in the fine arts. You would sit and visit and go back and forth all the time (W. White, 2008).

Administrators Summary

The summary of the administrator group with adjustments to portfolios was even if it the student had a bad portfolio, portfolios are still better than having no portfolio. It is not necessary to complete every template or cover sheet since the goals of the portfolio is to see growth over the year(s). Having a portfolio proves the work belongs to the student rather than the teacher. Because the student must articulate their knowledge of the selected pieces, the portfolio conferences are hard to standardize and translate to conventional grades.

Only three out of the six administrators had responses for the topic of portfolios and of those three, all of these administrators actually required portfolios from their students when they taught. An administrator participant who had the most portfolio experience inside the classroom had at least 15 years of requiring students to submit portfolios. Another administrator actually co-wrote the Applied Learning Portfolio Standard and taught the Fort Worth teachers how to submit student work for portfolios. This participant traveled throughout the United States during the late 1990's for FWISD

collecting original student samples which demonstrated the criteria for exceeding the standards in portfolios. From the administrators' comments, the portfolios have not reached the perfect level of evaluation. Starting with the most experienced portfolio administrator their opinion is provided below.

I think the portfolio is more the student work, more choosing their work. The biggest strength is that the work belongs to the child not the teacher. When it becomes your work, it is just something more compelling about it. On the other side, I think maybe the portfolios were a little narrow because we tried very hard to put in all those new national standard templates. I think sometimes that narrowed our focus. We wanted to make sure all those things got in. We were trying to make sure we got everything, but I think sometimes the kids were just doing it. Pluses for the portfolio was when the kids reflected on what they did, but I think that it got to the point where that was just rote. I know when we were all in school, even in college, when I handed the professor my paper, great, I am through with that, because now it is his. It is not my work; it is what I did to please him.

The positive side is *so* [italics added] much heavier. There are kids that I see now who still remember what they did in middle school. Most middle school kids don't know what they did yesterday. It's true. They went through eight classes and by the end of the day they don't remember what

they did first period. And, they saved their portfolios because that was hard work (N. Nicholas, 2008).

Selection of work gives the freedom of choice for the student's portfolio. They can pick out what piece shows their best skills or growth; however, this opens the question of standardization for the portfolio. By standardizing the portfolio, selected pieces must then be required which lowers the freedom of choice for the student.

Without a rubric or directions the portfolio it is nothing but a show and tell scrapbook of work. Without the language of what is good, the kids will not know what is good. I think that gets overlooked. It is not just a scrapbook or a collection. The good or even the lousy ones, if the kid can articulate their learning that is good. It is better if they know what goals, standards or quality of work and can talk about this stuff. There then lays the strength of the portfolio. I think that is the real strength of that. They just don't come through flipping or show various papers (W. Wells, 2008).

Too many times students regard the portfolio as their personal file cabinet. They do not seem to comprehend the task of articulating what they have learned with the selected pieces. Once the pieces of work have been selected and explained through written reflections, assessment by the teacher begins. This assessment has been a common problem since converting a portfolio grade into a course grade draws skepticism from the traditional schools.

We had inherent problems at any time when a kid would leave ALA and go to another middle school. High schools were starting to complain about the information about the students coming from ALA. They did not like written summative conferences, narrative reports, or portfolios. There was a lot of skepticism when a high school would call for the ALA student's grades. Literally, the ALA principal may have had to write in the grades. That was always looked at skeptically (W. Wells, 2008).

The third administrative participant who had less than 10 years of experience using portfolios in the classroom responded briefly about the topic of portfolios. An interesting point was injected about the metacognitive development between a sixth grader and an eighth grader that the interviewer did not realize.

Portfolios are hard to standardize. I would like to see the growth, like this is where I was and this is where I am. That was what was lacking is to see the growth. This was where I started and this is what I learned from it. You just didn't see that in the 6th-grade portfolios. Parents could see the growth; the problem was the student just couldn't see how little Johnny grew from here to here (D. Dubois, 2008).

Summary Results of Adjustments Concerning Portfolios

The summary results of portfolio adjustments from all the groups are:

(a) complete ownership of the students learning by demonstrating personal academic growth and skills, (b) because of the selected work there is more engagement between student and parent during assessment time rather than a mere signature on a report card,

(c) portfolios are harder to do when compared to report cards because of an outside audience evaluation which makes standardization of portfolios difficult, (d) thorough thought process of the student's understanding of the cognitive application instead of redundant templates, and (e) reducing the final portfolio presentation length from 90 minutes to 20 minutes using electronic versions rather than the three-ring binder may reduce the number of reluctant students who do not want to complete portfolios. From these portfolio adjustments summaries, then the goal of the portfolio to demonstrate the students' growth and improvement over a time span should help to eliminate a show and tell display.

For the fourth research question on how do students adjust to portfolios, the business associates did not make any comments about portfolios during their interviews. It was the student participants who had the most interesting and unique comments concerning portfolios. Considering the positive and negative side of portfolios all the students saw the advantage of having portfolios, but only one student did not really see the need of doing a portfolio so many times during her middle school years. All four groups, student, parent, teacher, and administrator agreed that portfolios allow the student to reflect upon their work demonstrating a very high order of processing when considering Bloom's taxonomy. Within Bloom's cognitive domain of knowledge reflection involves summarization and comparison.

All four groups, student, parent, teacher, and administrator, agreed that portfolios should not become a simple show and tell presentation. Parents did not want to be entertained and teachers wanted to see quality rather than quantity. To keep it from the entertainment section the administrators recommended an assessment rubric should be provided, yet this group also said portfolios are very hard to standardize.

Three groups, students, parents, and administrators, commented that portfolios were more thorough of their work rather than teacher assigned work. Picking out the pieces enabled the student to see their growth and what they were actually good at.

From the student and parent participants' portfolios allowed the student to express themselves which kept them involved and engaged with their work and learning process since the student had to explain their selected portfolio pieces. Communication skills naturally developed during the portfolio conferences.

Portfolios provided the parent and student group to be more involved with each other while both the student and teacher participants said portfolios teach discipline and professionalism.

Only the teacher participants mentioned outside audiences were necessary for the final portfolio presentations for the eighth graders. This comment reinforced the need to keep portfolio presentations professional if non-family members were present.

From the student participants their unique comments about portfolios explained that portfolios allowed them to help teach other students whether in the middle school classroom or even at the college level. The portfolio was a visual incentive for the teacher to keep doing better by showing that the students are growing in their classwork. All students agreed that the portfolios gave a more detailed assessment of the student's growth rather than a report card and the transition from a portfolio assessment to the traditional report card was easy.

Adjustments Concerning Project-based Learning

The adjustments of project-based learning from all the groups are summarized in Table 7. Data is shared separately for each subgroup and then compiled for a summary of all identified project-based learning adjustments.

Table 7

Project-based Learning Adjustments from the Applied Learning Method and Traditional Schools

Group	Portfolio Adjustments
Business Associates (n=4)	(a) be instilled in all classes at all age levels, (b) keeps the kids active and involved, and (c) stimulates student's interest
Students (n=9)	(a) transition of project-based learning to traditional high school was very easy, (b) traditional classes were not rigorous, (c) little connection in traditional classes, (d) back inside the box inside traditional classes, (e) less conversation and teamwork in traditional classes, (f) fewer options in traditional classes, and (g) traditional classes seemed more narrow minded
Parents (n=7)	(a) transition of a project-based school to a traditional school was easy, (b) lower expectations in traditional classes, (c) paperwork increased in traditional classes, and (d) fewer experiences with adults in traditional classes
Teachers (n=6)	(a) favorable for project-based learning, (b) PBL encouraged dialogue, (c) delegation of tasks through team work in PBL, (d) success seen from failures during PBL, and (e) developed study groups for learning during PBL
Administrators (n=6)	(a) favorable toward project-based learning, (b) PBL increased internal questioning from the students, (c) negotiation and working together seen in PBL, (c) PBL promoted critical thinking, and (d) the techniques of questioning had to be taught first to understand PBL
Summary (n=32)	(a) keeps students involved, (b) increases dialogue and teamwork, (c) more connections and options with projects, (d) lack of high school projects especially in honor classes, (e) provided more experiences working with adults, (f) higher expectations from project-based learning, (g) increased internal questioning, and (h) project-based learning must be taught correctly

Each subgroup's thoughts are expressed separately about the adjustments of project-based learning and then compiled to understand the similarities and differences between the groups.

Business Associates Summary

The business associates summary regarding project-based learning should be instilled in all classes at all age levels. By keeping the kids active and involved, the student's interest is stimulated. Active students mean the hands are busy and the minds are working.

All business associates expressed an importance in allowing students to work with their hands. Each one reminisced about their secondary schooling when they were younger and said it was the class with the action that kept them interested.

The sooner the kids get a sense of what this work will be involved with getting their hands-on it, getting dirty, tasting, feeling, touching it, the more likely they will stay motivated to stay the course, do the math, do the science and get a good job (M. McDonald, 2008).

Project-based learning is definitely “vocational or technically work, but *all* [italics added] education should be vocational education and all education should be *applied* [italics added] in vocations” (H. Henry, 2008).

Students Summary

The students regarded the transition of project-based learning to traditional high school with worksheets was very easy, not rigorous, little connection, back inside the box, less conversation and teamwork, few options, and becoming more narrow minded.

Traditional high school assignments instead of projects were too easy at times since the teacher merely pushed work on the student during the grading cycle. The teachers really did not have to say too much. “We just pushed on to the next topic and nothing was connected” (Enrique, 2008).

Some of the students felt their first 2 years of college was just an extension of high school since all they did was listen to lectures, read the textbooks, and take exams. It wasn't until their junior and senior year, that application of their coursework developed showing an applied learning approach.

Going back to a traditional high school was like going back inside the box (Karen, 2008). Other high school students were more book smart and seemed to learn faster from the book and paper assignments, but several students explained that their social abilities and their world concept was above the other high school students. ALA students seemed more broad-minded and could provide better conversations. Most of the work in high school was individual assigned with little group work or projects involved.

Most of the student participants had gone through applied learning as elementary children at the applied learning feeder school of Alice Carlson or the Riverside Applied Learning Center. Tracking was done throughout the years at ALA to keep the students on target with independent projects or give other students a more structured setting.

Learning to negotiate assignments, assessments, group work, projects, and portfolio selections inside the ALA classroom gave the student options and self-reliance. Of course, this may have caused problems for traditional high school classes when high school teachers demanded more of a control within their classroom.

Parents Summary

The summary from the parent group about the transition of a project-based school to a traditional school was easy for their children since the expectations in the traditional classes seemed lower, paperwork increased with meaningless work, and their children had fewer experiences with adults.

When the student left ALA to enter high school there was an easy transition since their knowledge, experience with adults, and group work were strengthened. They were expected to have high expectations at ALA which was not seen in high school, but high expectations were again expected in college. High school was too easy for their children. Paperwork increased with drill worksheets rather than meaningful homework. Alice Carlson to ALA was an easy transition due to a cohesive vision for the teacher, student, and parent.

To maintain this easy transition, workshops must be provided for new applied learning parents to have a better understanding of the program. Discussion of what project-based learning involves should be explained to the parents. Group work is emphasized inside the applied learning classroom, but each student must be responsible for their share of work.

Teachers Summary

The teachers' summary of the transition from project-based learning or traditional school learning was all favorable for project-based since it encouraged dialogue among the students, team work, delegation of tasks, success from failures, and developed study groups for learning.

One teacher who was trained and taught at the applied learning high school was asked not to teach this way in the honor classes when she transferred to another traditional high school. She was told applied learning did not fulfill the needs of the students. The department head of this high school was very micromanaging and did not think applied learning was rigorous enough.

They thought it was playing. They thought it was OK to do applied learning with the regular kids, but not for the honor kids. The honor students needed to be drilled and killed with worksheets. They did not need to write up any labs or do research (W. Williams, 2008).

Applied learning totally changed her teaching philosophy. Her students were always up and doing things. When a major test was given the applied learning students do not panic simply because they get into groups and work together on the review packet. She hears them arguing about the answers. These students are actually having dialogue while they are learning. The traditional students tend to work alone and with their head in the book. This teacher has seen her class size grow each year because even though it is considered to be a hard, advanced science class, it is fun and she throws out different methods of testing. "Who works on something by yourself in the real world

unless you own your own business? We typically work together on a professional level” (W. Williams, 2008).

As a teacher, applied learning still has a viable feature, but we have to refocus. Rigor and relevance needs to be put back into the curriculum in a way that the students feel that power in terms of: I can accomplish whatever I need to with a facilitator who helps me figure out what questions I ought to ask or helps me figure out what the next step might be or helps me think through things, and I can do and be whatever I need to be. The whole big thing with applied learning was success comes from failure, but you learn from it and then it is a great experience. If you fail and you do not learn from it, you will continue to fail. It is like karma. I do not think failure is unhealthy. If a kid tries something and it does not work, you give it back to them, work through it, change it, and that is good. Hopefully, now they will understand why it had to be redone (W. Williams, 2008).

Another teacher began applied learning teaching with her eighth graders, but the district changed their curriculum and was informed all projects must not go over 3 days of class time. That is not a project, but a simple activity. “At ALA, I felt like I was given once again the freedom to teach and I do believe that applied learning is the best way to teach probably for any subject” (J. Johns, 2008).

Administrators Summary

The summary from the administrators' group about project-based learning when compared to traditional learning was again more favorable toward project-based since internal questioning from the students was increased, taught the students how to negotiate by working together, and promoted more critical thinking, but project-based learning had to be taught to the students in order to understand the techniques of questioning and thinking critically.

One administrator dived into the project-based concept by asking more questions to the investigator. This participant wanted to make clear how deep a project-based lesson should go for the student. Students must learn to ask internal questions in order to develop an applied learning/project-based assignment. For example, tying math into science would be the discussion of the conservation of energy.

How much does it cost to take a hot shower? There are places where students have to follow math procedures by adding correctly, for example. But, they have to answer other questions before they can use the math. How hot does the shower need to be in order to count as hot? How long does the shower last? How is the water heated, by gas or by electricity? It is this sort of question involving judgment, and reasoning that provides the context in which specific academic skills are necessary and then an applied learning project could evolve from (S. Smith, personal communication, October 17, 2008).

Project-based learning had to be taught. The original students who first attended ALA still had traditional mindsets. Half of the student body did not come from the Alice Carlson classrooms. These students were not used to thinking outside the box; instead they continued to fall back on their traditional classroom up bringing.

The students first applied learning project was to have a dance.

Everything they wanted to do and all their projects were so traditional.

Their first successful project was getting a soda machine. They did a heck of a job, calling, making appointments, trying to get the best money deal, but taste out wins money profit for those students (N. Nicholas, 2008).

Summary Results of Adjustments Concerning Project-based Learning

The summary of the results of project-based learning from each groups are: (a) learning to negotiate and delegate tasks by team working, (b) promoted critical thinking and internal questioning, (c) better connections to the real world since working with adult models, (d) more meaningful work rather than paper drills, (e) students can visually see their mistakes or failures easier when rubrics are used for project-based evaluation rather than traditional tests or worksheets, and (f) the transition for the student leaving project-based learning to the traditional classroom was easier due to the lower quality of work that was required at the end of each reporting period.

Three of the group participants, student, parent, and teacher, referred to project-based learning as group work and because of the groups working together, talking with other groups, and getting out of their seats. Traditional administrators might mistake this as being off task, wasting time, or not having rigorous enough curriculum. Working in

groups also provides conversations to learn how to negotiate and work together. For the student participants' group work or project-based learning was diminished when they entered high school.

These dialogues pertaining to project-based learning was mentioned by the student, teacher, and administrator groups, but the administrator group also commented that questioning and more questioning should come from project-based learning. This has to be taught.

The cliché of outside the box was again spoken by the administrator and the student group. The administrator participants said project-based learning is thinking and questioning outside the box while the student participants said going back to traditional worksheets and bookwork was back inside the box. No connection to real world or meaningful work was the students' comments about high school and the first 2 years of college. The parent participant also said project-based learning was meaningful work rather than paper drills.

Two groups, business associates and teachers, associated project-based learning with hands-on learning. Always doing something with your hands and using more than one sense was referred to as hands-on learning.

The business associates were the only group which referred to project-based learning as vocational or technical learning while all education should be vocational education and all education should be applied.

It was the teacher group who brought up that project-based learning is learning by failing. Success from failure can be a good thing when the student learns from their mistakes.

Adjustments Concerning Community Partnerships

The adjustments concerning community partnerships from all participants focused on the opportunities and connections provided by the community for the student are summarized in Table 8. Data is shared separately for each subgroup and then compiled for a summary of all identified factors.

Table 8

Community Partnership Adjustments from the Applied Learning Method and Traditional Schools

Group	Community Partnership Adjustments
Business Associates (n=4)	(a) gives back to the community, (b) made real world connections to the student, (c) stimulates learning, and (d) impacted the curriculum
Students (n=9)	(a) created future networking and careers, (b) made volunteering easier in high school and college, (c) provided opportunities to present at conferences, (d) opened up their eyes and minds to different cultures and economies, (e) students sought out school clubs if high schools did not provide volunteering
Parents (n=7)	(a) created a sense of a family community within the school, (b) made it easier for their children to continue with volunteering in high school, (c) created outside experiences and opportunities, and (d) instilled the meaning of commitment
Teachers (n=6)	(a) allows the teacher to become a facilitator, (b) promoted the feeling of service and commitment to society, (c) taught the students to work with an outside audience, (d) dealt with real world problems, (e) sharpened the students' skills in communication, and (f) finding new partnerships becoming harder due to the depressed economy
Administrators (n=6)	(a) outside audiences make it realistic for the students, (b) extend the community partnerships, but not necessarily the project, (c) continuous communication between partnerships and administration needed, and (d) start at the top of the company rather than at the front door when recruiting for new community partnerships
Summary (n=32)	(a) stimulates the student with real world activities, (b) allows the business community to give back to society, (c) impacts the curriculum with real skills, (d) promotes future networking and careers, (e) makes volunteering and commitments easier, and (f) broadens students' minds

Each subgroup's thoughts are expressed separately about the adjustments concerning community partnerships and then compiled to understand the similarities and differences between the groups.

Business Associates Summary

The summary of the business associates concerning community partnerships was a chance for the business sector of society to give back to the community. All business associates agreed that this made real world connections to the student. These connections could easily stimulate the student's learning and could impact the curriculum.

All business associates know the importance of community partnerships working with the school systems. One of the business associates recently approached the FWISD with a renovation program to allow high school students to work along side with contractors and architects. Another business associate provided high school students with an actual city review board on the zoning adjustment of an applied learning virtual skating rink. "We wanted the students see the struggles along the way dealing with the city. We didn't want this project to be just a paper project" (C. Cornwall, 2008). "Kids want to be stimulated and they want to learn. I know business wants to believe that" (B. Blacksmith, 2008). Each of these business associates would gladly offer their time and help if asked by a classroom teacher.

Businesses need to visit schools to see the extent of the needs. "When successful business people reach middle age, their motivations often shift from working for their own financial reward and benefit to one where giving back to the community becomes an interest" (C. Cornwall, 2008).

Today's schools are better than they use to be at what they use to do was a favorite quote one of the business associate used during the interview session, but it was extended into a small parable. The student says, "Why do I have to learn that?" Then the businessman says, "Why don't you teach that?" In other words, the business associate wanted teachers to teach something different from what the students are being taught today. "We all want the kids to be able to perform well on the standardized test, but I would really like to see more connections to the real world skills they need in order to get jobs" (H. Henry, 2008).

Starting with summer internships or jobs provided for the high school students at the annual FWISD job fair, Fort Worth's business associates support and provide partnerships for the school systems. Because of the 77th Legislature in 2001, Closing the Gaps by 2015 was adopted and as a result the Fort Worth Chamber of Commerce, in partnership with FWISD, Fort Worth Hispanic Chamber of Commerce, Fort Worth Metropolitan Chamber of Commerce, and other community organizations are working together to support minority students to enter college with Go Centers which are located on high school campuses, churches, or neighborhood clubs. These Go Centers are a source of coordination between the student, parent, counselor, and higher institution of education by offering a variety of resources to better prepare for college entrances.

It was emphasized by one business associate that partnerships should not be just surface features. Partnerships must go deeper to impact the curriculum, not a mere surface glossing. The partnerships must unlock the love of learning for the students.

Students Summary

The summary of the student participants with community partnerships proved that being outside the classroom volunteering at a public site created future networking, possible careers, made volunteering easier in high school and college, provided opportunities to present at conferences, and opened up their eyes and minds to different cultures and economies. The transition from the applied learning program to a traditional school caused most of the students to seek particular high school clubs since volunteering at partnerships were not available and the applied learning students were use to volunteering.

All of the student participants were involved with outside community partnerships. Some worked with these partners outside the classroom because it was a class project, but most volunteered by signing up to work with a particular partnership. These were the memories they remembered the most and opened up doors for them with networking and future resume documentation. Volunteering comes easy for them now since they have done it so often. High school volunteering was involved with certain clubs while ALA offered it for the individual's interest.

A few of the students were invited to present at state or national conferences about their ALA experiences with community partnerships. All agreed this was an exciting opportunity. Partnerships allowed the students to see more of their community with different eyes and mindset. "This exposure to other cultures and economic lifestyles would probably not have been met at other middle schools" (Maria, 2008).

Some partnerships that the students started in middle school continued even to high school. Partnerships involved working at the Botanical Gardens and designing the north entrance to this park, being docents at the Fort Worth Museum Science and History, helping at an animal clinic, working as a docent at the Log Cabin Village, and helping at the Modern Art Museum.

Parents Summary

The parental summary concerning community partnerships for their children created a sense of a family community within the school, made it easier for their children to continue with volunteering in high school, created outside experiences by opening up different outlets to get involved with, and instilled the meaning of commitment for the parent and even the student.

Most of the parent participants thought the faculty became like “family members giving a sense of community seen within the classroom” (L. Lufkin, 2008). When their children left ALA, due to their exposure of community life experiences, the parents thought it was easier for their children to work with partnerships or volunteer.

Parents have enjoyed the past partnerships that ALA provided with The Log Cabin Village, Kimbell Art Museum, Modern Art Museum, Amon Carter Art Museum, Fort Worth Science and History Museum, Outdoor Learning Center, and the Thistle Hill House Mansion Museum. Luckily, Casa Manana and the Fort Worth Botanic Garden are still willing to work with ALA students on a regular basis.

The 20 hour volunteer commitment that parents must sign up for at ALA strengthened the parents’ commitment to serve. The community partnerships provided

an outlet for the parent to get involved by helping to chaperone or providing their own car to help shuttle the students to various partnership locations.

Teachers Summary

The summary of the teachers' participants with the community partnerships allows the teacher to become a facilitator, promoted the feeling of service and commitment to society, taught the students to work with an outside audience, dealt with real world problems such as deadlines and satisfying your customer with the required product, and sharpened the students' skills in communication. All teachers agreed that finding new partnerships is becoming harder due to the economy. Lastly, five narrative stories are included in Appendix H which will demonstrate the teacher's personal viewpoint on community partnerships.

Bringing in partnerships allows the teacher to completely step out of the teaching role and "become a true facilitator since you really don't know what is going to happen" (W. Williams, 2008). The teacher and students must learn to work together in order to get to the final product. By creating a timeline, especially if it was designed by the students, they can then see why it is important to meet those deadlines.

Allowing the students to investigate what problems to solve in their local community makes it more real for them. "When they got into it, they got into it" (W. Williams, 2008). Student choice can be student failure, but it is important to learn from the mistakes and learn to do it over again better.

Learning to work with partnerships is easier if the project is small such as a brochure for a client, and then when confidence is built, allow the project to grow. "I

start out with something small in my classes...then I move it up a notch to involve the whole class” (W. Williams, 2008).

The transition of the applied learning teacher going back to a traditional classroom or the traditional classroom teacher stepping into a partnership can be difficult. It seems that most applied learning teachers try to find ways to work around the district’s curriculum framework and allow some creativity to merge into their classroom. All teacher participants did agree that it was getting harder to work with community partnerships due to time, the curriculum framework, or the soured economy which has caused businesses to reduce their hours of working with the schools.

The applied learning teacher can easily make the connection inside the classroom when partnerships are formed with the outside community. It is through their initiation and creative drive that a class project can get started. They are the actual catalysts to the applied learning method of teaching. Individual narrative stories shared by the teacher participants are included in Appendix H. It is through these important and revealing stories that the reader can actually see and experience what it is like to teach using the applied learning method. Please consider reading the five narrative stories from the teacher participants to see the value of partnerships for the schools.

Administrators Summary

The summary from the administrators concerning community partnerships involved sharing their narrative stories. From their stories (see Appendix I) it was noted that traditional high schools have community partnerships, but not like a client where the students could work with, outside audiences make it realistic for the students,

community partnerships should be extended each year (but not necessarily the project), satisfying an outside audience such as a community partner separates the project-based learning from the applied learning project, and an open door policy must be maintained by the class with the administration to make sure bridges are not burnt between the community partnership. In order to seek out partnerships sometimes it may be easier to start at the top of the company rather than at the front door when recruiting for new community partnerships. Community partnerships could be as small as a single business or as large as the entire chamber of commerce depending upon the project.

One administrator expressed that her high school had several community partnerships, but these partnerships were mostly centered on rewards for the students with good attendance. The community partnerships in traditional schools were not about having the students satisfy the client, but how could the community satisfy the student or school.

Several administrators reminisced about their projects they had with their students when they were teaching. It was the outside audience which made it a real product for their students and it also made the real world come alive for the students. Starting a newsletter for the homeless agencies made the students want to have a fall carnival for the children who lived in the shelter (N. Nicholas, 2008).

While community partnerships should be extended each year it was the students who must come up with the problems and the different ways to solve the problem. Since students come and go, so goes their ideas. If the project keeps repeating year to year, then it is not really an applied learning project, since now it becomes part of the

curriculum without any of the new student input. The kids must get involved with the partnership by designing the product. “You got to be an opportunist” (N. Nicholas, 2008)! Never turn down an opportunity [project idea or partnership] when it falls in your lap. Community partnerships could be as small as a single business or as large as the entire chamber of commerce depending upon the project.

When trying to locate a partnership sometimes it may be easier to start at the top of the company rather than at the front door when recruiting for new community partnerships. “If I had not gotten his (John Roach, CEO of Tandy Corporation) support, I would have been gone in 3 to 4 years” (H. Hoffman, 2008).

By satisfying an outside audience such as a community partner, “project-based learning becomes an applied learning project which takes on a higher level” (N. Nicholas, 2008)! This is the main separation of the project-based learning from the applied learning project.

An open door policy must be maintained by the class with the administration to make sure bridges are not destroyed between the community partnership, parents, or other staff members of the school. “My principal was putting a lot on the line by letting me do our project” (N. Nicholas, 2008).

One administrator participant commented on the past and the present partnerships within the Fort Worth School District. She knew from the very beginning the importance of having the community connected with the schools. It did not matter who the superintendent was. What did matter was having the community tied to the schools with partnerships.

I am interested in the dropout rate because FWISD is one of the places that were given a grant by the American Promise Alliance (a 300+ community partnership to improve children's lives by giving top priority to reduce the high school dropout rate) which is headed by Colin Powell, the first African American Secretary of State in 2001, and his wife to promote this big dropout prevention program. They have identified three action strategies. One of them is the middle school students need the opportunities to see the connection between what they are learning in class and what is needed for success in the workplace. That is a national strategy. Obviously there has been some research done with that and some promotion has been made to do that at least what we have been doing at the middle school. Obviously we did a lot of research on Vital Link and the kids who participated. Their grades went up, their performances on standardized tests went up, their discipline referrals went down, and their attendance was better. I think kids make the connections. They understand that it (education) is not just sitting in Mrs. So and So's class and reading a book. It is going out and really finding out there is a reason to learn. There *is* [italics added] an application for it (D. Dickens, 2008).

Summary Results of Adjustments Concerning Community Partnerships

The summary of the results of community partnerships are: (a) critical connections in the classroom come from community partnerships, (b) students

experienced other cultures, opportunities, and mindsets, (c) stimulated student learning, (d) promoted continuous volunteering for the student in high school and college, and (e) helped the parent to become more involved with the school creating a sense of a community within the classroom.

All of the five groups agreed that developing partnerships inside the classroom and outside the school revealed a vital importance for applied learning. Two groups, business and administrator used the same phrase of making the connections to the classroom when working with partnerships. This connection gives a reason to learn by using real world skills.

The other two groups, student and parent used the word exposure when discussing partnerships. Exposure to other cultures, different mindsets, and other parts of the community helped to broaden the student's way of thinking and opportunities. These two groups also said volunteering came easy for the student once they left ALA.

The business associate thought that partnerships stimulate learning better which would impact the curriculum deeper, but it was the administrator group which provided the most statistical information for partnerships by student grades and test scores go up, discipline problems go down, and better attendance is seen.

One unusual comment was given by the parent group concerning partnerships and the community. This group expressed several times the sense of community felt inside the classroom with faculty causing an inner partnership as well as the outside community partnerships.

Business Associates Impact with Applied Learning

Summary of the business associates impact with applied learning were (a) initiated the C³ program, a school to business and community partnership, (b) developed lesson plans of desired skills for the schools, (c) started applied learning with the Vital Link program which is still on-going, (d) demonstrates the need for students to be adaptable so they should constantly learn new skills, (e) advised that partnerships should go deep with the school commitment rather than skim the surface to prevent the underestimation of the value business associates provide for the school, and (f) the business associates partnership's goal is to make the connection for the classroom.

Business Associates Summary

In 1989, Fantus Consulting and then the Battelle Institute, two consulting firms, were hired by the Directors of the Fort Worth Chamber of Commerce to study and redefine Fort Worth's strengths and weaknesses. The C³ program began as a job skill analysis task in 1989 with 2500 employees involved from 240 companies and organizations. Because these businessmen were concerned about the quality of their school system, surveys went out to the local businesses to investigate what types of skills were needed within the selected workforce.

From the data collected detailed reports were written which prompted FWISD to create and write new lesson plans applying necessary skills inside the classroom; thus, applied learning came into existence with a new applied learning elementary school designed completely for applied learning. It was the business sector of Fort Worth which

initiated the classroom connection of applied skills taken from the Secretary's Commission on achieving necessary skills (SCANS). "We are the beginnings of the SCANS Reports" since several key Fort Worth businessmen worked directly with the staff of the Secretary of Labor and the Secretary of Education during the time the SCANS Report was written (H. Henry, 2008). Without the push from Fort Worth businessmen and their initial necessary skill surveys, applied learning would probably not have been revised and applied in the Fort Worth school system.

FWISD has always been proud of their continuing partnerships with the surrounding community of businesses, but FWISD can not forget that "the companies' main theme for any business is to make money rather than have local area school kids shadow them" (C. Cornwall, 2008). Summer internships are provided for the high school students to work with city officials, but "they are not really leaning the skills of that particular job, instead the student is just finding a job in order to earn summer expense money" (C. Cornwall, 2008).

No longer are mentorships found within the job market since people do not stay at jobs. Gone are the 30 year unions and gone are the unskilled apprentices who would be carefully trained by the professional master found in the banking or industrialized society. Career changes now occur at least every 5 years or less, so the employee must be aware of the fast paced turnover in any company. Many people are roll-overs from some other type of career (C. Cornwall, 2008). Not many students end up in their original career choice. Typically the college undergraduate will change their major at least twice and the college graduate will end up doing something else.

The business sector of society can provide partnerships for the educational system, but it should be more than just a one time event for career days. “This method just skims the surface with a thin glossy film of the outside world, but does not impact the curriculum nor unlock the love of learning” (B. Blacksmith, 2008). With business partnerships they are hard to maintain throughout the years and keep ongoing volunteers. “Some volunteers stray away from the business atmosphere and provide friendships, but the professional face should always remain up front and foremost” (B. Blacksmith, 2008).

One prominent businessman slowly dropped out of helping the FWISD simply because of the frustration involved with putting up with school board politics and seeing only slow changes within the schools. “Older people have this interest to help (give back) but some loose touch of the working world or the technology changes so fast that they would not be as helpful” to the students and applied learning (M. McDonald, 2008). The hard task is finding the people who can really help the students to make the classroom connections outside the four walls of the school building.

Getting the volunteers may be great, but what are they going to do? Is it rigorous, is it relevant? Does it apply at all to what the kids are learning academically? Does it show meaning? Will the kids be stimulated to want to learn more? Volunteers want to believe that whatever they do, it will be worthwhile for the students, but it may not be. We tend to underestimate the surrounding resources needed to do the job right (B. Blacksmith, 2008).

Businesses need to visit the local schools to see the extent of the school's needs. "When successful business people reach middle age, their motivations often shift from working for their own financial reward and benefit to one where giving back to the community becomes an interest" (Mr. McDonald, 2008).

Summary Results of Business Associates Impact with Applied Learning

Summary of the business associates impact with applied learning (a) initiated the C³ program, an national award winning program, (b) helped develop lesson plans of desired skills for the students, (c) initiated applied learning through the Vital Link program, (d) advised students to be adaptable by always learning new skills, (e) advised partnerships should go deep with the school commitment rather than skim the surface to prevent the underestimation of the value which business associates provide for the school, and (f) the business associates partnership's goal is to make the critical connections which are so important for the classroom.

Because the seventh research question is related only to the business associates there is no other group to compare and contrast with. All business associates agreed that partnerships with schools are important. One business associate was not aware of the history of the C³ program so this participant was not able to respond to any questions related directly to applied learning or Vital Link. The other three business associates knew about the C³ program and how applied learning developed from the Vital Link program.

Each of the business associate did relate their individual story when asked by a school to help with a classroom activity. All four business associates would agree to assist any teacher in the future when possible.

Applied Learning Impact within FWISD

The applied learning impact within the FWISD started before there was an applied learning program or school. Without the historical catalytic impact from the 1979 Governor's Meeting to the SCANS Report and Lauren Resnick's work, applied learning might not have been created in Fort Worth. Local business leaders and Fort Worth educators were ready for a change within the public schools.

Historical Impact

The historical impact of applied learning within Fort Worth can be traced back to the 1979 Governors meeting where they issued a proclamation that schools were not working. One of the things that came out of the 1979 National Governors Association meeting was the request to fix this urgent problem (National Governors Association, 2004). During the next 10 years, the Department of Labor developed the SCANS Report (United States Department of Labor Employment & Training Administration, 2009).

The original people who started the applied learning program were Midge Rach, Assistant Superintendent of Instructional Planning and Development and Sally Hampton, Coordinator of the Keystone Writing Project. "Sally by hook or crook sunk deep into the SCANS Report and together with Steve Palko" (member of the Fort Worth School Board and member of the SCANS committee) brought Fort Worth to be the front runner for setting the educational standards (W. Wells, 2008). Becoming the leader of

the educational pack was also brought on by having a strong two arm Arkansas pull from the current Fort Worth Superintendent, Dr. Don Roberts and Dr. Gary Standridge from the Research and Development Department of FWISD to the Arkansas Governor, Bill Clinton who was soon to be the President of the United States. Sally Hampton worked will with this new Arkansas team because two of the members (Roberts and Standridge) were now stationed in Fort Worth.

“Sally had a reputation for being an innovator and she with Midge Rach were visionaries and thought outside the box” (D. Dickens, 2008). These two were the catalysts who made the curriculum transition happen for Fort Worth. “The new superintendent did not know about applied learning at the time, but he was very interested in and sympathetic to making the connections between schools and work” (S. Smith, personal communication, October 17, 2008).

Slowly the interest started shifting from the writing to the applied learning. It was perfect timing for Fort Worth because they just hired a new superintendent who had a vision to tie in the community with schools to promote better academically skilled workers. The new superintendent met with the influential businessmen of Fort Worth to begin the C³ Project which developed into several national recognized programs called Vital Link, Applied Learning, TechLab 2000 (computerized programs and laboratory stations for the secondary schools), and Equity 2000 (an FWISD/College Board partnership stressing student success in algebra and geometry). Because of the C³ program, applied learning crystallized and the Writing and Reasoning Skills Department downtown at the Fort Worth administrative building was soon changed to Department of

Standards and Applied Learning by 1996. It should be noted that “the phrase, reasoning skills, came out of Lauren Resnick’s work dealing with the nature of intelligence” (W. Wells, 2008; Resnick, 1987). As the curriculum program slowly changed for FWISD, Sally Hampton began to use her East Texan connections with Senator Radcliff (Chairman of the Education Committee).

While Lauren Resnick came in on the academic side from the Learning Research Development Center (LRDC) (University of Pittsburg, 2007) with the habits of the mind (Resnick, 1991), Sally was bringing in the National Standards to Fort Worth. There was a lot of time, money and energy going on. Everybody was grabbing government dollars from the National Center on Education and the Economy and the National League of Cities, which Fort Worth was a member (W. Wells, 2008).

Four of the original nineteen applied learning newly trained teachers stayed and trained the new group of teachers for applied learning in the early 1990’s. They filtered out what they thought was important from the first year of training and from their class experiences. Guest speakers were again brought in from New York University for the following summer’s training.

The National Center of the Education and the Economy was now up and running with The New Standards Project by 1990 and Sally Hampton had her hands tied to that by helping to write the National Standards for English and Applied Learning with the draft finished by 1995 (McREL, 2009a; 2009b). “From Sally’s office, came Susan Fitzgerald, Mary Finlayson and Linda Lewis who were literally going to generate the

standards for English Language Arts while Bill Calder and Mary Marsh would design the standards for Applied Learning” (W. Wells, 2008). That was the beginning of the applied learning curriculum for Fort Worth, but what can be said about the Fort Worth curriculum today? One administrator says this:

It saddens me a little bit that our new superintendent is reaching out and getting our good people hooked up with other people’s good people.

Hooking up with Lauren Resnick takes a lot of money. So, to dedicate those amounts of funds makes it a true commitment. The last superintendent wasn’t interested in Fort Worth hooking up with anybody else. So it is refreshing to see people will have possible opportunities.

We also knew that the followers that caught this program of applied learning are now looking for what’s next, what else is better to help their students. Not just reinventing the wheel, but knocking the mud off the tires as you roll down the road. I think that is a lot of that going on. There are still budget constraints though.

It would be interesting to track if applied learning is still found throughout the nation. Just like we did in Fort Worth, we planted the seeds. I know San Diego is not applied learning any more, but San Diego started with just two schools and then in two years, the entire district was requiring all high school senior community projects. It was just overwhelming. But what is happening now, those teachers who worked with the projects are now principals and administrators of elementary and middle schools and

so now we can carry on those *pockets of excellence* [italics added] (W. Wells, 2008).

It is interesting to note that the transition of the applied learning curriculum stimulated Lauren Resnick's and Megan Hall's philosophy seen in the *Learning Organizations for Sustainable Education Reform* as "nested learning communities" (Resnick & Hall, 1998, p.109). During the rise of applied learning in the 1990's, Dr. Resnick was co-founder and co-director of the New Standards Project. She also founded and directs the Institute for Learning, which is helping major urban school districts nation wide to raise their academic achievement. This program was brought into play for the Fort Worth teachers 3 years ago by the new FWISD superintendent. It is also interesting to know that Dr. Resnick was also a member of the National Commission on the Skills of the American Workforce and served as chair of the assessment committee of the SCANS Commission (University of Pittsburg, 2007). Her applied learning roots run deep even though the phrase applied learning is not used within her writings any more. Dr. Resnick has co-authored several books with Sally Hampton during 2008, so applied learning may still be remembered and discussed between these two insightful women. Even though the term applied learning has slowly disappeared from many districts, the new FWSID curriculum comes from the Institute for Learning (IFL) whose co-founder, Lauren Resnick, believes in the importance of the SCANS Report which opened the door for applied learning to take hold in Fort Worth.

It was one administrator who best summed up applied learning by explaining that this was the right program for the middle school age child.

Applied learning is the answer for middle school and middle school is where we loose our children. People think that high school is where we lose them, but it is not. Everything that is done it seems to me is done for elementary school or high school. Every program starts with the elementary school, but it never really goes to middle school or we start with high school and go down, but it never seems to go down far enough to the next level. Middle school is like a *black hole* [italics added]. We throw our kids in this abyss and hope they come out in the 8th-grade. It is strictly roll the dice. Most kids hate middle school because they become simply a number (N. Nicholas, 2008).

Several administrators commented that applied learning students seemed highly engaged, motivated, and thought through much more complicated problems than they usually encountered in other schools. An extreme example would be when an elementary applied learning teacher and her second grade class sponsored and coordinated an entire literacy conference for several thousand elementary school children. Another example would be when a high school applied learning science teacher and his students were able to convince the district to stop using particular pesticides on the district schools' grounds. One high school applied learning teacher and his students designed the first annual Applied Learning Convention in 1994. The students enlisted all applied learning classrooms throughout the FWISD to set up booths where they would explain their projects to the invited public of city officials, local media, large corporations, and area business leaders.

When asked if applied learning should be brought into the schools which are rated Academically Unacceptable by the Texas Education Agency (TEA) for 2007-2008, one administrator's comment was,

I think applied learning could be brought to the PEAK schools (Public Educators Accelerating Kids), but it would take a change in the mindset at the top level of administration for that to happen. I don't mean that the top level of administration doesn't value applied learning, but I don't think they would see it as a solution or as a strategy to help. That is my personal belief that it would, but again at this point most of the people who are in top level position were not here when applied learning was started. To them they didn't see the change in kids (D. Dickens, 2008).

The impact of Applied Learning Academy in Fort Worth allowed the Alice Carlson Applied Learning Center community a smooth and continuous educational pathway for applied learning in grades 6th through 8th. When applied learning was introduced into the Fort Worth school system as a school, there was enough students to start the elementary school, but when it was time to start the middle school there was not a rush to come to this school at first. Only 25 students came from the applied learning elementary school to transfer into the new applied learning middle school and the district would not agree to have a middle school with these low numbers. The goal was to have at least 75 students to justify the new school. Staff from the Keystone Writing Project (which later changed to the Department of Standards and Applied Learning) helped to promote the school by visiting the surrounding community centers and churches.

Another administrator considered Applied Learning Academy as an isolated island within the district. What was done in one school should have been attempted in the other schools. The impact of what applied learning requires from their students, all students should attempt those standards.

If I got to design my own school I would design it like ALA use to be in terms of the students required to read and document 25 books each year and the portfolio assessment. I would design it with more structure just because some kids who can not deal with the unstructured classroom would be more supportive.

The kids who were coming in from nontraditional backgrounds knew about applied learning so the other kids could then see into it. These nontraditional kids came in speaking the lingo, knowing the knowledge based. Also, I think what it was, the autonomy in the classroom was becoming less and less. My last class, I had 105 pass on the TAKS and 70% commended. I did not focus on the TAKS. Maybe a week before, we then went through the packets the last two days. What I used was the actual skills they would need on the test. That seemed to work better (D. Dubois, 2008).

The impact from the applied learning program on the FWISD is summarized in Table 9. Data is shared separately for each subgroup and then compiled for a summary of all identified factors of the applied learning impact.

Table 9

*Impact from the Applied Learning Program on the Fort Worth Independent School**District*

Group	Impact
Business Associates (n=4)	(a) from the C ³ program Vital Link, (b) Tech 2000, and (c) Applied Learning was created
Students (n=9)	(a) dedicated teachers, (b) variety of teaching methods, (c) relationships developed due to the family oriented faculty, (d) small building, (e) block scheduling, and (f) not focusing on the state testing
Parents (n=7)	(a) total school immersion, (b) children educated in a small building with a year-round school calendar, and (c) continuous K-12 applied learning program available
Teachers (n=6)	(a) distinguished guests toured the applied learning campuses, (b) recognized status from the state scores, (c) continuation of Lauren Resnick's and John Dewey's philosophy, (d) ability to move away from the traditional teaching methods, and (e) district sponsoring excellent applied learning workshops
Administrators (n=6)	(a) generated unique curriculum and teacher training, (b) changed teachers' personal philosophy on classroom management, and (c) changed community leaders' opinions about applied learning
Summary (n=32)	(a) C ³ program in Fort Worth created Vital Link, TechLab 2000, and Applied Learning, (b) teacher facilitators brought a variety of nontraditional teaching methods and curriculum, (c) goal oriented faculty, (d) small school structure with year-round schedule, (e) total school immersion of a K-12 curriculum, (f) city wide and nationally recognized school program, (g) continuation of John Dewey and Lauren Resnick's philosophy, and (h) excellent applied learning workshops, convention, and published work

Each subgroup's thoughts are expressed separately about the applied learning impact on FWISD then compiled to understand the similarities and differences between the groups.

Business Associates Summary

The summary from the business associates about the applied learning impact within the FWISD dealt with starting the C3 program in Fort Worth which created Vital Link, Tech 2000, and Applied Learning. Two of these programs are still going, while Tech 2000 evolved into Tech Systems, another hands-on computer lab with simulations for the FWISD secondary students.

Dr. Don Roberts, Superintendent of Fort Worth ISD from 1987-1994, and John Roach, Chairman and CEO of Tandy/RadioShack Corporation from 1982-1999 were “two men who were *instrumental* [italics added] in changing the Fort Worth school program” (H. Henry, personal interview, September 12, 2008). Here is proof of the educator and the business redesigning education. From the creation of the C³ program Vital Link was the strongest sounding board for applied learning. A national recognized educational program set up by FWISD and the Fort Worth Chamber of Commerce for students, teachers, and even parents, provided opportunities for elementary school children to visit and work along side a selected local business. This program has been ongoing since 1989 and has connected thousands of children from the classroom to work, learn, and assist in real jobs with real skills needed by the workforce.

This Vital Link connection prompted applied learning lesson plans to be written that actually went along with the tasks used in the real world. Individuals from the

professional business community worked with the Fort Worth teachers as they developed these lesson plans from the C³ business surveys.

With the growth of Vital Link and the interest of the Fort Worth teachers and community, an applied learning elementary school was opened up in 1992 followed later by a middle school in 1993, another elementary applied learning school in 1996, and a high school applied learning program in 1999. Yet, even with some of the schools changing their lessons into applied learning projects, “it is the parent’s duty to make the transition for any weaknesses in the public school system” (H. Henry, 2008). “The parent should see that their own children are applying what they learn in the classroom at home” (C. Cornwall, 2008).

Students Summary

The students’ summary of the applied learning impact within FWISD centered on the quality of teachers with their variety of teaching methods, the relationships which developed due to the family oriented faculty, small building, block scheduling, and not focusing on the state testing.

Good teachers are found in every school, but the student participants thought the applied learning teachers were unique from their other traditional teachers. Several of the students mentioned that the ALA teachers used the best ways to learn in a variety of styles. There was a lot of time where the student could come in and work one on one with the teacher or with teacher to teacher because it was block scheduling. Assignments were shared and discussed in several classes. ALA was not boring for these students. “Anything you learn you have to maintain it. You can not just learn it once” (Isela,

2008). Because of this philosophy, some of these students developed strong relationships with their teachers in middle school.

When the student participants left ALA, good teachers were found in high school, but few developed relationships with their high school teachers. Even the ALA principal could really relate to the kids. So much personal interaction formed for these students at ALA that some of the students cried when they graduated from the 8th-grade knowing they were now leaving ALA.

Two of the students would only become teachers if they could teach under the applied learning philosophy. Another student is becoming a teacher, but she knows she will have to do as she is told once a teaching job is secured. When the freedom is given to her, she will then teach using the applied learning philosophy (Lupe, 2008).

The students did not remember studying for the state test merely a week review of prepping before the test was given while in high school most of the students thought the prepping for the state tests were just too intense. "Testing wasn't forced down our necks at ALA" (Karen, 2008). So much more time was spent preparing for the state test in high school when compared to ALA and their applied learning classes.

The small building of ALA and the block scheduling led to a family oriented faculty more so than the present day building of ALA. Socially the kids accepted everyone even though cliques were formed. It was the group work that kept them actively working together and listening to each other's ideas. This type of bonding within the classroom has kept their ALA friends even after high school. Applied learning

promotes group work and generates different people to work together when a project is started. “Differences have to be worked out in order to get things done” (Isela, 2008).

Parents Summary

The summary of the applied learning impact on FWISD from the parent participants were total school immersion such as a charter school rather than a school program found within a school, children educated in a small building with a year-round school calendar, and having a continuous K-12 applied learning program available for their children. With the slow changes of the applied learning program, the parents thought that the district regards applied learning as a closet program, functional, but hidden.

The life of ALA as a public school can not continue under the district’s demands if the school follows the required, restricted curriculum. “The freedom of applied learning and student choices would have to fall under a charter school’s umbrella” (B. Bell, 2008). The district is becoming more homogeneous with their academic program, but one parent commented “that it could be more like applied learning since the IFL program was started by Lauren Resnick” (O. Owa, 2008).

The school within a school at the high school level is not effective for total immersion into the applied learning philosophy. “This program needs a total school which stands by itself”, and then the K-12 applied learning program would be complete with a smooth transition for each grade level (L. Lufkin, 2008).

The transition of the old calendar (year-round) vs. the new regular school calendar was not favored by these parent participants nor was the move from the old

ALA building to the new ALA building. Parents wanted the district to accept what is successful rather than try to change it. One parent wanted to know if the population of ALA changes should the philosophy and expectations of ALA change. Another parent wanted to know the cost of teaching applied learning vs. the cost of teaching at a traditional school.

Teachers Summary

The summary of the applied learning impact on FWISD from the teacher participants were knowing that distinguished guests would be touring the ALA campus, having a recognized status from the state scores, continuation of Lauren Resnick's philosophy, the ability to move away from the traditional teaching methods, and the district sponsoring excellent applied learning workshops which provided growth of the teacher's mind to think outside of the box.

"ALA was once the model school for our district when it first started. People constantly toured the building to see how it worked and use it as a model for their own district. Today there isn't any more tours or visitors" (D. Dubois, 2008). For example, during the CAST conference this past October, 2008, in Fort Worth, only Alice Carlson Applied Learning Center was offered as an extended field trip for the science teachers. "Because of loosing the recognized status (from the science TAKS scores in 2008), ALA may no longer be impacting the district" (D. Dubois, 2008).

As far as applied learning, once the school was started, "the district just left it alone since superintendents were switched out and different interests came in" (W. White, 2008). The newest superintendent has brought in the IFL program to redirect the

district's philosophy, but this program does have roots in applied learning with project-based activities and critical thinking skills. The district wants to incorporate this in all the schools so in a round about way, "the district is using applied learning methods to a small degree. This will take work and a lot of planning from the teachers, but will the teachers buy into this system" (W. Williams, 2008)?

Teachers have to do a better job of understanding the real underpinnings of applied learning so that they can apply it in all the situations that occur. It doesn't matter what book is taught to the students to read as long as the teacher teaches them to read it in a way that they can use it in their own future. "The more I learn about it, the more I like it, and the more I want to learn" (J. Johns, 2008). The teacher should always go back to the basic foundation that applied learning has to have an authentic document. It has to be a purpose or a reason to be. It is not archival; it is not just doing something for the teacher. It has to be something that can be used and there has to be a need out in the greater community. "Basically to me, applied learning is throwing it all back to the kids and letting them be the masters of their destiny. They did do really well because they knew their work was going out to the public" (W. Williams, 2008).

Being trained in the applied learning workshops during the summers and on Saturdays throughout the school year was not considered time consuming nor worthless since most teachers wanted to be there. Teachers would sit at round tables and discuss what community projects they had done or want to do. "It was a pure exchange of ideas with the teachers sharing their pitfalls on what to watch out for and their successes. We

have the option to go to places and see things one on one while developing partnerships” (W. Williams, 2008).

Teaching techniques have expanded through applied learning. It may take a while for the traditional teacher to get use to this freedom since many like to fit inside a comfortable, secure box. There are the basics that must be covered by the district’s curriculum; however, “knowing the sequential steps of learning and knowing your subject matter will then allow you to venture out and explore new content areas on what is more interesting for your own students”(W. Williams, 2008).

An example of how an applied learning teacher inside a traditional school could give the semester exam would be to convert the concepts into scenarios which are then solved by student groups. The students would have to correctly match the concept with the scenario. The students would then talk about the scenarios to figure out the concepts and great dialogues can then be generated between the students. Test day then becomes another day of learning rather than being a stress day.

A non-Advanced Placement (AP) science (Anatomy & Physiology) class was mixed with honors and regular students, from the lowest, economical, disadvantage kid to the Merit Scholar winner and totally diverse with all nationalities. These students were not fighting me any longer since there was no AP test hanging over their head. This was a perfect non-threatening situation. They were free to just do the work and not worry about the major test at the end of the year. The principal came in and said what an unusual class this was, so incredibly mixed and they

are *all* [italics added] working together. That is the perfect place to do applied learning. In a traditional setting, the students had no choices. I will not ever give that up in my classroom because if they have a voice in the make up of the class, I can go back and say, now, look we decided that this was the due date and you decided this. Assignments can be redesigned if they do not meet the needs of the students. Is it meeting the teachers' needs and districts' or is it meeting the students' needs (W. Williams, 2008)?

Administrators Summary

The administrators' summary of the applied learning impact on FWISD dealt with the historical approach, generating unique curriculum and teacher training about applied learning, changing teachers' personal philosophy on classroom management, and even changing cautious community leaders' opinions about applied learning.

I do think the applied learning program has impacted the educational program within FWISD. It is highly valued by parents especially in the southwest area of Fort Worth. I would say even our detractors will find something to like in applied learning (D. Dickens, 2008).

When examining the transition of any schools' curriculum there is a high probability that it is constantly changing due to the upper administration changing whether this change comes locally or nationally. "Each new superintendent wants to leave their own legacy" rather than continue with what already has been started (D. Dickens, 2008). Today's curriculum must support the NCLB which demands

accountability and results. Historically, applied learning came into existence as new administration and national accountability was also sought.

The impact of applied learning provided teacher training was noted by several administrators. A positive note is expressed by one administrator concerning the lack of teacher training for applied learning seen today. He did not think applied learning had to be pushed anymore since there are enough teachers and administrators out there in the district who have had this training. No matter what other programs are brought in, applied learning will get done.

We have gotten past the threshold that we do not have to hammer as much. We looked at the fact that teachers are no longer recruited to have applied learning training since critical mass is always important and how much do you need after critical mass. I am so excited now when I left the Applied Learning Department downtown. What we took as new and so tough to get done in the classroom; other people are doing it naturally. It seems the schools of education in college have reinvented Dewey (W. Wells, 2008)!

These teaching methods were not original. Many people can think back and remember at least one teacher who kept the students involved with the classwork. “I think my senior physics teacher was probably the one I remember because there were a lot of hands-on with labs. We probably spent 80% of the class time in labs; that was remarkable” (W. Wells, 2008).

One of the administrator participants asked this question when this participant had to conduct teacher workshops.

You go into any room of adults, because I did this forever at teacher workshops, and ask what did you do during the school day that was relevant to you? It is always going to be speech, art, journalism, or something where you are doing things. For me, in high school that was journalism. For middle school, it was science. The science teacher took us everywhere and he required you to do a lot of field work. I can remember going down to the Trinity River and turning over stones to find planarian so we could cut them in two (N. Nicholas, 2008).

The teacher transition demonstrates how the teacher's philosophy changed from a teacher driven class to a student driven classroom. All administrators agreed that the applied learning teaching transition was not an easy one. It was not a 100% guarantee that the applied learning training would take root for all applied learning trainees; however, there was 100% agreement from the administrators who were part of the FWISD during the early 1990's that the first applied learning training was outstanding. Guest speakers were brought in from the Harvard Graduate School of Education with their Project Zero, speakers from the Foxfire program, and Deborah Meirer, founder of Central Park East Secondary School of New York City.

One of the best staff developments we ever did in the FWISD was a literature group project. It was fantastic. We picked the books; they were not educational books. They were top sellers of the line. Another time we

invited writing professionals to come and visit with us one on one. A group of teachers out of New York University had a reading literature project and they were using that for staff development. It was a powerful thing. These teachers had published work and advanced degrees. I am extremely thankful that I just ended up at the right time at the right place (W. Wells, 2008).

This 3 week summer applied learning training program plus five Saturdays throughout the school year was attended by less than 20 teachers for Level I. The applied learning training was designed to have three levels of training over three summers to ensure complete understanding of this teaching method and demonstrate effective student driven projects within the classroom. The stipend for attendance was divided into two parts, one part for the summer attendance and the other half for accomplishing the applied learning project with the students inside the classroom before the following January. All of the original applied learning trainees were AP teachers and they had that AP test hanging over their shoulder. Curriculum was tight and so was the time frame to accomplish all the required material.

I had probably quit three times during the training since there was no way I could do this in my own classroom. It is not going to happen. I got a good thing going. I know what I was doing. I am an experience teacher. What you are asking of me, I am just not going to do it. I was going to do what I knew best to do; however,

once I started I did not want to go back and teach the old way now
(W. Wells, 2008).

One of the original applied learning trainee teacher who went through the first applied learning Level I training began to promote applied learning within her high school to the other faculty. “The teachers began to buy into the system and they started their applied learning standards for their own school” and more teachers began to have the applied learning training (W. Wells, 2008). The teachers’ acceptance of applied learning can become a domino effect if done correctly and the teachers are *open* [italics added] for a change.

Summary Results of the Applied Learning Impact within FWISD

The summary results of the applied learning impact on FWISD are: (a) from the SCANS Report and Fort Worth’s C³ program, Applied Learning Program was created, (b) quality teachers throughout the district generating a variety of nontraditional teaching methods and curriculum for applied learning, (c) goal oriented faculty in two schools for grades K-8, (d) city wide and nationally recognized school program, (e) small school structure and scheduling (f) continuation of John Dewey and Lauren Resnick’s philosophy, and (g) provided excellent applied learning workshops, convention, and published work. The applied learning philosophy stimulated the mind to think outside of the box and brought about changes to the FWISD.

The teacher and administrator participants were able to give the most responses of applied learning impacting the FWISD, but it was the business associates and administrators who were able to prove this impact due to their historical knowledge

about the Fort Worth origin of applied learning. How the applied learning curriculum came to be developed which eventually created four applied learning programs in FWISD was shared by the administrator participants.

New superintendents bring in new programs, but the parent, teacher, and administrator group suggested that the new IFL program could be considered an extension of applied learning since the IFL author also was on the SCANS Report committee. Adding to important people who helped with applied learning impacting FWISD was the business associates when two of these participants said Mr. Roach, chairman and CEO of Tandy Corporation, and Dr. Roberts, FWISD Superintendent, were instrumental in changing FWISD with applied learning.

Three groups, student, teacher, and administrator made comments how applied learning impacted the way teachers taught with new techniques brought back from unique applied learning teacher training workshops. Several of the student participants said they would become teachers if they could teach only by the applied learning method since it helps to build better student-teacher relationships and makes connections with the real world inside the classroom. Also, the administrators said with properly trained applied learning teachers, more applied learning could then be seen in more schools as pockets of excellence.

The parent and teacher participants thought that applied learning impacted FWISD by giving freedom of choice within the curriculum to the student and teacher. Students were able to finally have a voice about their education.

The administrator and teacher groups were emphatic about how applied learning impacted FWISD because many educators from all over the United States came to visit these model schools of applied learning during the 1990's; however, the parent group suggested applied learning program could only survive now as a charter school rather than a school within a school.

One interesting and important comment came from a student participant about how applied learning impacted FWISD since applied learning helped students overcome their differences by constantly working in groups. Group work can develop classroom communities of unity. Acceptance of individual differences is a human quality all teachers should reinforce within their classrooms.

Applied Learning Misconceptions

The applied learning misconceptions are summarized in Table 10. Data is shared separately for each subgroup and then compiled for a summary of all identified factors.

Table 10

Misconceptions of Applied Learning

Group	Misconceptions
Business Associates (n=4)	(a) vocational or technical training as applied learning, and (b) a growing program can not remain stagnate
Students (n=9)	(a) special education program, (b) alternate school, (c) applying basic skills socially, and (d) having a different school calendar
Parents (n=7)	(a) fractures of different philosophies, (b) lack of vision or connection, and (c) not for remedial kids or special children
Teachers (n=6)	(a) not activities only, (b) having too many outside influences, (c) not a school within a school, and (d) just a safe small school for the general public
Administrators (n=6)	(a) lack of definition, (b) not service learning or project-based, (c) not an alternate school for the handicapped student, (d) majority of students want a normal high school experience, and (e) portfolio grades converted to traditional grades
Summary (n=32)	(a) vocational or technical training, (b) having student peers and the local community regard ALA as an alternate school for special needs (c) not generating a growing program due to the changing demographics, (d) project-based or service learning only rather than fulfilling a need, (e) fractures of applied learning philosophy and definitions, and (f) the lack of vision, connections, and a continuous applied learning K-12 program

The general public regards applied learning as technical training instead of basic skills filtering into the core curriculum; however, it is because of the variety of applied learning definitions which breeds so many misconceptions about this program.

Business Associates Summary

The business associates summary of applied learning misconceptions centered on vocational or technical training as applied learning. Basic skills are taught, but weaved into the core curriculum which should be geared specifically to that student. A growing program can not remain stagnate since the consumer is changing.

All business associates considered applied learning as technical or vocational training; however, three of the business participants were aware of the applied learning schools in the FWISD since they knew about the C³ program during the 1990's. The remaining business participant was introduced into applied learning when he was invited to be a guest speaker for an applied learning project in a high school science class. Before he came to the school, he thought the students must be either very low academically or very gifted due to the special request of his talk about zoning restrictions in Fort Worth. After meeting with the students he realized they were just typical high school students doing an interesting project designing a virtual skating rink.

There were some problems with the initial design of the students' skating rink. They were short on parking, trying to figure out how much money the extra parking lot would cost versus start up. I thought the whole idea was fun (C. Cornwall, 2008).

One business associate was very frank about applied learning being taught today and the misconceptions that surround this phrase. The basic rule for any business is to know your client and she expressed her thoughts on applied learning to follow this rule as well.

What is the curriculum and what is the test you are teaching to? What is it you are putting in your lesson plans? Here is the book that was printed for you. Here is the computer software package that you must teach or skills set they you must get across to the children. Are those lesson plans geared to the curriculum? The curriculum is geared to apply learning and all learning is applied. The curriculum has to be the right kind of curriculum that you are teaching and that you are testing them for.

I would give the applied learning program an A+ back in the 1990's then, but you can never become complaisant with A+. In the business community our product life is 18 months while in education it is 18 years. Our product is changing due to technology so the lifespan is now 9 months to get with what we need to do. So, now applied learning gets a C- in being able to change what you have done. Just because you got an A+ 5 years ago, you have to be able and ready to make changes, not forgetting the basic principles of education (H. Henry, 2008).

Students Summary

The student participants summary of the misconceptions about applied learning deals with having their peers regard the ALA school as being socially and structurally different and having many diverse definitions for applied learning.

When asked to give a definition of what applied learning meant to them many definitions were expressed. One student's definition is to learn by osmosis or absorbing rather than studying or memorizing. The phrase, applied learning, means it comes alive.

“The applied really sticks; it is not just a word” (Demarcus, 2008). “You actually taste it, touch it, smell it, and interact with it. You are learning the same thing, just in a different way” (Isela, 2008). Applied learning is an opportunity for students to learn outside the classroom and to apply basic skills in a *social* [italics added] environment, but that is not the final definition.

Several of the student participants said their high school friends thought that they had transferred from a special education school or an alternate school when they would tell them the name of the middle school to be the Applied Learning Academy. Using the word, academy, implies that the school is not a typical public school.

Parents Summary

Parents summary of the misconceptions of applied learning were fractures of the philosophy from new teachers, lack of vision and connection from the teachers and administration, and not understanding what applied learning really means in the classroom and with assessments.

One of the parents was concerned if “hands-on really pushes learning or is it just playing? Is it really learning”(O. Owa, 2008)? Fractures of the philosophy have been noticed due to loss of experienced faculty and replaced with inexperience teachers without applied learning background. If the new teachers are trained are they really buying into the system? Who is really clear on the definition of applied learning?

Rumors circulate on the school parking lot among the parents about the loss of the program due to straying from the original vision or having a lack of vision.

Discontent from the majority of the teachers on campus was expressed by several

parents. Parents no longer see a connection or support between this middle school and the applied learning high school.

One parent continues to explain to outsiders (family or friends) about applied learning and what it is not. “Applied learning is not for remedial kids or special children” (E. English, 2008).

Teachers Summary

The teachers summary of the misconceptions about applied learning refer to having too many outside influences pulling at the foundation of applied learning, individual school rather than a school within a school, lack of understanding the applied learning philosophy from the parents and new students, and regarding projects as just activities which consume time instead of filling a need.

For the high school, the teachers tried many different things to make the applied learning program successful. They tried to design a humanities team and a math- science team, and then a cultural team so the students could really use their talents and allow their special interest to develop from a rigorous curriculum structure. The high school administration would not allow the teachers to do this. The high school applied learning teachers had too many outside influences saying no. “It is a high school that has to do this or it has to do that” (O. O’Hara, 2008).

The applied learning high school program needed the strong leadership that the original applied learning schools had at the elementary and middle school level. “They never even had their own administrator. They just had a counselor. If they had their own

administrator that would then suggest it was a separate school” (O. O’Hara, 2008). So, for this high school it is a part of a school instead of a stand alone school.

Actually, it is a school within a school within a school. It ends up where they have so many different hands in the pot that they can not be true to any one philosophy especially at that high school because that school has so many programs within that school. The kids have too many choices that applied learning becomes not really part of their education. They are not taking applied learning to the next step. They are just working together in their core courses in a similar way, but not really true to the philosophy. The other faculty members at this high school did not want students missing their classes when projects were undertaken. There was little cooperation to get kids out of their classes. It was not a good atmosphere. The principal did not want a true applied learning program there, only on paper (O. O’Hara, 2008).

Concerning the misconceptions about the Applied Learning Academy several teacher participants agreed that too many parents do not understand what applied learning is all about. Even though the district lottery system is extremely fair, students and parents need to be aware of what the applied learning philosophy is and what the expectations are within the classwork and assessing the child.

Too many come to this school simply because it is small and safe. Parents should not send their child to ALA simply because it is safe. They should enroll knowing that portfolios will be used for assessment. If you are

going to do applied learning, certain skills should be taught at the elementary level (J. Johns, 2008).

There is loss of valuable class time trying to reteach students about portfolios and informing parents about the narrative reports. “More and more students coming to ALA can not work independently. They are like deer in the head lights. No longer can we send students out in the hall and work on projects” (D. Dunbar, 2008). Several teacher participants mentioned that the students have changed. The students are not self-driven. They do not seem to be able to have self-control by staying on task for school work or using their time wisely.

They start having too much fun with this *free* [italics added] non-structured time in class. A lot of energy is expended trying to manage the classes and not as much time spent for individual focus. A lot of times, these kids do not see it as a need to help with an applied learning project (G. Gomez, 2008).

Applied learning then becomes just a time consuming project rather than an applied learning project. “We can not be herding these kids all the time during passing periods” (D. Dunbar, 2008). It makes it very difficult to do the level of applied learning that is appropriate at the middle school level. Students should be removed with proper documentation when this school is not appropriate for a particular student. “ALA should have the ability to remove students who are not being successful at this special interest school. How can a student be evaluated if they continue to lose all important papers for the past 3 years” (J. Johns, 2008)?

Administrators Summary

The administrators' summary of the misconceptions about applied learning deals with the true definition of applied learning, student led project for an audience rather than a service learning or project-based experience, not an alternate school for the handicap student, and completion of a K-12 applied learning program during an appropriate time frame.

When asked about the definition of applied learning one administrator quickly said she was “not aware of any misconceptions” about this phrase and seemed puzzled that there would be (D. Dickens, 2008). Another administrator knew immediately the confusion came from the definition of having so many people define applied learning in their own terms when there is not one set concrete definition.

I think there are some critical factors that again can be negotiated to be the big one definition that has to be or not. I think that is has to be some kind of performance. The kids have to do something. You have to be able to look at it and revise it, judge it, and redo it. Critiquing has more knowledge (professional experts) in getting the student up to speed. That is where the performance and the ability to revise the work. It has got to be real work for a real audience not just some student academic adventure, even though some of those student academic adventures are contrived. It is the *semantics* [italics added]. This is not service learning or project-based instruction. There are a lot of names that get attached to this kind of work. It is kind of it and kind of not it (W. Wells, 2008).

One administrator considered that needing applied learning training continuously could be considered a misconception since teachers have the uncanny ability to copy anything which successfully works.

Teachers now who are at Alice Carlson are doing it (applied learning) and we haven't sent them through any workshops. They simply have learned through their buddies. They have learned from workshops on their own campus during shared times. So, we thought somewhere between year five and year eight, we would reach critical mass and then we wouldn't have to work so hard on maintaining it. It was either going to work or wasn't going to work. If we couldn't get to critical mass, then we are out of a job (W. Wells, 2008).

Three other administrators gave their opinion on the definition of applied learning by relating it to the final product outcome. One administrator compared it to a project-based learning experience *plus* [italics added] the students have an audience; they have a client. They are doing applied learning for a purpose, not just to create this project, but the project is actually going to be used for something. Applied learning is not merely service learning. Applied learning is taking parts of the curriculum and fulfilling those requirements by using student led projects. These projects are not driven by the teacher, the parent, or even a competition such as science fair. "Planting a tree is just as important, but it is not applied learning. That is community service not applied learning" (N. Nicholas, 2008). "It is going to benefit someone. It will increase their

sense of self-worth, not just creating this for a grade. What I am doing means something to society whether it is my school society or society at large” (D. Dubois, 2008).

Besides the many definitions of applied learning, a misconception about the applied learning school developed when the middle school first started. The majority of the original students who applied to come to the applied learning middle school were considered problem children in the traditional classroom.

They had to apply and within their application essay, phrases of I am not doing well in my school or I want something different and new. We got an abnormal amount of problem children who were applying to our new ventures. The trouble with that was, the students were now succeeding, which offered more opportunities to get more of the problem known as an alternate school. We wanted as many mainstream kids as the problem kids. It was going to take 3 to 5 years to stabilize this problem (W. Wells, 2008).

A misconception about applied learning is the public acceptance of the applied learning middle school. Many outsiders regarded the Applied Learning Academy as a school for the disabled or for the special education students since the second location of the school once was the school for the handicap students (N. Nicholas, 2008).

Another misconception about the applied learning program was the missing applied learning high school. Once the applied learning elementary students were ready to leave the elementary school there was an applied learning middle school waiting for them; however, once the middle school applied learning students were ready to leave the

8th-grade there was no applied learning high school to funnel these interested students through. The applied learning high school had always been on the original plan. “We were going to have a continuous program and the high school was going to be the last piece” (W. Wells, 2008). Yet, this continuous plan of a K-12 program fell through and “gave the ALA parents a feeling of abandonment by the district (N. Nicholas, 2008).

Applied learning classes at the technical high school had been ongoing on the campus since 1994, but the district did not label the high school with a special interest program of applied learning until 1999. Unfortunately, the high school principal “was not willing to spread applied learning throughout the entire school though this principal was willing to have this program exist at the school” (W. Wells, 2008). It was basically all talk and little action seen at this high school with applied learning projects by the students.

The high school applied learning program just came too late as the primary choice for the first, second, third, fourth, and even the fifth graduating class of the ALA student body due to the changing of one superintendent to another superintendent. This new superintendent’s main interest was focused more on high stake testing scores. The first group of applied learning middle school students who left ALA went to Paschal High School if that was their home school. As more students entered and left ALA, problems for an applied learning high school surfaced.

You can do without football, basketball games, cheerleading in middle schools, but most of the students wanted the true high school experience rather than continue with applied learning in

high school. We were losing a lot of kids who were not applying for the ALA high school because they wanted a *normal* [italics added] high school experience (W. Wells, 2008).

The transitional pattern of the student leaving ALA was now established to go to a more traditional high school. Paschal High School became a common pathway for the exiting ALA student by offering the strongest AP courses. Not many ALA students would go on to the high school applied learning program stationed inside a technical high school.

Misconceptions also came from other schools when accepting the ALA student and their academic files. Originally the students were given scores of 4, 3, 2, 1 on their final narratives and portfolios, but the traditional high schools needed percentage grades. “There was an irritating problem concerning the transfer of narratives into grades for the eighth graders when leaving for high school. Some high schools did not believe in the ALA grades when it was converted from the child’s narratives” (W. Wells, 2008).

Summary Results of Applied Learning Misconceptions

The summary results of the applied learning misconceptions involved:

(a) vocational or technical training instead of basic skills weaved into the core curriculum, (b) having student peers and the local community regard ALA as an alternate school for special needs (c) not generating a growing program due to the changing demographics, (d) project-based or service learning only rather than fulfilling a need, (e) fractures of applied learning philosophy and definitions, and (f) the lack of vision, connections, and a continuous applied learning K-12 program. In reality, most of

the misconceptions stem from the loose definitions of applied learning. Once the performance standards were published in 1997 for applied learning, the confusion should have been reduced.

Expectedly four of the five group participants, business associate, student, parent, and administrator mentioned a misconception of applied learning due to the name of the school. When hearing the Applied Learning Academy each group considered the school to be private, special education, gifted, or more than likely an alternate learning center for troubled youth. Student participants would tell their new friends in high school and get unusual looks from the faces. Parents would tell family or friends about the Applied Learning Academy and would then have to explain what the school was about. One business associate considered the students to be special or gifted when he was invited to be a guest speaker for an applied learning project.

Another misconception about applied learning is the definition given by all the group participants. Each participant would define applied learning in their terms rather than give a textbook definition. The business associates referred to applied learning to technical or vocational learning. Students considered applied learning related to service learning and project-based learning or using all your senses for socially learning. Some parent participants knew there were connections to real world applications while one parent participant considered applied learning as playing. Teachers and administrators were the closest to defining applied learning by revising work and having an outside audience, but these participants also gave different definitions.

Three groups, parents, teachers, and administrators considered the applied learning high school to be a misconception. Since the high school program was implemented very late parents thought the district lacked the applied learning vision. These groups also said there was little connection between the high school program and the applied learning middle school program.

Individually some of the group participants gave interesting comments about applied learning misconceptions. Teacher participants think a misconception about attending an applied learning school is not for the philosophy, but for the small and safe campus. The business associates said applied learning should continue to change since your clients (the public) are changing while one administrator said there are no misconceptions about applied learning that she was aware of and was surprised with this question during the interview.

Compilation of Results

In summary the factors that affected the success of ALA to have high reading and math TAKS scores were: (a) curriculum nurturing applicable skills, (b) parental involvement, (c) dedicated teachers, (d) small size school, (e) community involvement, (f) application of cognitive development for the child, (g) continuous program from K thru 8th grade, (h) connections, (i) open-minded and futuristic thinking, (j) leadership, and (k) opportunities provided from the real world. It is notable that curriculum was the one factor which occurred across all five subgroups of participants. Teaching to make connections, teaching necessary skills, or teaching for real world applications was the

overall factor for the applied learning success. It should also be noted it is not just what is being taught, but the how of teaching which was brought out by the participants.

In summary of the results for the benefits from the applied learning method are: (a) being part of a community, (b) working with partnerships, (c) project-based curriculum with real audiences, (d) acquiring applicable skills, (e) learning how to learn (f) having teachers as facilitators, (g) freedom of choice, (h) being able to think outside the box, and (i) relationships. To condense the main benefit of the applied learning brings in the community which satisfies the basic requirement of fulfilling a need for an audience.

Many barriers were discussed by all participants giving rise to the effect that applied learning is not an easy path to follow. Examining the summary results of the drawbacks of applied learning are: (a) lack of high school immersion with the applied learning method, (b) shallow or inconsistent assessments, (c) lack of commitment and understanding from the students, parents, and teachers, (d) dictated curriculum and textbooks, (e) difficulty teaching applied learning, (f) loss of partnerships, (g) loss of small size within the classroom and the building facility, and (h) scheduling problems with block classes.

The summary results of portfolio adjustments from all the groups are: (a) complete ownership of the students learning, (b) more engagement between student and parent during assessment time, (c) portfolios are harder to do when compared to report cards, (d) portfolios display a visual growth and achievement more so than a report card, (e) standardization of portfolios is difficult, (f) redundancy of students'

reflections can be seen if the student has little understanding of cognitive application, and (g) the goal of the portfolio is to demonstrate the students growth and improvement over a time span rather than a show and tell display. It is the portfolio assessment which can give a visual display of the student's growth rather than an end of the year exam.

The summary of the results of project-based learning from each groups are:

(a) learning to negotiate and delegate tasks by team working, (b) promoted critical thinking and internal questioning, (c) better connections to the real world since working with adult models, (d) more meaningful work rather than paper drills, (e) students can visually see their mistakes or failures easier when rubrics are used for project-based evaluation rather than traditional tests or worksheets, and (f) the transition for the student leaving project-based learning to the traditional classroom was easier due to the lower quality of work that was required at the end of each reporting period. Project-based learning permits group work and problem solving so students can become acquainted with today's problems.

The summary of the results of community partnerships are: (a) critical connections in the classroom come from community partnerships, (b) students experienced other cultures, opportunities, and mindsets, (c) stimulated student learning, (d) promoted continuous volunteering for the student in high school and college, and (e) helped the parent to become more involved with the school creating a sense of a community within the classroom. It is the community partnerships which reinforce the walls for any applied learning classroom.

Summary of the results of the business associates impact with applied learning:

(a) initiated the C³ program, an national award winning program, (b) helped develop lesson plans of desired skills for the students, (c) initiated applied learning through the Vital Link program, (d) advised students to be adaptable by always learning new skills, (e) advised partnerships should go deep with the school commitment rather than skim the surface to prevent the underestimation of the value which business associates provide for the school, and (f) the business associates partnership's goal is to make the critical connections which are so important for the classroom. The business sector of any city can tie in the vital connections for the student.

The summary of the results of the applied learning impact on FWISD are:

(a) starting the C3 program in Fort Worth which created Vital Link, Tech 2000, and Applied Learning, (b) the quality of teachers which brings in a variety of nontraditional teaching methods and curriculum, (c) the relationships which developed due to the family oriented faculty, (d) small school building with block scheduling for a year-round schedule, (e) total school immersed K-12 curriculum which does not focus on the state testing, (f) city wide and nationally recognized school program, (g) continuation of John Dewey and Lauren Resnick's philosophy, and (h) providing excellent applied learning workshops which stimulated the growth of the teacher's mind to think outside of the box.

The summary of the results of applied learning misconceptions involved:

(a) vocational or technical training as applied learning instead of basic skills weaved into the core curriculum, (b) generating a growing program since the audience is changing,

(c) having student peers and the local community regard the ALA school as an alternate school or a safe school, (d) too many definitions of applied learning as project-based or service learning only, (e) fractures of applied learning philosophy, and (f) the lack of vision, connections, and a continuous applied learning K-12 program. Misconceptions develop from any misunderstood idea; therefore, communication between all subgroups must remain open.

A table illustrating the highlights is submitted to condense the results from this study (see Table 11). Two of the research questions (questions seven and eight) were not included since these questions were focused within the Fort Worth area. It should be noted that the drawbacks of applied learning could be looked at as internal and external problems rather than an applied learning problem. For example, scheduling problems and shallow assessments would be considered an internal problem which the school can learn to fix and work with. On the other hand, dictated curriculum is nonnegotiable, but how the instructor carries the material over to the classroom is negotiable. Lack of commitment from the teachers, parents, or students and decrease of partnerships could be considered both internal and external since lack of communication is probably the reason for these two drawbacks.

Table 11

Highlights of the Results from Applied Learning

Successful Factors	Benefits	Drawbacks	Portfolios	PBL	Partnerships	Misconceptions
Applicable curriculum connections	Belonging to community	Lack of school immersion	Increased engagement	Negotiate	Connections	Vocational training
Parental & community involvement	Networking with partnerships	Shallow assessment	Harder	Increased critical thinking	Experiences	Changing audience
Small size	PBL with real audiences	Lack of commitment	Increased metacognitive skills	Meaningful connections	Stimulates learning	Alternate school
Metacognitive assessment	Applicable skills	Dictated curriculum	Standardization is difficult	Rubric needed	Promotes volunteering	Service learning
Continuous program	Metacognitive development	Difficult	Redundancy	Higher expectations	Creates communities	Lack of vision
Leadership	Facilitators not teachers	Loss of partnerships	Ownership	Increased interaction		Loss of K-12 program
Open-minded	Choices	Increased size of school				Lack of communication
Dedication	Outside the box	Scheduling problems				Idle program
Relationships	Relationships					Fractured philosophy
Opportunities & careers						Diverse definitions

CHAPTER V

DISCUSSION OF RESULTS

Found within the words from a dedicated Fort Worth educator, “educators are always looking for the next best thing” (W. Wells, 2008). Many school districts continue to buy into educational gadgets, upgrade classroom technology, and strive to improve teacher training during the required in-service days year-round. Fort Worth ISD teachers now have their curriculum posted on the district’s web site for easy access. Promethean ActivStudio Boards were installed in almost all of the FWISD classrooms providing the teacher with a large mounted screen, computer projector and electronic capability to allow students to digitally write, use flip charts, or design easy interactive lessons which can target the critical student essentials for the TAKS test. Downtown administration have been designing stimulating class lessons using technological activities linked with short film clips for total class immersion and participation for the Promethean ActivStudio Boards.

FWISD students are able to save all electronic documents on their personal accounts from Renzulli Learning Systems, a program from the University of Connecticut Research and Development Corporation Company (Renzulli Learning Systems, 2009). Students have the capability to download their work from home or school to eliminate lost papers. Teachers can electronically upload homework assignments, announcements, and submit extra work for particular students through this Internet service. These Renzulli accounts allow the students to have electronic portfolio availability.

FWISD science teachers are now being trained in the Kilgo levels of questioning. Kilgo deductive and inductive questioning focuses on studying TEKS student essentials from the viewpoint of the TAKS content. Examples of the TAKS questions have been analyzed, classified, printed out, and placed in a large spiral notebook for the teachers to use and study. The program keeps reminding the teachers that “it is not teaching to the test, but focusing on teaching and assessing the curriculum”(Kilgo Consulting, Inc., 2007, p.1).

Workshops guided by the Institute for Learning are now absorbed into the mainstream of the Fort Worth classroom under the direction from a new FWISD superintendent (University of Pittsburg, Institute for Learning, 2007). Teaching the student to ask higher level questions for deeper inquiry is just one of the goals that FWISD wants to achieve for their student community.

The Fort Worth ISD teachers have these resources and the technology to improve any lesson, but will the students' TAKS scores increase at an acceptable level for each school? Will these new strategies bring up low performing schools in Fort Worth or does applied learning have the best solution?

The purpose of this research was to study the pedagogical and philosophical strengths of applied learning in order to confirm and inform the district, state, and national curriculum department of any correlation between the standardized testing scores and the evolutionary changes within an applied learning school through a qualitative account. The impacts of a new reform by promoting applied learning within

any classroom or undo completely the applied learning program at the micro level will also be discussed.

The rationale for studying this small school is to analyze what factors contribute to the success of ALA. This study provides an opportunity to learn from parents, past students, who went through this applied learning program, and teachers, administrators, and business associates who helped design and implement this program. This study determines if the school has changed from the original model of an applied learning school. The initial assumption was that by providing a rigorous curriculum within the sciences and math department was what kept the school so successful, but from the results of an original pilot study those assumptions were not fully supported. The small size of the school and classrooms created a safe, home-like, family atmosphere was the central theme repeated from the past students' and parents' discussions about the original ALA school.

Review of Research Questions

Looking again at the original research questions:

1. What are the factors that may have contributed to the success of The Applied Learning Academy with high reading and math TAKS scores?
2. What have been the benefits of the applied learning method for the administrator, teacher, student, parent, and business associates?
3. What have been the drawbacks of the applied learning method for the administrator, teacher, student, parent, and business associates?

4. How did the past students adjust to a traditional school concerning portfolios once they left the Applied Learning Academy?
5. How did the past students adjust to a traditional school concerning project-based learning once they left the Applied Learning Academy?
6. How did the past students adjust to a traditional school concerning community partnerships once they left the Applied Learning Academy?
7. For the business associates, how did they impact the Applied Learning Academy's educational program?
8. How has the applied learning program impacted the Fort Worth Independent School District?
9. What are some of the misconceptions of applied learning?

To answer these questions, 32 participants representing five subgroups who are central to the applied learning program were selected: the business participants who helped with the establishment of the community to school, the students who were trained in the applied learning classrooms, the parents who selected to send their children to this special interest program of applied learning, the teachers who desired to teach under the applied learning roof of education, and lastly, the administrators who worked to maintain this educational method of teaching were interviewed. Participants in the study were economically, racially, and academically distributed representing a true cross-section of Fort Worth's demographics. Summary results are reported for each of these research questions by examining the overlapping comments from the selected participant groups.

Each of the responses will be discussed and narrative samples will be brought out along with examples from the literature cited.

Successful Factors Affecting Applied Learning Academy's Tests Scores

The first research question asked what may be the factors that might have contributed to the success of the Applied Learning Academy with high reading and math TAKS scores. A summary list of the factors that affected the success of ALA to have high reading and math TAKS scores included: (a) curriculum, (b) parental involvement, (c) dedicated teachers, (d) small size school, (e) community involvement, (f) application of cognitive development for the child, (g) continuous program from K thru 8th grade, (h) open-minded, adaptable, independent, and futuristic thinking, (i) relationships developed in a comfortable environment, (j) leadership, and (k) connections and opportunities provided from the real world. Examining the successful factors shows that a classroom cannot be self-sufficient.

Discussion of Summary Results of Successful Factors Affecting Applied Learning Academy's Tests Scores

Curriculum

The data showed that curriculum was a driving force for an applied learning classroom. It is notable that curriculum was mentioned across all five subgroups of participants. Teaching to make connections, teaching necessary skills, allowing the students and teachers to have freedom in choosing the curriculum, having hands-on activities, project-based learning, or teaching for real world applications were the overall factors for the applied learning success. The curriculum was designed by the teachers

from the interests of the students, but knowing it met the National Standards requirements. It was required for all students to read and document 25 books each year in order to keep the reading skills strong. In the beginning all students were allowed to select their own books promoting reading to the most reluctant reader.

Parents saw the applied learning curriculum as a wrap around curriculum which gave the student ownership since the curriculum was adaptable for that particular student. In other schools, only the gifted students are allowed to do special projects, but at ALA “all students get to do special things no matter what” (N. Nicholas, 2008).

Starting with the published work in 1902 of John Dewey’s, *Child and Curriculum*, the strength of any educational program is the curriculum. Curriculum that ties in with the community (Delpit, 1995; Rogoff et al., 2001; Taba, 1962; Tyler, 1949; Wenger, 1998), curriculum which keeps the students’ hands-on with activities and projects (Deters, 2005; Drennon, 2005; Hademenos, 2006; Lipka et al., 2005) or curriculum which involves a higher level of critical thinking (Barron et al., 1998; Delisle, 1997; Deters, 2005; Kilpatrick et al., 1926; Krajcik et al.,1998; Newmann et al., 1996; Schank, 1993) can mould a classroom so students are excited about learning.

Parental Involvement

A unique feature which promoted success was the strong parental involvement. All participant groups expressed the parental pushing of the student to excel and the parent commitment to help the student and school was important. The middle school years are a turning point in the student’s life when they begin to emerge out of the childhood into teenagers. Having parental involvement is difficult when the student is

beginning to exert their independence, but knowing that the parent will be attending the portfolio conference manages to keep the student bonded firmly to the parent.

Most of the students regarded parental involvement as part of ALA being successful. Parental involvement was important for the elementary and middle school years since, “you learn as much from your parents as you would from your teachers” (Enrique, 2008).

The support of the literature comes from the conceptual drawing of Dewey’s ideal school (Dewey, 1900/1990 p.73) where Dewey envisions home life curriculum should merge with the school curriculum allowing a smooth transition between these two environments. Other literature to support the parental link in order to strengthen the child’s education would be the 1762 writing of Rousseau’s *Emile* and more recently Rogoff, et al. (2001) *Learning Together*. Federal education has been passed by the legislation with NCLB assuming that K-12 schools can operate sufficiently to raise the educational level of the impoverished child, but 40 years of research has shown this assumption is drastically false without family involvement, after school and summer programs, and new projects with school partnerships. These recommendations to improve children’s success in school were reported by Weiss, Little, Bouffard, Deschenes, and Malone (2009).

Dedicated Teachers

Creative and dedicated teachers were another factor for success expressed by the students, business associates, and teachers. From the teacher participants the majority thought the success was pointing the finger back at them. This is not a narcissistic

statement. The success for any business is dedicated and hardworking employees. The same is true for the business of education. Having dedicated, determined, creative, and connected teachers would be the explanation of Applied Learning Academy's success in their high reading and math scores. These teachers were allowed to teach combined classes of science with math and history with language arts causing a unified program.

Based upon the literature reviewed, the teacher must step away from the dictating role and become a student again (Bailey, 2005; Kozol, 1985; Levin, 2001; McLaren, 1980; and Pintrich & Schunk, 1996). Teachers need to listen to the student and make them feel what they have to contribute to the class is needed (Finkel, 1999; Haberman, 1995; and Shor, 1992). The knowledge to admit that the answer is not known and seek out the answer with the student allows the teacher to permit the students to think outside the classroom box (Naumburg, 1928).

Small Size School

Another successful factor is the small size of the school which provided a comfortable, safe environment to develop relationships. Parents regarded ALA generating a family quality atmosphere while most of the students agreed it was the dedicated, creative teachers and administrators who allowed relationships to develop. "Smallness makes a big difference" (W. White, 2008). This uniqueness was spread by word of mouth and loyal parents were committed to the school. When the parent, teacher, and student buy into the program then a true interlocking chain connection is made for the school. This connection established the necessary foundation for

relationships to grow. These relationships were maintained by the pockets of excellence demonstrated from the ALA teachers and administrators throughout the 1990's.

A small, safe facility allowed relationships to grow was expressed early in 1902 with Dewey's conception of a child's classroom and also noted by Dennison (1969), Hammack (2008), Kafka (2008), and Semel with Sadovnik (2008). Later these relationships developed a different viewpoint when the feminist movement took a hold of the educational scene in Brock-Utne (1985), Chodorow (1978), and Gilligan (1982). Women were given more of a voice to express themselves and men had the chance to accept women on the same playing field as their equals inside the school house. Devlin-Scherer (2005), Diffily & Sassman (2002), and Pratt (1948) expressed the need for real learning by relationships developing between the students and the teacher when projects were created. Without a relationship shared between the teacher and student, the classroom remains a sterile environment with little exchange of dialogue (Maroulis & Gomez, 2008).

Community Involvement

Community involvement was another factor for the success in applied learning. Students knew it was the teacher who initiated the collaborations within the community, but it was the student who had to work with the partnerships all year. Community experiences outside the classroom made everything come to life for the student. The small campus and student body allowed an inner community to build with a family atmosphere within the classrooms. ALA community involvement required that the

parents and students commit to 20 volunteer hours each year for the school.

Documentation of these hours was kept in the office or in the students' portfolios.

Community involvement for educational success can be read early in the history books from Bagley (1932), Dewey (1900/1990), and Cremin (1964). Keeping the community involved with the educational system is just as important today as it was during Dewey's time. Allowing the school and students to work with the surrounding community with project-based activities was mentioned in Barron et al. (1998), Brown et al. (1989), Cummins (1986), and Delpit (1995). These projects kept the students more active and interested to be involved with the community and school (Weiss et al., 2009). There can not be separate walls between these two systems if the school's goal is to truly educate the child.

Application of Cognitive Development for the Child

Cognitive development of the child is another critical feature for applied learning success. Two groups, students and administrators, made an important comment concerning what brought out the success of ALA was teaching the student to become responsible by learning how to learn. Allowing the child to make decisions and express their academic growth from their portfolio conferences made their education very successful which built the student's self-esteem and confidence. "The school helped the student find who we really are. You are not just a student, but you are you. You are responsible for your down falls by not redoing the work" (Tablisha, 2008). Students were not isolated numbers on a test or a report; they were voices to be heard when presenting their academic growth. "I was taught how I could approach my thinking. How

I could approach my learning, but like on my own terms” (Liliana, 2008). Applied learning was more visionary and futuristic about metacognition.

Watching the child develop inside the classroom gave the progressive moment a chance to document this creative expression of artistic growth in Hartman & Shumaker (1939) *Creative Expression: The Development of Children in Arts, Music Literature, and Dramatics*. Bransford et al., (2000), Deters (2005), and Freire (1990) wrote that students must have their freedom to explain their opinions or what they have learned. Kramarae & Treichler (1990), Lave (1988), and Shor (1996) provided the literature to reinforce the educational strength when the student can see, understand, and explain their academic growth. This is the empowerment needed for the classrooms when a student understands how they learn.

Continuous Program from K-8th Grade

Early and continuous indoctrination of the applied learning program is a factor for the applied learning success. “Hook your customers early” (C. Cornwall, personal communication, October 3, 2008) is a good marketing skill. Mead (2007) recommends starting educational programs in pre-K. A strong continuous K-8 applied learning program was developed for the student while the applied learning high school never really achieved the level of success as the elementary or middle school did.

Early childhood education was introduced in 1631 by Comenius (1956). Dewey and Parker adapt Comenius’ childhood training techniques and share their own understanding on how young child learn (Dewey, 1902/1990). One of Dewey’s students, Ms. Pratt, continued with this progressive childhood education with her publication

(1948), *I Learn from Children: An Adventure in Progressive Education*. During the 1970's the educational world was swept away by the profound learning steps of a child by Piaget's theory and his own study of his child explained in Ginsburg & Opper (1979) *Piaget's Theory of Intellectual Development*. Bransford et al. (2000), Brown et al. (1989), Coleman (1981), and Diffily & Sassman (2002) show the importance of early childhood education with activities and projects to keep the young mind involved. Once the child and parent are pleased with the outcome of any educational program, repetition and continuation is natural.

Open-minded, Adaptable, Independent, and, Futuristic Thinking

Success for applied learning came from the student body and faculty who had open minds, independence, and adaptable thinking. Students expressed the need to have the skill in being open-minded and adaptable when it comes to group work. Negotiation must be undertaken since big projects took many hands, minds, and weeks to complete. "People were more open-minded to different people from different backgrounds. It was not boring since we were pushed to think outside the box" (Karen, 2008). With so many classes working with group projects, the ALA student had to learn to be adaptable.

From the literature cited, Finkel (1999), Forcey (1995), Freire (1998), and Giroux (2007) discussed the importance of having open minds to accept the independence of the student and their particular pathway to learn. Brown et al. (1989), Delisle (1997), Devlin-Scherer (2005), and Dew & Waggoner (1993) wrote that education should be more real for the student instead of learning from a two dimensional book page. Students

can be more involved with the school when allowed this freedom to expand their thoughts and act upon their ideas or projects.

Relationships Developed in a Comfortable Environment

Having a teacher who understood that personal one-on-one relationship with a student and who really cared about the student's progress was a comment shared by all the students. It is common sense if the grade book has only 70 student names rather than 150 names that more attention will be given to the child. ALA provided a small environment where the student could be nurtured and supported to build their self-esteem. Conferences were held throughout the year with the student and with the student and parent during the child's assessment because of narratives and portfolio conferences.

Many educators have suggested that building relationships between students and teachers are critical. Relationships were discussed in the writings of Gilligan (1982), Lorber (2000), and Salner (1985) through the feminist theory; however, relationships should not be condensed to female to female. An open discussion with free-thinking dialogue for any age and gender must begin with an open relationship (Huang, 2009).

Leadership

Strong leadership is a factor for success in any given system. With a strong teaching staff and a strong leadership, the Applied Learning Academy was a step above other schools. The original principal who helped with the planning of this middle school remained at this position for 12 years. Not only as an administrator, but this principal kept her foot firmly planted in the classroom to remain in touch with the students. The students knew her office door would be open for them. The vice principal followed this

same pattern. Half of the day the vice principal would teach math in the morning and in the afternoon administrative duties would be implemented. Two administrators kept themselves inside the classroom to help teach the language arts/writing and math for over 10 years. This line of communication kept the close connection open for the student to parent to teacher and to the administrator. Even though two groups, teachers and administrators, expressed the importance of leadership for the success of applied learning, these two subgroups were the driver gears to keep the entire applied learning machine running smoothly.

As discussed in the literature of Cunningham & Cordeiro (2006), Parker (1915), Shor (1992), and Utley (1926) strong, educational leadership stabilizes a school. Rare is the find when a public school administrator still teaches inside the classroom, yet these privileges are seen in private schools. Miller, Shambaugh, Wimberely, & Robinson (1995) write about the ability of an administrator to continue teaching by securing outside partnerships for a public school. By keeping the administrator tied to the classroom, stronger bonds were created between the student and administrator which can lead to a successful school.

Connections and Opportunities Provided from the Real World

Connections and opportunities from the real world added to the success of applied learning. The business participants agreed that meaningful tasks, not TAKS driven tasks, should be taught. Students must be able to think on their own, not to be told what to do all the time. Project-based curricula can provide this skill to develop. Classes allowed the student to have open discussions to problem solve, think out loud or outside

the box mentality, share and present ideas to each other or to a panel of judges, and work together are important factors. Connections came from life skills such as conducting real interviews, designing resumes, volunteering at community partnerships, having professional portfolio conferences, and the development of research and socialization skills. “Applied learning made a lot of connections and grounded the kids better with stronger reading skills” (W. White, 2008). Students knew their selected portfolio work would be their final evaluation from the school rather than just an end of the year exam. The administrators thought by providing so many opportunities for the students of real work to a real audience made ALA successful in the reading and math TAKS scores.

Historically, Bagley (1938) continued with Dewey’s work to bring in the community to make the connections of school work. Anyon (1980), Aronowitz and Giroux (1985), Giroux (1987), Metz (2009), and Munakata (2005) discussed the importance of going beyond the classroom walls to make modern day connections of real world applications for all students, not just the upper middle class students. With these connections, educators are enlightened that students learn best through social learning as reported by Bandura (1977) and through situated learning explained by Lave & Wenger (1991).

As an applied learning educator, “experience is the best teacher and we allow the kid to own the experience and to own their learning” (W. White, 2008). These real world experiences enable the Applied Learning Academy to be successful.

Summary Results of Successful Factors Affecting Applied Learning Academy's Tests Scores

The successful factors for the high reading and math scores of the Applied Learning Academy include: (a) curriculum, (b) parental involvement, (c) dedicated teachers, (d) small size school, (e) community involvement, (f) application of cognitive development for the child, (g) continuous program from K thru 8th grade, (h) open-minded, adaptable, independent, and futuristic thinking, (i) relationships developed in a comfortable environment, (j) leadership, and (k) connections and opportunities provided from the real world.

Textbooks are not the pivotal source for learning if the student and teacher bring in research skills to apply what is needed from the required curriculum. Parental and community involvement are found just outside the school walls. It was important to note that there was complete agreement among the participants that curriculum was extremely important to the success of applied learning.

Almost all of the groups brought out the importance of the creative and qualified applied learning teacher. Whether the curriculum drives the teacher or the teacher and student drives the curriculum, any innovative program must be handled with skilled hands as if it was like a conductor with a new symphony. The instructor teaches and makes the necessary connections so the students can become their own masters of learning.

All of the groups mentioned parental involvement as a successful factor. It does not matter what school of choice the student goes to as long as the parent is behind their

child pushing, encouraging, assisting in anyway they can. The child can learn from the parent just as much as they learn in school.

There was also a great deal of agreement between the groups that a small, safe school made it a comfortable environment to be more open-minded and allow acceptance of thinking outside the box with different ideas. Students were more involved with the school when given this freedom to expand their thoughts and act upon their ideas or projects inside the classroom or outside the school walls. Because of the small school size, the student body ratio between the faculty was also manageable which helped build relationships. Block scheduling combining one teacher for math/science and another teacher for language arts/social studies also created a stronger bond between the teacher and student. The teacher could see then these students through different lenses when another subject matter was being introduced.

Two of the groups brought out the importance of strong leadership within a school. The leadership found at Applied Learning remained in the classroom to stay close with the students. These administrators knew the students on a daily basis rather than seeing them just for an office visit; therefore, relationships developed which reinforced the connection between the subject material being taught of math and language art. This then could be the underlining fact of the successful factor for high reading and math scores for the Applied Learning Academy.

Interestingly, these successful factors for applied learning are not always the latest gadgets or newest computer programs. Most of the successful factors appear to be

old fashioned advice which should not strain a school budget and could be implemented in many schools if the right support system was in place.

Benefits of Applied Learning

The second research question dealt with the identification of the benefits of applied learning. A summary list of the benefits of teaching the applied learning method are: (a) being part of a community (b) working with partnerships, (c) project-based curriculum with real audiences, (d) acquiring applicable skills, (e) learning how to learn (f) having teachers as facilitators, (g) freedom of choice, (h) being able to think outside the box, and (i) relationships. Clearly the identified benefits build on the factors of what makes applied learning successful.

Discussion of Summary Results of the Benefits of Applied Learning

Being Part of the Community

One major benefit from the applied learning method brought up by all the group participants was community involvement. To see the importance of volunteering for the local community, the application of their classroom skills, and meeting professionals for future networking benefited the student. ALA opened up more worlds to the students when compared to the other middle school students. Allowing the students to be involved with the community generated wonderful memories which were still shared by the students. The ALA students who became involved with the community in middle school continued to be involved with the community in high school. The students enjoyed staying active and helping out. Another benefit for the students by getting involved with the community was having field trips, but the “field trips were more

meaningful since it actually dealt with what they were doing in class. It was not a reason to get out for class, but a reason for the class” (Liliana, 2008).

Many educators have suggested the development of the community goes with the educational process in Dewey (1938; 1900/1990; 2002), Hooks (2003), and McCombs (1996). Schools working with the community are supported by the literature from Bransford et al. (2000), Rogoff et al. (2001), and Urban & Wagoner (2004). Washburne (1952), Wenger (1998), and Wigginton (1979) support that a school cannot keep their doors closed from the surrounding community. This relationship can be a true symbiotic existence to benefit both parties when the schools and community work together.

Working with Partnerships

The benefits of applied learning provided the student with unique opportunities to work with local companies, museums, and organizations. Working and learning with the professionals outside the classroom allowed many opportunities for the student to apply their skills and acquire knowledge. Young students worked shoulder to shoulder at Alice Carlson with the architects when it was time to design their new playground. The children knew what they wanted and needed. They learned from the architects what could and could not be done.

Not only did the students benefit working with partnerships, but the teachers were able to work alongside with the business sector developing lesson plans from the C³ survey. Partnerships throughout the Fort Worth community were established with the networking from the ALA faculty or parents of the students. Benefits from these partnerships gave the teachers new ideas on the needs of the community and these

partnerships provided the parents with needed volunteer hours by chaperoning and shuttling the students from school to the partnerships.

Community partnerships may not always be positive for the school due to the necessity of acquiring corporate sponsorships because of the lack of educational funds (Giroux, 2007) or learning about the ills of society (Rousseau, 1967); however, the majority of the literature in Metz (2009), Miller et al. (1995), Schank (1993), and Schank et al. (1993) were favorable to seek out partnerships in order to find a problem within the community so the students could help find a solution. This is the need or a reason to motivate the student to learn (Barron et al., 1998; Ediger, 2001; Haberman, 1995; McCombs, 1996; Pintrich & Schunk, 1996).

Project-based Curriculum with Real Audiences

Academically the students were pushed harder (pushed outside the box) in this middle school when compared to their high school. Problem solving was a major theme throughout the students' opinion. All students agreed that hands-on learning with one-on-one instruction were beneficial at ALA. Students were given hands-on, project-based, student-directed learning rather than a one dimensional, test driven, teacher-centered classroom.

Several parents referred to applied learning as a “method to see how we can help and learn from our experiences since it is hands-on learning rather than just read about it” (B. Bell, 2008). The program applies to something external so it gives a reason and meaning to an audience. “The students are learning for a reason” (O. Owa, 2008). ALA makes the connections with classwork and gives the kids more responsibility to

experience and function in the real world. “The school allows learning to be fun with project-based hands-on learning and parents see their children excited about their own work and having the ability to talk about it” (B. Bell, 2008).

Teachers regarded ALA provided intense academics through team teaching and having a third party being present for the final student evaluations or project presentations. Outside judges were brought in to evaluate the honor art students’ portfolios each year for high school credit while the science department requires Lockheed Martin or RadioShack employees to come judge the motorized car competition each year at ALA.

Barron et al. (1998), Delisle (1997), Drennon (2005), and Knopke et al. (1986) explain the significance of project-based curriculum to eliminate the boredom of school work. Much of the significance comes from the interactions between the student and teacher role (Evensen & Hmelo, 2000). Stumbling blocks can result using project-based curricula as mentioned in Boud & Feletti (1997) and Kilpatrick et al. (1926), but this goal based target nurtures the independent thinker (Schank, 1993; Schank et al., 1993). A comparison between the age groups of elementary children (Diffily & Sassman, 2002) and the middle school years (Krajcik et al., 1998) for project-based learning is brought out, but no matter the age the learning curve is increased. Proven with case studies, (Lipka et al., 2005), project-based learning should be implemented in all schools for all subjects, not just in applied learning schools.

Acquiring Applicable Skills

The other main benefit of the applied learning method expressed by the participant groups, administrator, teacher, student, parent, and business associate was the unique and professional curriculum started by the SCANS Report which tied into the National Standards. The parent group called it the wrap around curriculum giving a reason and meaning to the student, teacher, or any audience. Some of the parents saw their children learn by using academic skills in a project to refine these skills, hone those skills, and perfect those skills. Applied learning also has team work and project management components that are valuable to most professions.

The benefits for the business sector when applied learning is used would be a stronger work force once the students leave the classrooms. Students leaving the secondary schools and going directly into the working environment would have the knowledge on cooperate learning and task management skills. The business associates regard the students coming out of high school not knowing how to think outside the box. Applied learning is beyond what the main business of business is or what the business of education is today. It was applied learning “that made The College Board include the writing section on the ACT and SAT exams to apply the skill of writing by each student” (H. Henry, 2008).

Several of the students agreed that ALA prepared them for college better than high school due to the leadership, organizational, and study skills which were taught to them. Becoming self-sufficient inside the classroom was what ALA instilled for all students. These concepts were brought to the students by introducing projects with

money budgeting, working within a timeline, watching the progress of a product, and completing a product set at a particular deadline.

Educational reformation for apprenticeships (Best, 1962) initiated the need to learn applicable skills; however, even with the classroom scene changing to modern times learning the necessary skills is applied learning (Berube, 1994; Goodman, 1960; Knopke, 1986; Kozol, 1990; Willis, 1977). Teaching for real learning (Brown et al., 1989; Devlin-Scherer, 2005) may be called many different things, but this is the education which applied learning follows. Solving in-service problems for teachers (Dottin & Weiner, 2001) or putting together student portfolios (Pollari, 2000), learning applicable skills is necessary at any age for any career.

Learning How to Learn

Other benefits shared by four of the five groups was the skills which the students were taught and used such as thinking for themselves, communicating in a professional manner, and organizational skills seen when creating their portfolios for a presentation. The parents noticed their children learning how to learn. “Applied learning is learning to learn which is centered on applying your knowledge or the applications of what you are learning. It assess and promotes you trying to explain and do things” (O. Owa, 2008).

Students were allowed to express themselves more freely and develop their self-will or independence through self-reflections and projects. Self-sufficiency was instrumental for the student to be aware of inside the applied learning classroom. Different learning styles was emphasized and brought out in the classroom so each child

could develop to their potential. The applied learn method provided a favorable environment for learning.

How the student learns can begin the journey of acquiring knowledge (Ginsburg & Opper, 1979; Lave, 1988; Lave & Wenger, 1991; Resnick, 1989; Vygotsky, 1978, 1986). Whether the child learns socially or individually through daily life skills and experiences learning how to learn should be taught (Bandura, 1977; Bransford et al., 2000; Buttigieg, 1992; Comenius, 1956; Dennison, 1969; Dewey, 1902/1990). It is one thing to tell a child what to learn, but it can be more of a lasting experience if the child wants to learn and knows how to learn by applying the necessary skills to achieve their personal goal (Hademenos, 2006; Kozol, 1985; Shor, 1992; Villaverde, 2008).

Having Teachers as Facilitators

Three groups, parents, teachers, and administrators added to the benefits of applied learning was the removal of the teaching role and teachers becoming more like facilitators. The role of teacher is turned around completely and switched to being a facilitator or academic coach rather than being the total authoritarian. The loss of dictating would then pave the way for relationships to develop. All of the teacher participants knew their role as an authoritarian had to disappear if they wanted to become applied learning teachers. By losing the teaching role, problem solving is truly necessary since the teacher no longer has all the answers and more of collaborative partnership developed inside their classroom.

Most of the parents regarded the core teachers as the pillars of the school. They considered these teachers more like coaches rather than teachers since students were

given choices. Teachers were not telling their children what to do all of the time, but allowing their children to decide what books to read, what yearlong project to study, or which partners to work with.

Empowering the student gives the voice back to the student (Finkel, 1999; Haberman, 1991; Haberman, 1995; McLaren, 2007). When the teacher steps out of the lecturing mode to listen and learn with the students, banking education can be dissolved (Freire, 1990; Freire, 1998; McLaren, 1980; Shor, 1987). This release of power permits more of an exchange of ideas inside the classroom (Delpit & Dowdy, 2002; Kramarae & Treichler, 1990).

Freedom of Choice

Teachers and students both agreed that the benefit of applied learning was the freedom of choice and voice which could be displayed inside the classroom. For the teachers the benefit was the freedom and creativity to follow what your students really wanted and needed to learn. Most of the teachers agreed that allowing the student to have more freedom in class gives the students the opportunity to think for themselves whether it be right or wrong. This freedom of choice also allowed collaborative partnerships to develop between teachers or outside the classroom with the community which applied the students' skills to make real world connections. "The number one benefit is the outcome for the student. You get excited for them especially when the student takes charge of their independent learning" when the student has this freedom of making choices (J. Johns, 2008). Allowing this freedom lets the "students become the

trend-setters and go-getters when given an idea and the freedom to run with it” (G. Gomez, 2008).

The freedom of letting the student have the ability to build or work on projects, portfolios, and set up applied learning projects with the outside community gave rise to building the self-esteem of each student was expressed by some of the students and parents.

There must be communication rather than a suppression of ideas inside the classroom (Freire, 1990; Freire, 1998; Gilligan, 1982; Giroux, 1987; Kipatrick, 1961; McLaren, 2003). This freedom of choice for the student to take charge of their education brings the student closer to a cognitive level of learning. A lose of voice or self-individualism can be seen with the increase of the state testing or a mandated set curriculum (McNay, 1992). Teachers are working with the students to guide the students to think more independently (Shor, 1987, 1992, 1996; Villaverde, 2008). With this independence and voice then better citizens are generated since making choices must be undertaken into adulthood (Dewey, 1963, 2002; Giroux, 2007).

Being Able to Think Outside the Box

For the parents the benefits of the applied learning method were having their children leave ALA with solid research and presentation skills. Speaking in front of an audience was not a problem for their children. They were taught to think outside the box and become problem solvers not problem makers. Learning was fun for their children and they noticed their children were given more responsibility in the classroom when compared to the other middle schools. The students were exposed to social and global

issues more often at ALA to expand their concept of society and social issues. “Applied learning teaches you how to think differently, how to be able to work in the new world which is developing differently each year due to the growth of technology” (L. Lufkin, 2008).

“Kids should not be put into a box and not have to be teacher monitored all the time” (G. Gomez, 2008). Several of the teachers regarded ALA teaching the students to be adaptable and not having to play the ritual game seen in most regular classrooms. “You can throw something at them and they will get on the task” using their way, whether right or wrong (W. Williams, 2008). “Teaching can be so regimented and monotonous in a traditional school while applied learning allows you the freedom and creativity to follow what your students really want and need to learn” (D. Dunbar, 2008).

Future scientists must learn to analyze data and understand patterns, but when the educational system merely teaches from worksheets, this skill of thinking outside the box is not emphasized (Ediger, 2002). The scientific world is just one field which will need students to think and adapt to the changing society (Drennon, 2005; Hademenos 2006; Kucharski et al., 2005).

Relationships

Most of the students said ALA allowed them to open up with their teachers. For some they knew they would be more timid if it hadn't been for ALA and the way the classes were taught by immersing in group work, presentations, and portfolio conferences. This technique of constantly working with people created relationships to develop since they had to get along.

Another important benefit for the teacher would be the manageable small size of the student body and the stand alone school which promoted a family oriented feeling for the ALA staff. “Seeing the kids develop their own personalities when they are in charge can be wonderful especially when the withdrawn students can open up and realize their capabilities” (W. Williams, 2008). This opening up from the students helped the relationships to develop since these defensive walls were slowly melting inside the classrooms.

The administrative participants felt the benefits from teaching applied learning were directed mostly to the student by providing a safe, nurturing environment which allowed the student to find their true self. One of the administrators felt that applied learning strengthened the relationships between teachers to teacher. “I think for the teachers it is the closeness and being able to go to somebody for help. They had the easy access to mentoring” (N. Nicholas, 2008).

Connections from the curriculum to the real world have been brought out, but connections with the students to instill relationships should not be ignored. Brock-Utne (1985), Delpit & Dowdy (2002), Forcey (1995), Lorber (2000) and Looser (1993) emphasize the female voice needs to be heard through reflective writing and cooperative learning since many females learn through relationships. Of course this can apply to males as well; however, the female is known for their communication skills. Whether it is the internal instinct of mothering or having the skill of oral communication relationships should be fostered within the classroom (Chodorow, 1978; Kramarae & Treichler, 1990).

Summary Results of the Benefits of Applied Learning

The benefits identified from the research were: (a) being part of a community (b) working with partnerships, (c) project-based curriculum with real audiences, (d) acquiring applicable skills, (e) learning how to learn (f) having teachers as facilitators, (g) freedom of choice, (h) being able to think outside the box, and (i) relationships. Within these eight topics of benefits Dewey's model school of the early 1900's still exists. An applied learning classroom's door must remain open for the community to be involved and the walls should be reinforced by many hands to help guide the student through an applied learning program.

A major benefit from the applied learning method mentioned by each group was community involvement or partnerships. Working and learning with the professionals outside the classroom gave the students many opportunities to apply their acquired knowledge. Another benefit that was shared by the entire group of participants was the unique and professional curriculum which originally business professionals and teachers designed to satisfy the necessary skills needed for the workforce such as communication, organization, and problem solving. The parent group explained that the curriculum gives a reason and meaning to the student, teacher, or any audience. Within the curriculum, another benefit of applied learning was learning applicable skills which were discussed by several of the group participants. Academic skills such as thinking for themselves, writing resumes, conducting interviews, communication and organizational skills when presenting their projects or portfolios are the skills that were honed and refined for perfection.

Three groups, parents, teachers, and administrators, gave the benefit of removing the teaching role and becoming facilitators, coaches or directors inside the classroom. Students are now given choices since the authoritarian teacher figure is eliminated. Problem solving is truly necessary because the teacher no longer has all the answers. Since the teacher is no longer in the lecture mode each day, a new freedom is found inside the classroom. Becoming a facilitator allowed two other benefits to occur: freedom and relationships.

Freedom was a benefit mentioned by the student and teacher participants. The freedom of free-thinking, the freedom of choice with the curriculum, and the freedom to be creative with the projects is a benefit shared by these two groups inside the classroom. The phrase outside the box was used over and over by all the groups throughout the interviews. This freedom of choice is the beginning parameter of this expanding box.

The last benefit discussed from the teacher and administrator groups was relationships. Closeness between the faculty when working as a team and the relationships between student and teacher since the classroom is no longer a dictatorship, was discussed as an added benefit inside the applied learning classroom.

Drawbacks of Applied Learning

The third research question dealt with the drawbacks of teaching applied learning. A summary list of the drawbacks are: (a) lack of school immersion with the applied learning method, (b) shallow or inconsistent assessments, (c) dictated curriculum and textbooks, (d) lack of commitment and understanding, (e) difficulty teaching applied

learning, (f) loss of partnerships, (g) loss of small size within the classroom and the building facility, and (h) scheduling problems with block classes. It makes sense that many of the drawbacks identified were from the lack of allegiance to the applied learning method.

Discussion of Summary Results of the Drawbacks of Applied Learning

Lack of School Immersion with the Applied Learning Method

If applied learning had been introduced for all the high schools rather than just one school within a school then “the stigma that some students have of this program being for special students might have been diverted and the new superintendents following might have supported it more rather than ignoring it” (H. Henry, 2008). Parents and students of the first, second, and third graduating classes from ALA were disappointed that there was not an applied learning high school. Another superintendent came on board and time continued to pass without a designated high school. When the parents found an acceptable building within the budget constraints, the district did not accept this first choice since it would make the applied learning high school too elitist. Instead, the district placed the applied learning high school program within a traditional high school located near the hospital district. Turning a cold shoulder to these parents resulted in the loss of many applied learning students continuing with the applied learning high school program.

Some of the students commented that ALA’s different calendar, course selection, and school building made the students feel different when they were with their high school peers. No student should feel odd by going to a particular school. Wanting to

belong and be accepted is a vital human need. Thus, lack of high school immersion came slow for a few of the students.

Just as Dewey and Colonel Parker started the famous Chicago's Laboratory Schools with the help from interested parents, applied learning parents wanted to help with selecting a facility for the new applied learning high school (Mayhew & Edwards, 1965). Unfortunately, these particular parents were not listened to and this supportive piece of the community began to wane (L. Lufkin, 2008). Lack of supportive parents is vital for applied learning (Dewey, 1900/1990; Rogoff et al., 2001; Wenger, 1998).

The lack of acceptance from fellow peers lowers the self-esteem of any child. Relationships are wanted and needed at any age, but young teens are at a critical stage in their lives. Wanting to belong to a group feeds on the need to have relationships with your peers (Ruddick, 1989; Salner, 1985).

Shallow or Inconsistent Assessments

Another drawback or barrier is "the ability to measure the outcome of applied learning. They have set a concrete learning curve and do not know how to apply a new philosophy to their teaching style" (H. Henry, 2008). This radical method of teaching may be too difficult and few want to attempt and fail. Many seasoned teachers do not want to change their own designed lesson plans. This resistance to change is seen throughout the educational system since change comes so slowly from the business associates viewpoint. Parents commented on a lack of continuity and uncertainty concerning the assessment or shallowness of narratives which goes back to a lack of

vision from the campus. Portfolios seem to be losing their value and importance causing more of a push for grades or testing which is required by the district.

Teachers discussed “the fact that the new personnel haven’t really penetrated and grasped the understanding of applied learning. They have a general concept of what it is perhaps, but do not know how to get there and what to do with it” (J. Johns, 2008). With the constant turnover of faculty or the loss of critical mass any school program can weaken. Most of the administrators regarded the constant change of the district’s curriculum requirements makes the ALA teacher insistent or complacent with the assessment policy of ALA. A high turnover rate for the ALA faculty is detrimental since the school is small. New teachers are bringing in their traditional school house habits.

Inconsistent assessment comes from the lack of vision or communication within a system. Setting standards on alternative assessments must be met and kept (Roeber, 2002; Zou, 2002). Assessment within the applied learning classroom is different from the state mandated tests (Ediger, 2000, 2001, 2002; Gearhart et al., 1994).

Dictated Curriculum and Textbooks

Another drawback of applied learning is the push from the district to use particular textbooks or novels. “A barrier to prevent the applied learning program from expanding is the lobbyist who promote textbooks”(B. Blacksmith, 2008). It is required that all students must be issued a textbook which limits the sources of information for the teacher. Most of the parents with more than one child considered the elementary classes are not exposing the young student as often to critical thinking skills, but bending to the requirements of the district to become more structured from the district

curriculum. Parents, teachers, and administrators are seeing more of TAKS infiltration rhetoric rather than applied learning projects in the elementary and middle school classes. The district has too many boundaries set for the curriculum and required books to read rather than giving the students the choice to pick their novels.

Lack of choices throws the student centered classroom away and puts the teacher back as the controlling headmaster. Applied learning must give the students more choices within the class (Deters, 2005; Dewey, 1930; Finkel, 1999; Friere, 1990). Listening to the students' interests by allowing them the freedom of choice with the curriculum creates a positive learning environment (Delpit, 1995; Dewey & Dewey, 1915; McCombs, 1996).

Lack of Commitment and Understanding

Some of the students felt that a student who needs structured classroom activities or who cannot follow through with a continuous project would not do well inside an applied learning classroom. This type of student does not understand what applied learning is about. Having too many new teachers shows a lack of commitment and creates disunity among the faculty was felt by the parents. This disunity then evolves into a lack of communication needed within any working structure. Teachers and administrators felt the breakdown of connections and continuity between the applied learning faculty is slowly eroding the applied learning structure.

Connections and continuity builds relationships which brings commitment to the schools (McNay, 1992; Pozo, 2004). Once the relationships are established (Lorber, 2000; Reardon, 1989), unity within the community will prosper (Dewey, 2002; Evensen

& Hmelo, 2000; Hooks, 2003). Commitment is a hard virtue to acquire, but once the commitment is found then unity from mutual understanding will be firmly established with each passing school year.

Difficulty Teaching Applied Learning

One business associate considered that “university trained teachers just do not seem to understand why it is critical to relate all classroom applications of the educational arena to a real world classroom” (B. Blacksmith, 2008). Teachers expressed this difficulty by feeling the constraints from teaching. “We are becoming boxed in, not just with teaching, but also following the district guideline on which page to teach from” (D. Dunbar, 2008). New faculty does not guarantee that they have a total buy in to the applied learning system. “The more the teachers are from regular schooling background and regular scheduling, the more the school gets to being a regular traditional school” (J. Johns, 2008).

A constant turnover of faculty requires constant applied learning professional development. “We never seem to get off of the first page in a training manual since every year we have new faculty. We keep repeating ourselves.” (O. O’Hara, 2008). Several of the teachers felt that continuity and relationships between the teaching staff have definitely decreased creating little communication and networking between the teachers.

Half of the administrators felt that there are too few models that show teachers how to make applied learning accomplish traditional goals within a standard curriculum. Also, there are few or no rewards for teachers who want to do this sort of work. There

are few administrative staff who can guide teachers in this type of work. Since it is so hard to establish and maintain an applied learning school, FWISD has not duplicated this program. “There was never any approach to get more ALA’s. Nobody ever came to us (administration) to replicate ALA (W. Wells, 2008). When the program is a difficult one to keep up with for the experienced teacher, it is twice as difficult for the inexperienced teacher. Once the applied learning program began to settle in when all three grades at the middle school were established the majority of the staff remained each year with little turnover for 7 years.

Difficulties of a new program or the poor acceptance to change paints the image of education as remaining old fashioned and slow (Handa & Skolnik, 1975; Kilpatrick et al., 1926; Knopke, 1986; Kozol, 1985). Any new paradigm will produce a wave of dissent, confusion, or argument (Kuhn, 1996). Educational reform has never been easy, but when the reform must start inside and outside the classroom at the same time many educators will become easily discouraged.

Loss of Partnerships

All of the parents saw the loss of partnerships (since their students are not involved or no longer pushed into community service) as a loss of options available for their children. It is more convenient for ALA to offer help to the community by the community adjusting to what ALA can do rather than seek out what the community wants or needs. Most of the teacher participants discussed the fact that if a teacher does leave, then those project ideas or partnerships go out the window. A project may take

more than 1 year to get going and get established. Partnerships and trust take several years to develop.

Making the connections from the page to the child or from the classroom to the outside is a challenge for any teacher, but it always has to be. “A lot of ideas just fizz since the teacher does not make it a continuous thing” (G. Gomez, 2008). Projects and applied learning have to be a uniform consensus among the faculty. One teacher alone cannot do this without the support of other teachers or administrators.

Several of the administrators commented about the loss of one instructor crippled the partnership program at ALA since this particular teacher recruited and established the community partnerships for ALA. Of course it is up to the individual teacher to secure partnerships for their students’ projects; however, this one individual spent most of her teaching and individual time constantly on the lookout for new and innovative partnerships. Unfortunately, when one teacher dominates a particular arena, this may prove that there was not 100 % comradery from the other faculty.

Throughout the history of educating children apprenticeships were the first partnerships between home, school, and the community (Berube, 1994; Best, 1962; Cremin, 1964). Vital skills of learning crafts or a trade meant a sufficient livelihood to keep a society healthy and growing. Teaching the young student vital skills today are just as important for the modern society. Partnerships have replaced apprenticeships, but the connection to the community and to the neighborhood school should exist, especially for an applied learning school (Bransford et al., 2000; Dewey, 1900/1990, 1902/1990).

Loss of Small Size within the Classroom and Building Facility

Changing school facilities took away the total school structure of ALA. Not just the building increased in size, but the classrooms, the enrollment, and the faculty did too. Most of the parents expressed their concern with the lack or loss of communication between the lines of administration, faculty, and parent which added to the lack of parental involvement and lack of family atmosphere on the campus. This lack of communication is also seen at the upper administration level since district policies seem to change yearly causing confusion for the applied learning parent. This negative concern about the loss of the family atmosphere due to the loss of having their own facility was also shared by several of the administrative participants. A large building was now shared between two schools and friction between two headstrong principals developed. “We had to share the building with another school. It wasn’t the same since there wasn’t any place for the parents to be. When we moved to the larger building, it was harder to keep that family feeling” (N. Nicholas, 2008).

Several of the teachers commented that having a class size of 20 to 24 students is perfect for project groups even for the inexperienced applied learning teacher. This would be the optimum condition in applied learning because the teacher can move around easily and check on each group. Class size grew once the school moved into the larger structure.

Small size schools are consistently reported to promote student achievement, lower the dropout rate, and increase personal relationships (Guldemon & Bosker, 2009; Miller, 2009; Werblow & Duesbery, 2009). The pilot study of this original research also

indicated a small school supported the theory of a successful school program. What should be also directed is the lack of relationships formed from large schools. Due to the bonds of relationships forming inside a classroom, students are more likely to show interest in the subject matter being taught if there is a connection made between teacher and student (Forcey, 1995; Lorber, 2000).

Scheduling Problems with Block Classes

This radical method of teaching may be too difficult and few want to attempt and fail. Many seasoned teachers do not want to change their own designed lesson plans set for a particular time framed calendar. “They have set a concrete learning curve and do not know how to apply a new philosophy to their teaching style” (B. Blacksmith, 2008). Year-round scheduling was hard to get use to from most of the students. This scheduling made their summers too short and the school even more different.

For the parents, within the structure and curriculum of the ALA school, there are too many teachers because the classes are no longer combined and team work does not seem to be working. More electives are offered, but not higher level courses or sports and less freedom is seen within the classrooms and halls. Block scheduling was a problem from two of the teachers. One teacher wants to see her students each day for better connections with projects, but instead she sees her students every other day on an A or B day. Classes are 90 minutes long which means there are four classes per day totaling eight subjects per semester. The new block schedule of A and B days are found in several other FWISD traditional middle and high schools. “This is a typical college schedule so let high school have that schedule since they must prepare the kids for

college” (D. Dunbar, 2008). There are so many disruptions throughout the day the teachers and students have to work at a fast pace and modify the steps of applied learning. They just do not have the time anymore with the district’s scheduled curriculum and the block scheduling.

Time constraints are a common complaint for many teachers whether they are teaching a new syllabus or an old one due to the many interruptions in class throughout the day and year. In order to give more choices in courses, schools have gone to block scheduling where the student alternates their classes every other day. For a class which relies heavily on group work and projects, this type of class scheduling may not be the best if the students are not keeping up with their personal tasks assigned by the groups. Literature cited seems to prove that block scheduling is favored (Cavanagh, 2009; Deuel & Stoyco, 1999; Ediger, 1998; Gable & Manning, 1997; Weller & McLeskey, 2000). However, depending on the subject and grade, some teachers do prefer regular scheduling of classes (Hynes-Hunter & Avery, 2007; Saxon, Lennex, & Duvall, 2008).

Summary Results of the Drawbacks of Applied Learning

The third research question asks what have been the drawbacks of the applied learning method are: (a) lack of school immersion with the applied learning method, (b) shallow or inconsistent assessments, (c) dictated curriculum and textbooks, (d) lack of commitment and understanding from the students, parents, and teachers, (e) difficulty teaching applied learning, (f) loss of partnerships, (g) loss of small size within the classroom and the building facility, and (h) scheduling problems with block classes.

The difficulty of understanding applied learning can be linked to all of the drawbacks. It is always easy to complain about something especially when things are so different.

The lack of school immersion meant having an applied learning title rather than an applied learning program. The district's weak commitment to expand applied learning at the high school kept the students feeling different when they were with their peers. A separate building was requested by the ALA parents, but this request was denied for several years creating an unnatural flow for the students to transfer back to the traditional classrooms rather than pursue the applied learning high school classroom. Moving the middle school into a larger building brought two different schools under one roof. No longer was ALA a stand alone school, but ALA had to share the building facility with another school. All but one parent saw their children entering a traditional high school as an easy transition when coming from the applied learning classroom. Their children did not have problems going back to the traditional classroom, but they did miss some of the aspects only seen at ALA, such as partnerships, projects, and portfolio assessment.

The shallowness or inconsistent assessments from applied learning referred by the students were disconnected homework assignments and too many portfolios. Parents wanted to see more depth within the course narratives and portfolios.

TAKS driven curriculum was another drawback to applied learning from the four participant groups of the business associates, parents, teachers, and administrators. The majority of the students just took it in stride when it came to TAKS testing. With the

constant drilling of TAKS, these same four groups considered ALA slowly becoming more traditional with the loss of time for partnerships, projects and team teaching.

One drawback that involved most of the negative comments about applied learning was the definition or understanding of what applied learning is about. Without a clear vision of this program then many other complaints followed. Four participant groups said this lack of understanding of what applied learning meant resulted in the lack of commitment to the school program. Four participant groups said it was important that the student should have a complete understanding of applied learning. Even the student group suggested applied learning is not for all students. It is ironic that the main drawback to education can be the student. Both the student and teacher participants discussed how important the student and teacher must really apply themselves into this program if it is to work. The student participants agreed that the ALA student should be adaptable, the parent participants said the ALA student should be independent, the teacher participants said the ALA student should be manageable, and the administrator participant said the ALA student should be self-directed. Due to the lack of understanding three participant groups saw the decline of parental involvement, a weakened applied learning high school, and a high teacher turnover inside the applied learning middle school program. This lack of understanding also filtered into the business group. The business participants thought that the applied learning program may be labeled vocational or technical work rather than having all education become applied for all types of vocations and careers.

The most vocal about the drawbacks of applied learning came from the parents and teachers. One positive aspect about applied learning that actually backfired into a drawback was the acceptance of having open discussions between the teacher and the student inside the ALA classroom. The next year when an applied learning child went on to high school the parent participant had to go up to the traditional high school and have a conference with an instructor about her child. It seems the daughter was always questioning the instructor on how to improve the lesson being taught. The traditional instructor felt it was not the place of the student to tell the instructor how to teach the course. Through the applied learning method, different approaches for understanding are encouraged inside the classroom. Another parental comment on a drawback about applied learning would be the loose style of teaching inside an applied learning classroom. One parent saw her child having difficulty keeping up with the broad spectrum of homework in a traditional high school since ALA did not have nightly homework, but long term assignments. Several parents commented that if a student must be told what to do on a daily basis, then applied learning is probably not the best environment. Instead of a structured class with open book drills of questions and then answers, ALA favors class discussions or group projects. All but one parent had a child who did not finish at the traditional public schools. Her daughter could not adjust well when leaving ALA to the more rigid learning environment from a typical public high school. She was placed in a smaller, more progressive private school to complete her high school requirements.

A drawback commented by the teacher participants was the lack of understanding the dynamics and the mechanics of applied learning from the students, parents, new teachers, and administrators. This lack of understanding created weak portfolio conferences and the decline of independent student work not exceeding the standards. After 3 years, if the growth of the child has not demonstrated the ability to take responsibility and action for their own learning, then the applied learning program has failed for that individual and for the teacher. The teacher participants also said when teaching applied learning inside a traditional school this philosophy does not mix well with the traditional faculty and staff. The traditional teaching staff and administration are compelled to think the applied learning students are playing rather than learning. Students are not sitting in their desks with the textbooks and worksheets. Instead the traditional educator's eyes see chaos with students up and about, coming and going.

Lack of understanding from the administrators on applied learning dealt with hiring the right faculty and administration to completely support the applied learning method. It is difficult to keep a program strong if downtown administration does not let ALA administrators' interview and hire first rather than having the human resource department send someone to quickly fill a position.

The difficulty in teaching applied learning was shared by some of the business associate participants and parents. One business associate said the resistance of change seen in education and the lobbyists which stimulates the textbook and test markets are drawbacks for applied learning. A traditional class must have textbooks; that it is the law. Another difficulty when teaching applied learning expressed by the parent

participants was the loss of experienced applied learning faculty which naturally weakens the applied learning philosophy and structure. This particular drawback was expressed by several parent participants since it is the teachers who seek and search for those community partnerships. Inexperienced teachers are unsure about how to tie in partnerships within their curriculum.

Some of the administrators and teachers believed that the applied learning program was weakened when the school had to move from their second location and the high school was not ready for the exiting pioneer eighth graders. Becoming a school within a school rather than a stand alone school did not please many people.

New administration at ALA had to keeping up with the No Child Left Behind policy and scheduling problems appeared. Loss of dual math/science and social studies/language arts classes grew into regular and separated classes for the incoming sixth graders. Block scheduling is now being tried in order to increase test scores and have more elective options for the students. The hour and half in class for projects should be perfect, but not every other day. Of course scheduling problems due to lack of sports was a favorite comment from the student participants. No other group thought this was considered a drawback.

Portfolio Adjustments

Adjustments to traditional high schools without portfolio assessments from all the groups are: (a) ownership of the students' learning, (b) more engagement between student and parent during assessment, (c) difficulty standardizing portfolios,

(d) cognitive application, and (e) redesigning portfolio conferences and presentation style. Adjusting to different ways of student assessment continues to be debated. Within the applied learning school portfolios are required in order to see each facet of a student's academic profile instead of a standard issued report card. Portfolios' benefits and drawbacks are also discussed. From these portfolio adjustments summaries the goal of the portfolio to demonstrate the students' growth and improvement over time should help to eliminate a show and tell display.

Discussion of Summary Results of Portfolio Adjustments

Ownership of the Student's Learning

Portfolios did instill responsibility and discipline for most of the student participants by demonstrating personal academic growth and skills. Students were allowed to discuss what they knew. "The biggest strength is that the work belongs to the child not the teacher" (N. Nicholas, 2008). There is ownership of the portfolios by the child since many children still have their final portfolios under their bed or in their closet at home. "The more involved the kids are to learn and explain their work, the more effective way of learning becomes" (L. Lufkin, 2008). Showing the student's work adds value to the education. "It makes you more capable to approach something new, some new kind of learning, and some new kind of problem" (Enrique, 2008). It was through the portfolio that several students could actually see what they were good at since some sections of the portfolio were easy to put together and write about. This method of self-reflection helped these students later on in high school to make their future career

choices. “I would rather show and explain what I can do or think I know rather than have some statistical test tell the instructor what I know” (Tablisha, October 29, 2008).

Allowing students to indirectly voice their opinions about their understanding of the content through their own written reflections can increase the student’s self-efficacy and writing skills, involve student empowerment and dialogue, strengthen the partnership between teacher and student, promote learner achievement, and develop metacognitive awareness (Borowski, et al., 2001; Devlin-Scherer, 2005; Ediger, 2000, 2001, 2002; Krusekopf & Karr-Kidwell, 2003; Pereira de Eca, 2005; Pollari, 2000; Zou, 2002). Student empowerment when given their voice inside the classroom comes directly from the critical theorists (Freire, 1990, 1998; Giroux, 1987; McLaren, 2007; Shor, 1987).

More Engagement Between Student and Parent During Portfolio Assessment

Selecting student’s work shows more engagement between the student and parent during portfolio time rather than a mere signature on a report card. A parent can actually hear a teacher’s or student’s view point on a particular piece of work found within the portfolio. The parent can then question their child about their learning. “I was more engaged in the grading process” (E .English, 2008). Parental involvement can develop during the time the portfolio is being put together since some students asked their parent’s opinion to help pick out the student’s best pieces of work. If the assessment is by a traditional report card less time is spent between parent and child. “You do not have to have a conversation with your parent only a signature and sometimes that was faked” (Enrique, 2008).

Bringing the parent to help assess the child before, during, and after portfolio time is another step to keep the open line of communication open between school and home (Dewey,1900/1990). Kaplan (1997) stated that parental concerns about their middle school child's education involved: grouping of students for learning, integrated curriculum, instruction, school climate, and assessment. Documentation of parental assessment or involvement to increase the student performance can be seen in other writings which related to portfolio assessment and student led conferences (Conderman, 1998; Conderman, Hatcher, & Ikan, 1998). Yet, Hill & Tyson (2009) found that parental involvement was most positively associated with student's achievement which centered on academic socialization rather than assessment.

Difficulty Standardizing Portfolios

Portfolios are harder to assess when compared to report cards because of an outside audience is sought for evaluation. Report card grades are decided by one person, who had one opinion which equals one grade. Assessing the child by a portfolio permits more than one opinion to see and listen to. "Portfolios are far more thorough and explanatory than a report card" (L. Lufkin, 2008). Students always want to show their best work as if on display within the portfolio. It is the skilled teacher who must convince the student to demonstrate their growth of their work for the portfolio. The parent can then question their child about their learning growth. During portfolio conferences, the students were more nervous in front of the teachers rather than their parents. "We always tried to have the eighth graders present to outside people. It was things that they were taught throughout the year on how to do a professional

presentation” (G. Gomez, 2008). Developing professional presentations because of the outside audience in attendance created a need to have standardized grading sheets; however, by standardizing the portfolio, selected pieces must then be required which lowers the freedom of choice for the student. “Without a rubric or directions the portfolio it is nothing but a show and tell scrapbook of work” (W. Wells, 2008) which applied learning tries to avoid.

Learning to critically review and assess the portfolios from a standard rubric takes years of practice, but ALA invites the public to assist when it is time for the eighth grader to be promoted (Avraamidou & Zembal-Saul, 2002; Borowski, et al., 2001; Roeber, 2002). A teacher or individual must have some guideline to assess the portfolio which is based on a standard for all students (Dudley, 2001; Gearhart et al., 1994; Gomez, 2000; Pierce & O’Malley, 1992; Smith & Juska, 2001). This technique of portfolio assessment through a standard rubric questions then the creativity and individuality of the portfolio’s required selected pieces

Cognitive Application

Knowledge of the subject matter written from the student’s understanding of the selected pieces in the portfolio demonstrates the cognitive application. Teachers observed too many times students would just insert standard comments into redundant templates which lowered the portfolio standards. Portfolios build responsibility and discipline. “Portfolios are a one-on-one thought process” (Isela, 2008). By allowing the student to work on portfolios, a visual time frame of comprehension can be displayed over an overall broad spectrum of the student’s comprehension rather than focusing

merely on one grade of a class. “With report cards, the teacher is the end, the all final product and if the student is not learning it is then the teacher’s fault which is just the opposite of the portfolio” (Enrique, 2008).

On the down side, some parents have seen their children’s portfolio sounding redundant and trite due to a repeating sentence structure copied from templates or the ease of copy and paste from a word document makes plagiarism within the classes rampant. Falling back on standard templates reduces the choice of words a student can use for the portfolio reflection. “The kids do not explain themselves as well. They concentrate too much on having quantity rather than quality” (D. Dunbar, 2008).

Student generated portfolios help to develop metacognitive awareness (Borowski et al., 2001; Devlin-Scherer, 2005; Krusekopf & Karr-Kidwell, 2003; Pollari, 2000; Zou, 2002). But, following a standard template to prompt the student in answering the questions about the required selected pieces may hamper the creativity and individuality of the portfolio assessment. “The danger of paying too much attention to the final product rather than on the process” may develop during portfolio assessments (Avramidou & Zembal-Saul, 2002, p.6).

Redesigning Portfolio Conferences and Presentation Style

By redesigning the portfolio conference and presentation style the number of reluctant students who do not want to complete portfolios may be reduced. Some portfolio conferences went over 90 minutes because the student wanted to explain *every* [italics added] single piece in detail and then the parent of course would ask questions and so then the student would have to go into more explanations and detail to answer

that particular question. For several years, students at ALA were not encouraged to submit electronic portfolios due to the lack of computer availability or Internet accessibility. With more computers on campus and Internet capabilities, portfolio conferences can be streamlined to only 30 minutes and students should be encouraged to submit an electronic portfolio. If the student was weak in verbal skills, then the reduction of presentation time has the potential to be beneficial for the student. Electronic portfolios save paper and time especially during the presentation process. Teachers should encourage students to increase their technological skills in their classroom since education is slowly moving to the electronic learning industry (Ash, 2009). Also, students were not given a choice on how to present their final portfolio conference. Recently, ALA has allowed various presentation methods for the eighth graders. It is up to the student on how this presentation will be designed. Suggestions to show creativity have been game shows, treasure hunt, tri-fold board, video, or even a musical display. It is hoped that offering a variety of other presentations will decrease the reluctant student who does not like to submit portfolios.

Due to the increased student enrollment at ALA, lengthy portfolio conferences are no longer conducted. Focusing on quality of work rather than quantity, students must select only a few samples from each core subject. It is hoped that reducing the time of presentation and increasing the style of presenting reluctant students will be more acceptable to portfolios. A few studies reveal that struggling writers can be inspired with unconventional means of communicating through photography, graphics, or games (Battle, Dickens-Wright, & Murphy, 1998; LaBonty, 2001).

Summary Results of Portfolio Adjustments

In conclusion the results of portfolio adjustments from all the groups are:

(a) complete ownership of the students' learning by demonstrating personal academic growth and skills, (b) selected work showing more engagement between student and parent during assessment time rather than a mere signature on a report card, (c) portfolios are harder when compared to report cards because of an outside audience evaluation which makes standardization of portfolios difficult, (d) thorough thought process of the student's understanding of the cognitive application instead of redundant templates, and (e) redesigning the portfolio conference and presentation style may reduce the number of reluctant students who do not want to complete portfolios.

The fourth research question centered on portfolio assessment and how the students adjusted back to traditional school settings once they left ALA. Four groups, student, parent, teacher, and administrator agreed that portfolios allow the student to reflect upon their work demonstrating a very high order of processing and thinking. All students adjusted easily back into traditional school settings. Some missed the portfolio assessment while most of the students regarded report card grades easier than portfolios and for most students; the easier path is the favored path. All student participants agreed that portfolios were not required for their high school since assessments were grades recorded on report cards. There was adjustment when ALA students entered a traditional school, but the adjustment was not difficult unless the high school was not a safe environment.

Ownership of the work displayed in the portfolio would give the student a reason to do higher quality of work. These same four groups of participants did not regard portfolios as a show and tell exhibition, but a display of growth on the student's skills and knowledge.

Both parent and student regarded portfolios as a way for the student to express themselves and this type of assessment allowed the parent to be more involved with the student's assessment. The parent participants thought that portfolios were far more comprehensive and engaging when compared to the typical report cards because of the explanation of the child's skills and academics. Parents were able to ask questions one on one with the child or the teacher during portfolio conferences, but there was a lack of continuity of this assessment and some of the teachers' narratives were too brief.

All administrator participants agreed that portfolios prove the work belongs to the students rather than being the teacher's work, but the portfolio needs to stay away from being the student's scrapbook of work. As long as the student can explain the good, even the bad pieces of their work, and a growth of the student's skills are displayed, then the strength of the portfolio is maintained. Even if it is a bad portfolio, this type of assessment is better than a single grade on a report card.

Portfolio assessment is the most unique characteristic which separates the Applied Learning Academy from all other middle schools in Fort Worth. Most of the students thought traditional assessments of report cards were easier than portfolios and most of the student participants were glad to do without portfolios in high school since there were so many classes and teachers to keep up with.

One student participant said the portfolio was a visual incentive for the teacher to keep doing better because portfolios can show that the students are academically growing in their classwork. All students did see the value of looking over their work during portfolio conferences and explaining their academic growth. Portfolios helped with organizational and presentational skills. Responsibility and discipline lies solely on the student rather than the teacher since the student must explain their selected work and what they learned. The teacher participants said standardizing portfolios with set templates to demonstrate required skills and proficiencies is needed, but this has been a constant struggle for ALA. The decision should be with the student to pick their pieces and explain in detail what was accomplished, but more of a show and tell demonstration is seen due to the loss of understanding the importance of a portfolio and the increase importance of TAKS.

Given a variety of portfolio presentation methods and media, it is hoped that even the reluctant student would be more willing to complete a portfolio on time. These decisions must be decided by the student, not the teacher or parent otherwise student ownership will be weakened.

Project-based Learning Adjustments

Adjustments concerning project-based learning are: (a) more interaction with the class, (b) learning to negotiate and delegate tasks (c) better connections to the real world, and (d) higher expectations from meaningful work. Goal-based, problem-based, or project-based, the semantics may continuously cause discussions; however, for the

instructor to keep the students involved with a meaningful project requiring higher order thinking skills should be the main focus inside the classroom.

Discussion of Summary Results of Project-based Learning Adjustments

More Interaction with the Class

Project-based learning keeps the students out of their desks by “getting their hands-on it, getting dirty, tasting, feeling, touching it; the more likely they will stay motivated to stay the course, do the math, do the science and get a good job” (M. McDonald, 2008). It is not that the teacher is entertaining the student, but project-based learning exposes the students to different learning environments and mindsets. For example, if a major test is given the applied learning students do not panic simply because they know how to get into groups and work together on the review packet. They can argue about the answers and through these dialogues the students are more involved with the class.

Progressive education had parallel philosophy with project-based learning. It was Kilpatrick (1926) who attempted to rename the problem method to the project method in his 1921 speech. Progressive educators wanted children to be engaged in activity, to think up new things, feel freer, and learn new skills while working at these activities which would then build new interests while the students worked together (Tenenbaum, 1951). The term *applied learning* represents “experiential, hands-on, active learning promoting rigorous academic and technical content in problems and projects which connect school to life and work” (Malyn-Smith, n.d., p.1). By tying in project-based learning to applied learning, educators can have dual citizenship in both worlds and keep

their students involved with the class. Any type of learning is best to start with a problem for the students since “all education involves either problem solving or preparation for problem solving” and problem solving helps to keep the students involved (Delisle, 1997, p.1).

Learning to Negotiate and Delegate Tasks

Learning to negotiate and delegate tasks through teamwork was experienced by all of the applied learning students. Negotiating assignments, assessments from rubrics, group work, projects, and portfolio selections inside the ALA classroom gave the student options and self-reliance. “Who works on something by yourself in the real world unless you own your own business? We typically work together on a professional level”(W. Williams, 2008).

During the 1990’s, inquiry and problem-based learning began to sound like goal-based scenarios where the students learn a variety of skills through an authentic activity (Schank et al., 1993). Teacher guided, cooperative learning, modeling, scaffolding, and reciprocal teaching all contribute to the shared responsibility for learning within a classroom (Resnick, 1989). Also during the 1990’s, The Secretary’s Commission on Achieving Necessary Skills (SCANS) began the foundation for contents of applied learning by presenting “three principles from cognitive science to guide real contextual learning” for schools (United States Department of Labor Employment & Training Administration, 2009, p.16-17). Here lies the foundation of the how’s and why’s of applied learning and problem based learning because connections to learning real world skills such as negotiating, delegating tasks, and teamwork can be documented (Boud &

Feletti, 1997; Cunningham & Cordeiro, 2006; Delisle, 1997; Diffily, 1996; Miller et al., 1995).

Better Connections to the Real World

The applied learning program is based on connections to the real world by using actual adult models whether these models are brochures, maps, architectural designs, or working directly with partnerships and professionals. When the student leaves ALA to enter high school there was an easy transition since their knowledge, experience with adults, and group work were strengthened. Applied learning students explained that their social abilities and their world concept were above the other traditional high school students. ALA students seemed more broad-minded and could provide better conversations since they were exposed to other cultures and experiences. Traditional students were not used to thinking outside the box; instead they continued to fall back on their traditional classroom up-bringing. Working with the community allowed the applied learning students to be around adult models more often. Some of the students felt their first 2 years of college was just an extension of high school since all they did was listen to lectures, read the textbooks and take exams. Few connections to the real world were made from their high school and college classes.

Real world problems outside the classroom began to be solved inside the classroom which redefined the traditional classroom starting with the medical application from the BioPrep program in rural schools of Alabama (Cohen, 1997). Since the BioPrep project had at-risk students scoring significantly higher on their American College Testing Program, a project-based curriculum was soon widely accepted at other

schools (Knopke, 1986; Knopke et al., 1986). Real world connections can be made in any classroom; it does not have to be the traditional vocational courses. Examples of problem or project-based learning are found in a wide range of fields and professional literature, such as environmental health (Silbart, 2006), geography (Drennon, 2005), educational professional development (Dottin & Weiner, 2001; Evensen & Hmelo, 2000; Levin, 2001), leadership (Cunningham & Cordeiro, 2006), reading/language arts (Bailey, 2005), advanced physics (Hademenos, 2006), chemistry (Deters, 2005), and mathematics (Lipka et al., 2005; Munakata, 2005). With these vital connections, students can see why a particular course is then important.

Higher Expectations from Meaningful Work

Higher expectation from meaningful work rather than traditional paperwork drills was experienced by the applied learning student when they left ALA. Traditional high school assignments instead of projects were too easy at times since the teacher merely pushed work on the student during the grading cycle. Parents expected high expectations at ALA and did not see this quality as much in high school. High school was too easy for their children. Paperwork increased with paper drills rather than meaningful homework. The high school teachers really did not have to say too much. “We just pushed on to the next topic and nothing was connected” (Enrique, 2008). Some traditional teachers are too micromanaging and do not think projects are rigorous enough.

Parents and students thought that critical thinking and questioning was not experienced as much in high school. Applied learning can be found in project-based learning since both “involve judgment and reasoning with questions that provides the

context in which specific academic skills are necessary” (S. Smith, personal communication, October 17, 2008). Going back to a traditional high school was” like going back inside the box” (Karen, 2008).

It was documented that after 1 year engaging in problem solving projects, 5th-grade students still remembered and talked about these activities with excitement and pride (Barron et al., 1998, p.305). Problem solving lesson plans, authentic pedagogy, and teaching real world problems, paved the way for applied learning since independent critical thinking skills was nurtured within the student (Newmann et al., 1996). This nurturing of the independent thinker combined with the goal-based, target skills to achieve a specific goal, designed curricula laid the foundation for the applied learning thinker (Schank, 1993; Schank et al., 1993). Since the student learns by total involvement to satisfy a common or basic goal, the applied learning instructor twists this goal to satisfy a local community need. Here is the real key to long-lasting, higher expectations from real and meaningful classwork. That particular question from the students which all teachers hear at one time, “Why do we have to learn this?” can be answered with a justifiable answer rather than the typical “ because I said so” response.

Summary Results of Project-based Learning Adjustments

The conclusion of the adjustments concerning project-based learning is:

(a) more interaction with the class, (b) learning to negotiate and delegate tasks through teamwork (c) better connections to the real world since working with adult models, and (d) higher expectations from meaningful work rather than traditional paperwork activities. Project-based learning can take on many different names, but it is not the

semantics which is important. Behind this method of teaching students are stimulated to learn.

The research question five deals with the student adjustment to a traditional school concerning project-based learning. Little group work or group discussion within the traditional high school classroom forced the students to memorize the textbook rather than actually learn and apply their knowledge. All students felt that having their hands busy with projects kept their interest in the class. Most of the students can still remember what their projects were. One student still had his project, a glider plane his group built in science class to see who could design the best glider and understand flight.

Presentations were given in front of a panel of judges who evaluated the students on their communication, marketing, and aerodynamics skills. Students did miss the hands-on projects since it was more fun than typical worksheets. The phrase hands-on was also used by the teacher and business associate groups when referring to project-based learning. Always doing something with your hands and using more than one sense best defines what hands-on meant to all the participant groups. One teacher commented that project-based learning is not the cure all for failing students, but it will begin to spark the interest for the low performing students.

Three of the group participants, student, parent, and teacher, referred to project-based learning as a group working on an activity. By working in groups, conversation is stimulated and students must learn to negotiate and work together. Team building teaches students to put aside their personalities or the project will not get done or be as successful. One business associate strongly suggested that being able to get along and

negotiate is the real reason for most successful people. In the real world, not being a team player increases the risk of being laid off when the economy is downsizing.

One teacher commented that project-based learning could stimulate the student into a career choice. One of her students was on a finance committee for their high school project in science class. Professionals in the field such as accountants, architects, business managers, city planners, and engineers were invited to this class to help the students with their project. This student continued with her interest in math and is now an accountant for a major pharmaceutical corporation in Houston.

Only the teacher participants brought up the point that project-based learning can allow the student to fail which can be successful if the student learns from their mistakes. What in real life is perfect? There will be always be failures, whether major or minor for most of society. When mistakes are made then trouble-shooting and revising should be part of project-based learning. When the administrative participants were teachers they did project-based activities inside their own classrooms because of the real world connections, but as their role changed from teaching to administration they would then support their faculty's ideas by giving permission for the projects. They would help find the funding, supplies, guest speakers, mentors, or transportation needed for these projects when it came to project-based learning.

For the student participants, group work or project-based learning was diminished when they entered high school. One student participant commented that even her first 2 years of college was just like high school which meant you read and regurgitate the work for tests. It was not until the junior and senior year in college where

she could actually apply what she was learning in her classes of business marketing. High school and the first 2 years of college made little connections to real world or meaningful work. Teacher participants mentioned the loss of time for project-based learning and community partnerships are declining due to the loss of time and energy because of TAKS time and the district's required curriculum.

The parent group commented that project-based learning made it authentic and real for their children. Project-based learning intensified the academics across the classrooms by living the education instead of reading about it. Theory was actually put into practice. Their children were learning through this educational program rather than education driving the learning.

Besides hands-on, the administrator group emphasized that project-based learning is really based on questioning, questioning, and more questioning. The questions should go deeper into the topic or problem which is being investigated. This questioning does not come easy; therefore, teachers should spend time directing these types of higher level questions so it can become part of the student's protocol. The administrator and student referred to project-based learning as outside the box and one student considered traditional high school with textbooks and worksheets as going back inside the box.

Community Partnerships Adjustments

How did the past students adjust to a traditional school concerning community partnerships once they left the Applied Learning Academy is the sixth research question? The results of community partnerships adjustments are: (a) critical

connections, (b) wide range of experiences, (c) stimulated learning, (d) promoted future volunteering, and (e) increased inner community involvement. Community partnerships for any school at any capacity will probably be beneficial. All participants agreed that the surrounding community should try to work with the area schools.

Discussion of Summary Results of Community Partnerships Adjustments

Critical Connections

Critical connections in the classroom come from community partnerships. Research on Vital Link and the students who participated was conducted and proof of the students' grades going up, their performances on standardized tests went up, their discipline referrals went down, and their attendance was better. "I think kids make the connections" (D. Dickens, 2008). All of participants agreed that the community must be connected to the schools with partnerships.

"Kids want to be stimulated and they want to learn. I know business wants to believe that" (B. Blacksmith, 2008). The business associate participants were very vocal on the positive benefits of community partnerships. "We all want the kids to be able to perform well on the standardized test, but I would really like to see more connections to the real world skills they need in order to get jobs. (H. Henry, 2008). School curriculum must prepare the student for the standardized tests, but skills should not be ignored.

The applied learning teacher can easily make the connection inside the classroom when partnerships are formed with the outside community. It is through their intuition and creative drive that a class project can get started. They are the actual catalysts to the applied learning method of teaching. Learning to work with partnerships is easier if the

beginning project starts small such as a brochure for a client and then when confidence is built, the project can then grow. Allowing the students to investigate what problems to solve in their local community makes it more real for them. “When they got into it, they got into it” (W. Williams, 2008).

Inspired by the philosophy of John Dewey and Lev Vygotsky, a community of learners grows with educational collaborations to make classroom connections. Humans can be self-taught; however, “individuals develop not in a remote entity called society at large, but in connection *with one another* (Dewey, as cited in Boydston, 1986, p.80). For the past 14 years, ALA has been directly and indirectly involved with local community partnerships. The original building’s location of the school was within walking distance of the museum district of Fort Worth. This convenient access developed partnerships with Casa Manana Playhouse, Amon Carter Art Museum, Museum of Science and History, and the Fort Worth Botanic Garden. Dewey wrote, “Education, as we conceive it, is a process of social interaction carried on in behalf of consequences which are themselves social-that is, it involves interactions between persons and includes shared values” (Dewey, 1986, p.80).

Learning Together, Rogoff et al., (2001), discusses schools with open classrooms are a parent-teacher-child co-operative. This pathway of learning is referred to as “coming home to school” connection, not just an open classroom concept (Rogoff et al, p. 67). A community of learners develops through this triangle of partnerships. It is through shared experiences with the community that connections are made for the student to learn and process (Rousseau, 1967).

Even today educators are still proving that community involvement helps with the education of a child. Educational connections with service projects throughout the public schools of the United States are directly related to secondary school academic learning (Gainsburg, 2008; Manzo, 2009) and extended to the college level (Ashburn, 2009; Carlson & Lipka, 2009). NCLB has assumed that “K-12 schools can single-handedly level the learning field for impoverished children, but forty years of research has shown that this assumption is false. A strong research-based argument for continuing and increasing family involvement, after-school programs, and new projects to ensure” positive academic results are advised (Weiss et al., 2009, p. 592).

Wide Range of Experiences

Each of the participants agreed that community partnerships provide many experiences for the student. Students experienced other cultures, opportunities, and mindsets. All of the student participants were involved with outside community partnerships. Some worked with these partners outside the classroom because it was a class project, but most volunteered by signing up to work with a particular partnership. Each student’s memories working with partnerships were favorable. For some of the students, these partnerships not only gave them wonderful memories, but opened up doors for them with networking and future resume documentation. Volunteering comes easy for these students now since they have done it so often. High school volunteering was involved with certain clubs while ALA offered it for the individual’s interest. A few of the student participants were invited to present at state or national conferences about their ALA experiences with community partnerships. All agreed this was an exciting

opportunity. Partnerships allowed the students to see more of their community with different eyes and mindsets. “This exposure to other cultures and economic lifestyles would probably not have been met at other middle schools” (Maria, 2008).

Typical partnerships found in the other FWISD high schools are summer employment or internships sponsored by FWISD and Fort Worth’s business associates. Because of the 77th Legislature in 2001, Closing the Gaps by 2015 was adopted and as a result the Fort Worth Chamber of Commerce, in partnership with FWISD, Fort Worth Hispanic Chamber of Commerce, Fort Worth Metropolitan Chamber of Commerce, and other community organizations are working together to help the FWISD students. This program promotes success in high school and offers guidance and help to continue the student’s education after high school.

John Dewey’s conception of his model school had business, home, park or garden, and university flowing directly into the school structure creating a perfect embryonic community for the children to learn from. So many opportunities for a child’s education can exist with this model. The teacher and student can take numerous pathways offered by the surrounding community to learn from. Allowing the student to experience other cultures, languages, religions, or even different foods, will open other sides of the world which may be otherwise ignored (Favela, 2007; Kepa, 2006).

“Education is concerned with a development of individual potentialities and you are committed to the conclusion that education cannot be neutral and indifferent as to the kind of social organization which exists” (Dewey, as cited in Boydston, 1986, p.80).

Stimulated Learning

Stimulated student learning is nurtured with close knit community partnerships, but the applied learning teacher is also learning along side the student new and exciting things when stepping outside the classroom. It was emphasized by one business associate that partnerships should not be just surface features. Partnerships must go deeper to impact the curriculum, not a mere surface glossing. The partnerships must unlock the love of learning for the students. “It is going out and really finding out there is a reason to learn. There *is* [italics added] an application for it” (D. Dickens, 2008). This is what stimulates the mind to want to know, when there is a reason to learn something. By satisfying an outside audience such as a community partner “project-based learning becomes an applied learning project which takes on a higher level” (N. Nicholas, 2008). Several administrators reminisced about their projects they had with their students when they were teaching. Having that outside audience made it a real product for their students and it also made the real world come alive for the students.

Bringing in partnerships allows the teacher to completely step out of the teaching role and “become a true facilitator since you really don’t know what is going to happen” (W. Williams, 2008). The teacher and students must learn to work together and most importantly learn together.

When the student sees a reason, or especially a *need* [italics added], for doing something, interest and motivation is increased while discipline problems decrease. (Barron et al., 1998; Ediger, 2001; Haberman, 1995; McCombs, 1996; Pintrich & Schunk, 1996). Once that need is seen and felt by the student their interest should be

aroused. All it takes is a curious student to help the teacher start the learning process. Without curiosity, there is little student interest and declining student interest is directly related to low academic achievement, but with a community partnership engagement of the child's interest is stimulated in the environment, health, or even math (Bunce, 2009; Enos, 1999).

Promoted Future Volunteering

Students, who were active and involved at ALA, continued to be active and involved in high school. Community partnerships promoted continuous volunteering for the student in high school and college, but the ALA student saw more activities with school clubs rather than community partnerships. Some partnerships that the students started in middle school continued even to high school. Middle school ALA partnerships involved working at the Fort Worth Botanical Garden and designing the north entrance to this park, being docents at the Fort Worth Museum Science and History, helping at an animal clinic and animal shelter, working in the office at the Log Cabin Village, and assisting at the Modern Art Museum. When the ALA students went on to high school some students continued to volunteer at these sites and one returned to become a paid employee.

The parent participants thought it was easier for their children to work with partnerships or volunteer when their children left ALA due to their exposure of so many community life experiences. They were proud of the child's experience working with the community. Learning to volunteer strengthens the local society and teaches the individual to give back. "When successful business people reach middle age, their

motivations often shift from working for their own financial reward and benefit to one where giving back to the community becomes an interest” (C. Cornwall, 2008).

The community teaches us and in turn our students will create the new community. Taking students outside school walls for activities “can combine the best aspects of community service, problem and project-based learning, and lessons in good citizenship. Community service learning - which emphasizes both service and learning - can be an important way to make education interesting and relevant for students” (Mertz, 2009, p.8). Once this momentum of volunteering is started and hopefully awarded during the child’s academic career, continuous volunteering can then be demonstrated as the child grows into adulthood (Ashburn, 2009). “Learners of all ages are more motivated when they can see the usefulness of what they are learning and when they can use that information to do something that has an impact on others-especially their local community” (Bransford et al., 2000, p.61).

Increased Inner Community Involvement

When parents become more involved with the school an increased sense of inner community occurred by creating a sense of a community within the classroom. The 20 hour volunteer commitment that parents must sign up for at ALA strengthened the school’s commitment to serve and provided an outlet for the parent to get involved. Volunteering opportunities were helping to chaperone or providing their own car to shuttle the students to various partnership locations. One parent volunteered to monitor the students during lunch. Parents enjoyed the past partnerships that ALA provided such as The Log Cabin Village, Kimbell Art Museum, Modern Art Museum, Amon Carter

Art Museum, Fort Worth Science and History Museum, Outdoor Learning Center, Thistle Hill House Mansion Museum, Casa Manana, and the Fort Worth Botanic Garden. Besides volunteering, another aspect of this inner community was when the parent participants thought the faculty became like “family members” giving a sense of community seen within the classroom (L. Lufkin, 2008).

Parents and teachers engage collaboratively with children by coordinating responsibilities to foster the children’s learning. “Adults are responsible for guiding the overall process and for supporting children’s changing participation in their shared endeavors. Adults provide leadership and encourage children’s leadership as well and they learn from the activities in which they engage with the children” (Rogoff et al., 2001, p.7). This method of guiding responsibility will then eliminate the dichotomy of adult-controlled learning versus children-controlled learning and encompasses parental involvement in the education of their child. Parental volunteering does not necessarily mean joining the PTA/PTO of their child’s school. A sense of community within the child’s class can be strengthened by teaching hobbies during club time or assisting with after school reading programs (Manzo, 2008; Troisi, 1998).

Summary Results of Community Partnership Adjustments

How did the past students adjust to a traditional school concerning community partnerships once they left the Applied Learning Academy is the sixth research question? The adjustments to community partnerships which the ALA student experienced were:(a) critical connections in the classroom come from community partnerships, (b) students experienced other cultures, opportunities, and mindsets,

(c) stimulated student learning, (d) promoted continuous volunteering for the student in high school and college, and (e) helped the parent to become more involved with the school creating a sense of a community within the classroom. All five participant groups agreed that community partnerships were extremely valuable for education. Working with the community can be with any age group or for any school. Partnerships should not be just for an applied learning program.

Two groups, business and administrator, used the same phrase of making the connections to the classroom when working with partnerships. This connection gives a reason to learn by using real world skills. Authentic learning was brought up by the parent group to make the critical connections. Authentic learning came into existence since there was an authentic need to help at the community partnerships. The teacher and administrator group knew the value of the surrounding community. It was the community which provided so many opportunities and connections for their students. All teacher participants used the community for class projects either as mentors, judges, or as clients for students' products. One administrator participant brought in the entire business community to help make the connections to learn inside the Fort Worth's schools by forming a joint collaboration to bring young students into the work force through weekly partnerships throughout the school year. This inventive program received national recognition.

Some of the student participants referred to community partnerships as just getting out of the classroom with field trips or being exposed to the outside community. It was up to the student to get involved with the community partnership whether in

middle school, high school, or college; however, one student commented because of her involvement with partnerships at the middle school level, her “people connections” and experience she developed is now helping her in college. Community partnerships for all students were a positive experience and opened the door for the students to continue with volunteering in high school and college. Student and parent groups used the word exposure when discussing partnerships. Exposure to other cultures, different ideas, and other parts of the community helped to broaden the student’s way of thinking. The parent participants wanted this community experience for their children since this provided an outlet to find their place in society. Networking, personal memories, and future careers were developed through this important applied learning opportunity.

The business associate thought that partnerships stimulated learning better which would then impact the curriculum deeper. This group represented the community partnerships so each participant agreed that this vital resource should be used by all schools not just applied learning. Business partnerships must be aware of the needs of the school and the school must be aware of the needs of the partnership. It can not be a one way road for either side.

Once the student left ALA, the opportunity to work with community partnerships diminished; however, high schools provided special interest clubs and the Key Club provided volunteering services. Once the student gets into the habit of volunteering on a regular basis, the student will find it easy to continue to volunteer and even seek out volunteering on their own time rather than being required to. Even though students did

miss the partnerships many of the students were kept busy with more classwork and typical high school activities.

Today the Fort Worth community is still part of the driving force to keep the students involved with their school work. One highly gifted applied learning teacher has now moved up into the ranks of being a principal for Polytechnic High School in east Fort Worth. This school has been rated Academically Unacceptable for the past 4 years due to their low performing TAKS scores. Two and half years ago, Gary Braudaway, an applied learning instructor for the high school program, was asked by Superintendent Melody Johnson to try and turn around this troubled school.

Braudaway began the tradition (an inspirational moment broadcast each morning by the students) as a way to motivate the students, develop their leadership skills, and bind them together as a caring family. When they hear their fellow students urging them to study hard and stay in school, it means a lot more than it does coming from me, he said. The speaker is usually an upperclassman, sometimes a teacher, or occasionally someone from the community (Brink, 2009, p.8).

Mr. Braudaway knows the critical need to have the community involved with his school, along with developing strong family feeling relationships between the students and school, active parental involvement, dedicated and determined teachers in the classroom, in extracurricular activities, and mentoring.

“All of the administrators had high praise for Braudaway’s efforts at Poly” (Brink, 2009, p.11). Attendance, test scores, student and teacher morale have improved,

but most importantly the Polytechnic alumni (community) are involved with the students by providing scholarships for graduating seniors to go on to college. Thus, the community inside the classroom and outside is both needed to develop an inner partnership between students and faculty as well as establishing outside community partnerships.

Today the district has an entire department dedicated for community partnerships called Parent and Public Engagement with subdivisions of Community Volunteers, Parent Volunteers, Mentoring Program, and Adopt a School offices. A consulting firm, Project Partners, assists the Fort Worth Chamber of Commerce with peer review evaluation reports for the Distinguished Employers of Fort Worth Teens. The Go Centers and the Distinguished Employers of Fort Worth Teens Award programs are the Fort Worth Chamber of Commerce's newest link with the district to strengthen this cooperative community chain of events.

Business Associates Impact on Applied Learning

The business associates impact with applied learning are: (a) initiated the C³ program, (b) helped develop lesson plans, (c) created the Vital Link and Applied Learning program, (d) advised partnerships, and (e) made critical connections. Without the business associates call for applicable skills to be taught inside the classroom, applied learning would not have existed. The Fort Worth business sector wanted Fort Worth to grow and develop, but it needed a strong public school system to grow and develop just like the city. The surrounding cities near Fort Worth were developing at a

faster rate so having an outstanding school system would bring back the public interest to Fort Worth.

Discussion of Summary Results of Business Associates Impact on Applied Learning

Initiated the C³ Program

Two consulting firms, hired by the Fort Worth Chamber of Commerce, presented reports that showed the public school system was a critical weakness for the future growth and economic development in Fort Worth. In 1989 job skills analysis surveys were sent to 240 companies to find out the necessary skills needed for on the job tasks which initiated the C³ program, a collaborative partnership from the FWISD Superintendent's office, Dr. Don Roberts and the Fort Worth Chamber of Commerce. On August 28, 1989, 23 major companies and corporations in Fort Worth signed a letter of proclamation to initiate the C³ program, tying in community, corporations, and classrooms together. These signatures became a written agreement to: visibly support and endorse the Fort Worth C³ project, provide access to key individuals in their company for leadership and guidance, allow select employees to provide input, involve small and large businesses to share expertise and technical knowledge with teachers as they develop training and curriculum, provide incentives, and provide support for additional resources when identified and where possible. The C³ project won the 1994 Community Award for Excellence in Education given by Scholastic Inc. and the National Alliance of Business.

The C³ program symbolizes what a school and business community can do together to strengthen the classroom and stimulate learning for any age group of student.

It can actually combine problem based learning with community service learning into one program which fits perfectly under the applied learning philosophy. Krajcik et al., (1998), Newmann et al., (1996), and Schank et al., (1993) promoted the problem solving program to stimulate the learning process while Anderson-Butcher, Midle, & Stetler (2006), Bransford et al., (2000), and Johnson & Bonaiuto, (2008) discussed the importance of business partnerships to help the area schools.

Helped Develop Lesson Plans

During this time frame of 1989 to 1991, the Secretary's Commission on achieving necessary skills (SCANS) report was published. "We (Fort Worth) are the beginnings of the SCANS Reports" since several key Fort Worth businessmen worked directly with the staff of the Secretary of Labor and the Secretary of Education during the time the SCANS Report was written (H. Henry, personal communication, September 12, 2008). From the C³ program, a national award winning program, one of the mission statements was to help teachers develop training and curriculum for applicable skills in the classroom which would be necessary in the work force. The data from the job skills analysis surveys was reported and FWISD teachers with the business associates designed innovative lesson plans which were applicable for future job skills. Working together with teachers, the business associates helped develop lesson plans of desired skills for the students. From these lesson plans, the idea of an applied learning school program came into existence for Fort Worth at the Alice Carlson Elementary school which was then renamed in 1992 the Alice Carlson Applied Learning Center.

Through lesson plans cooperatively designed by the FWISD teachers and local business associates, usefulness of what the students are learning comes to light.

“Learners of all ages are more motivated when they can see the usefulness of what they are learning and when they can use that information to do something that has an impact on others-especially their local community” (Bransford, et al. 2000, p. 61). Numerous writings document the collaboration between math and science academia by designing new curriculum for secondary schools described by Duboise, Moulton, & Jamison, (2009) and Heasley & Van Der Sluys, (2009), but other areas of interest also exist for the collaboration between business and school curriculum design for technology, creative writing, and literacy (Bruce, 2001; Garay & Bernhardt, 1998; Grandgenett, 1995; Steuck, Rowley, & Kretschmer, 1999).

Created Vital Link and Applied Learning Program

The organization of project C³ not only created the applied learning classroom, but Equity 2000, Performance Assessment Collaborative for Education (PACE), New Standards Project, Green School Program, Fine & Performing Arts Program, Imagination Celebration, and the Vital Link program. In 1992, Vital Link was featured in the April *Texas Schools: What Works!* a newsletter, showcasing the best in great ideas from Texas elementary and secondary schools. Nearly 200 teachers and 1,000 upcoming 7th-grade students applied for summer Vital Link internships with area businesses in 1992. In 2009, Vital Link is now located under the Parent and Public Engagement Department of the FWISD and can claim over 1000 teachers and 10,000 students have participated in this remarkable program.

Vital Link was a masterful plan which tied in business partnerships with the secondary schools to prepare the students for their after graduation goals. The National Alliance of Business publication in 1996 highlights some of the ways business associates are still helping the local community by supporting high academic standards discussed by Arenas (2008), Larson (1996), Merickel (1995), and Palm & Toma (1997). Waters (2008) also writes of the vital connection between students and the urban community which makes a smoother transition after graduation. The C³ program spurred the interest to keep student involvement with the real world so the applied learning program was also designed.

Advised Partnerships

From the organization of the C³ program, the steering committee was the Fort Worth Chamber of Commerce. Advice was given by these members to the Superintendent's office through the Superintendent's Liaison who was the co-chair of the project C³ development group. In 2009, FWISD is still working together with the Chamber of Commerce to strengthen this partnership by helping the FWISD students achieve their educational goals. It was brought up by three of the business associate participants that partnerships should go deep with the school commitment rather than skim the surface. Career Days "just skims the surface with a thin glossy film of the outside world, but does not impact the curriculum nor unlock the love of learning" (B. Blacksmith, 2008). Partnerships need to be on going instead a once a year commitment. This will then prevent the underestimation of the value which business associates provide for the schools.

Everyone loves to give advice whether this advice is followed or not, the choice remains with the listener. Business associates are still giving advice since it is their work force which graduates each year. Burdenuk (1997) and Looock (1996) discusses school to work transition programs while Hollenbeck (1996) and Jasso (1996) write about taking the mystery out of corporate partnerships and making school to business partnerships work. Hearing from the other side, a manual prepared by the educational force gives advice back to the business community for coordinating company to school collaborative programs (Katz, 1984).

Made Critical Connections

The *ideal* [italics added] business partnership's educational goal is to make the critical connection within the classroom. The partnership which can develop between the schools and area businesses are considered the real world of learning. Knowing why it is necessary to learn a particular type of mathematical formula for a job instead of just doing repetition drills of problems makes more sense. The business associates partnership's goal is to make those critical connections which are so important for the classroom. "Some volunteers stray away from the business atmosphere and provide friendships, but the professional face should always remain up front and foremost" (B. Blacksmith, 2008). Hearing the teacher explain why is one step, but hearing from the actual professional architect or civil engineer seals the proof of the importance of mathematics.

Connections have been brought up from the community partnership section. Educational connections with service projects throughout the public schools of the

United States are directly related to secondary school academic learning and extended to the college level (Ashburn, 2009; Carlson & Lipka, 2009; Gainsburg, 2008; Heasley & Van Der Sluys, 2009; Manzo, 2009). Connections between schools and the business sector are just as important. Kennedy (2006), Timpane (1984), and Waters (2008) bring out the connections of meaningful and relevant school work between the classroom and the business society through joint programs and partnerships.

Summary Results of Business Associates Impact on Applied Learning

The business associates impact with applied learning: (a) initiated the C³ program, an national award winning program, (b) helped develop lesson plans of desired skills for the students, (c) initiated applied learning through the Vital Link program, (d) advised partnerships should go deep with the school commitment, and (e) created the business associates partnership's goal by making the critical connections which are so important for the classroom. Because the seventh research question is related only to the business associates there is no other group to compare and contrast with since the seventh research question was principally asked to the business associates. How did the businesses impact the Applied Learning Academy's educational program?

All business associates agreed that partnerships with any schools are important. One business participant was not aware of the C³ program and how this history changed the FWISD school curriculum. The other three business associates knew about the C³ program and how Applied Learning, Vital Link, New Standards Project, Imagination Celebration, PACE, Green School Program, and the Fine & Performing Arts Program

developed from the C³ collaboration. Without the C³ program, applied learning would never have been conceived and initiated in Fort Worth.

Historically, it was the business sector of Fort Worth which started the surveys of surrounding businesses to find the necessary skills needed on job sites. From this market analysis, the recently hired FWISD Superintendent joined forces with the business leaders and sought out teachers who would develop meaningful curriculum. At this time the SCANS Report (1991) came out which listed skills and tasks for needed for jobs. This publication convinced FWISD they were on the right track to improve their quality of education. All business associates easily related their professional experiences with teachers and classroom projects and each would gladly agree to assist any teacher in the future when possible.

Vital Link was an internship program for the secondary student and teacher to be exposed to the real skills needed in the job market. Reading, writing, math, or science were courses which Vital Link brought to life for the students. Not only subject matter was brought into the program, but more importantly leadership, organizational, and communication skills were also illustrated to the young student.

Lockheed Martin and Casa Manana were the first two partnerships with ALA when the school was less than 2 years old. The next year Fort Worth Botanic Garden and American Airlines partnered with ALA. Since ALA opened up their doors, there have been over 50 different partnerships and in its zenith hour 18 partnerships were on-going during 1 year; however, Casa Manana, Lockheed Martin, and the Fort Worth Botanic Garden have remained loyal and extremely important to ALA. Through these three

partnerships, mentorships for the Future City competition are provided, judges for students' motorized car competition are sent, guest speakers come, and an outdoor garden and greenhouse facility for the ALA students are provided by these dedicated community partnerships.

It is the business sector which gives the students real world applications to their classroom studies. In 1994, the first annual FWISD Applied Learning Convention was held and sponsored by Southwestern Bell, Fort Worth Police Association, and Lockheed. Local schools, businesses, and city government officials were invited to see what applied learning students do inside their classroom. Students displayed and presented projects and their quality of work to the attending audience. Without this community connection, teaching the applied learning method would be hollow and incomplete.

Applied Learning Impact on FWISD

The applied learning impact on FWISD: (a) helped plan the SCANS Report which created the Applied Learning Program from the C³ project, (b) generated curriculum, (c) promoted goal oriented K-8 faculty, (d) provided small school structure and unique schedule, (e) received city wide and national recognition, (f) continued John Dewey and Lauren Resnick's philosophy, and (g) provided applied learning workshops, convention, and published material. The applied learning philosophy stimulated the mind to think outside of the box and brought about changes to the FWISD. Changes were occurring nationwide due to the SCANS Report and Fort Worth was one of the leaders emerging in the educational field.

Discussion of Summary Results of the Applied Learning Impact on FWISD

SCANS Report and C³ Created the Applied Learning Program

Fort Worth had a foot in the door when it was time to prepare and write the SCANS Report. Dr. Gary Standridge, from the Research and Development Department of FWISD was part of the SCANS focus group which met in August of 1990. Later, Mr. Steffen Palko, FWISD School Board member of District 5, was a SCANS member assisting Lynn Martin, U.S Secretary of Labor. Another important member was Dr. Lauren Resnick, co-director of the Learning Research and development Center at the University of Pittsburgh. With the Fort Worth connection to the SCANS Report, the C³ Project was instrumental in changing the philosophy of Fort Worth's education. The C³ program had project work teams composed of Equity 2000, district wide instructional initiatives, Vital Link, building level initiatives, assessments, and applied learning. Under the applied learning content came applied learning classrooms for the district creating the Alice Carlson Applied Learning Center for grades K-5, Applied Learning Academy for grades 6-8, and the yearly Imagination Celebration program. At this time there was no intention for an applied learning high school.

In 1983, *A Nation at Risk* (National Commission on Excellence in Education, 1999) called for immediate reform of the U.S. educational system during the Presidential term of Ronald Reagan. By the end of the 1980's decade, the nation's 50 governors and President Bush adopted National Goals for the year 2000 in Charlottesville, VA, 1989. One of these goals asked that national standards should be established for the five core subjects of math, English, science, history, and geography. President Bush then

announced the National Education Goals for the year 2000 and established a National Education Goals Panel (NEGP) in 1990 and the Secretary's Commission on Achieving Necessary Skills (SCANS) was appointed by the Secretary of Labor to determine the skills young people need to succeed in the world of work. The New Standards Project also came out in 1990 which was a joint project of the National Center on Education Economy and the Learning Research and Development Center. "There was a lot of time, money and energy going on. Everybody was grabbing government dollars from the National Center on Education and the Economy and the National League of Cities, which Fort Worth was a member" (W. Wells, 2008).

Dr. Lauren Resnick (1995a, 1995b, 1996) was co-director of the Learning Research and Development Center and her research learning center helped to create a system of standards for student performance in several areas (McREL, 2009a; 2009b). Just as Dr. Resnick and her research team were helping to prepare the SCANS Report, Sally Hampton, Steffen Palko, and Dr. Gary Standridge from Fort Worth were doing their best to help write the SCANS Report also (Texas Education Agency, 1992). "Sally by hook or crook sunk deep into the SCANS Report and together with Steve Palko" (member of the Fort Worth School Board and member of the SCANS committee) brought Fort Worth to be the front runner for setting the educational standards (W. Wells, 2008). It would seem then that two women, Hampton and Resnick, were doing their best to have a chance to create the national standards for our educational system.

Generated Curriculum

FWISD teachers throughout the district were being trained during the summers to teach applied learning. By 1994, more than 250 teachers had received applied learning training. New curriculum was generated and published showing a wide variety of innovative and nontraditional ideas for the classroom. Two volumes of a collection of project plans for K-12 were published by the FWISD Department of Standards and Applied Learning in 1996. These projects ideas listed the goals, competent adult models, audience, general objectives, resources, outlines of the project plan, and rubrics for assessments. Examples of these applied learning projects ranged from a paper recycling presentation for elementary schools, a national parks brochure designed for middle schools to a video for the FWISD Student Placement Center.

Barron et al. (1998) and Newmann et al. (1996) write about the positive aspects of project-based learning which ties in problem solving lesson plans. This educational strategy generates authentic pedagogy by teaching real world problems inside the classroom. Applied learning parents wanted their children to use critical thinking skills which Schank, (1993) and Schank et al. (1993) referred to when freedom of choice is provided with project-based curriculum. Having the freedom and approval from the administrators to develop individual classroom lesson plans gives the teacher their own empowerment (Freire, 1990; McLaren, 2007; Shor, 1992). With this empowerment, the applied learning teachers could really impact their own classroom. "I do think the applied learning program has impacted the FWISD educational program. It is highly

valued by parents especially in the southwest area. I would say even our detractors will find something to like in applied learning” (D. Dickens, 2008).

Promoted Goal Oriented K-8 Faculty

Fort Worth had two applied learning schools which developed a goal oriented faculty totally immersed in the applied learning philosophy for grades K-8. These teachers would work together late into the night at school to make sure their applied learning lesson plans would be appropriate. Dedication and tireless effort paid off since both schools were continuously recognized from the state testing, but more importantly due to their innovative methods of teaching, educators were coming to visit these schools on a regular basis. The George Lucas Educational Foundation interviewed these applied learning teachers twice to explain how these schools put project learning at the forefront (Butterfi, 1997; Monsef, 2001).

Both schools wanted their academic program to be successful and shared this common goal. Since two schools stood alone under the title of applied learning, faculty worked together during the summer training or when the schools had dual in-service meetings. “Knowing the sequential steps of learning and knowing your subject matter well will then allow you to venture out and explore new content areas on what is more interesting for your own students”(W. Williams, 2008). This dedication from the teachers to work together with each other or with their students should not be taken for granted. “School reform cannot succeed unless it focuses on creating the conditions under which the teacher can teach and teach well” (Center for Public Education, n. d. p. 1). Middle school teachers relied on the elementary teachers whenever class projects

called for a younger audience. It was just naturally given and expected that these two schools worked especially close since the common goal of keeping applied learning successful was shared. “The more I learn about it, the more I like it and the more I want to learn” (J. Johns, personal communication, July 29, 2008).

Most of the Alice Carlson students would be coming to the Applied Learning Academy as incoming sixth graders so keeping the same students successful could be met when sharing the same students. ALA students would naturally go back and visit with their applied learning elementary teachers. Exchange of the student’s growth would be shared by these two campuses. This closeness of working with two campuses created a family feeling between the class partnerships and a family feeling since students and their siblings were shared between each school.

Provided Small School Structure and Unique Schedule

Starting out small was not the intention of ALA, but keeping it small was. Since the original location was the old administration building in the museum district, space was a challenge. The AEIS reported 53 students were enrolled during the school year of 1993-1994 and within the next year (plus another grade) the enrollment jumped to 128. A small school building was secured the second year and this middle school grew comfortably to the new site. By the time all three grades were finally included, the enrollment for the student body was 242 students. The student body remained under 300 by the demands of the principal; however, the school was forced to move again to a larger site and share the structure with the International Newcomers Academy, a school

for the new immigrant students. Once the move was made, the ALA enrollment finally spilled over 300 and has remained below or near 350.

When ALA opened its doors in 1993 for the first sixth graders, the schedule was synchronized with their elementary feeder school of Alice Carlson. ALA and 23 other FWISD schools had year-round schedules during this time. The 180 days in the school calendar was based on a 12 month schedule rather than the traditional 9 month schedule. Year-round scheduling in Fort Worth started in 1992-1993 when W.J. Turner Elementary became the first school to adopt a 9 week school with 3 week intersession rotations. More parents volunteered and attended workshops or adult education classes during those 3 weeks of intersession at Alice Carlson and ALA. Children and teachers were refreshed after the more frequent breaks and children seemed to remember what they were taught. “My child was completely responsive to the school’s year-round calendar and hours from 9 to 4. It was much more conducive to her learning style” (E. English, 2008). As the years went by, the year-round scheduling slowly disappeared from many schools and changed to 9 weeks in class with 2 weeks off during intersession. Parents and student enrollment during the intersession decreased which may have been the cause or the result. The pro’s and con’s with year-round scheduling challenged many schools (Howell, 1988). The Fort Worth school trustees voted in a nine to zero favor of placing ALA on a traditional school calendar to take effect when school started on August 25, 2008. “That leaves Alice Carlson Applied Learning Center and Jo Kelly School (for special-education students) as the only district schools with extended schedules” (Smith, 2008, p. 6B). Ironic that these two schools, one a special

interest program and the other a special education school are the last Fort Worth schools with a year-round calendar.

Another unique scheduling piece was the combined classes of math with science and English language arts with social studies for the students. All grades had this block schedule program when ALA was young, but slowly these combined core subjects faded away into separate courses taught by individual instructors as any traditional school would have.

School effectiveness has been documented when small schools or small class sizes are created (Guldemon & Bosker, 2009; Waters, 2008; Werblow & Duesbery, 2009). “If I got to design my own school I would design it like ALA use to be” (D. Dubois, 2008). The student body was under three hundred and class size was manageable. All faces in the hallway would be known by the instructors and administrators. Having the school within a school at the high school level was not effective for total immersion into the applied learning philosophy or developing any relationships and make connections since the student population was so large. Research has been conducted when special programs are within a larger school, conflicts may arise while meeting the special learning needs and promoting social equity (Iatarola, Schwartz, Stiefel, & Chellman, 2008; Matthews & Kitchen, 2007; McQuillan, 2008). “This program needs a total school which stands by itself”, and then the K-12 applied learning program would be complete with a smooth transition for each grade level (L. Lufkin, 2008).

Received City Wide and National Recognition

Because of the C³ program, Superintendent Dr. Don Roberts received the National Association of Partners in Education's prestigious 1993 McKee Foods Corporation award honoring contributions of individuals involved in school partnerships that support education reform. During that same school year, the National Alliance of Business (NAB) and Scholastic Inc. honored the Fort Worth community with a major national award, Community Award for Excellence in Education for the successful C³ Program. Besides receiving national awards, both of the applied learning schools have been continuously recognized and awarded by the Texas Education Agency for their state testing scores each year and locally awarded by the district for their volunteer service hours.

“ALA was once the model school for our district when it first started. People constantly toured the building to see how it worked and use it as a model for their own district” (D. Dubois, 2008). Awards of success build school pride and improve student achievement (Anderman & Maehr, 1994; Collier, 1988; Klesse & Biernat, 1989; Lindjord, 2003). Small awards for the school campus such as the most beautiful campus or large individual awards such as the President's Education Award demonstrates that whatever is being done, must be right (United States Department of Education, 2004, December).

Continued Dewey and Resnick's Philosophy

Based on John Dewey's philosophy to learn by doing, the applied learning program continues to put active learning first. John Dewey would probably feel right at

home in a Fort Worth applied learning classroom; however, with the rise of state testing and the decrease of applied learning training Fort Worth's new educational path has picked up a past friend from the early days of the SCANS Report, Dr. Resnick. The Learning Research and Development Center from the University of Pittsburgh is again helping the FWISD teachers with the introduction of the Institute for Learning (IFL) program by training the teachers to reach a higher level of inquiry inside the classroom. Projects and active learning is again emphasized to keep the students engaged.

The child-centered classroom with activities for student engagement was Dewey's model school for all to study at his Laboratory Schools in Chicago (Dewey, 1900/1990; 1902/1990). "Testing wasn't forced down our necks at ALA" (Karen, 2008) since the student was kept active with projects rather than worksheets or test drills. Years of research and writings on how a child should be taught kept Dewey writing for many years on educational philosophy and practices (Dewey, 1963; Dewey, 2002). With his background in philosophy, John Dewey finally wrote a book in 1910 on how we think which shadows over the modern day educator of Dr. Lauren Resnick (Dewey, 1986; Van Sickle, 1985). Dr. Resnick and Megan Hall's philosophy seen in the *Learning Organizations for Sustainable Education Reform* as "nested learning communities" keeps the classroom connected with the community (Resnick & Hall, 1998, p.109). Thus, we learn together as small communities, which Dewey would add as a democratic society (Dewey, 2002).

FWISD is again looking at Resnick's educational philosophy today. Even though the term applied learning has slowly disappeared from many districts, the new

FWSID curriculum comes from the Institute for Learning (IFL) whose co-founder, Lauren Resnick, believes in the importance of the SCANS Report. Today “the district is using applied learning methods to a small degree. This will take work and a lot of planning from the teachers, but will the teachers buy into this system” (W. Williams, 2008)? That is the main question to ask each school principal.

Provided Workshops, Convention, and Published Material

Starting in 1991, FWISD conducted summer workshops for the district to train teachers in applied learning. By 1994 more than 250 teachers received applied learning training. Training is still on going in 2008-2009; however, these workshops are only attended by the faculty of ALA, Riverside Applied Learning Center, or Alice Carlson Applied Learning Center. FWISD no longer provides applied learning training district wide.

The first Fort Worth annual applied learning convention was held April 27, 1994 at the T&P Railroad Building downtown Fort Worth. The high school students in applied learning classes at Trimble Technical High School organized the convention under the direction of their teacher, Gary Braudaway, and Bill Calder, writing specialist of the Keystone Project. Area businesses were invited along with the city officials to enlighten the community on applied learning and how it has changed the Fort Worth classroom. It was hoped that this exposure to more community leaders, would bring in needed support to increase the number of applied learning classes and schools. This convention received media coverage; however, the initial goal of the continuation of applied learning schools was increased by one when the Bonnie Brae Elementary School

was renamed and converted to the Riverside Applied Learning Center in 1996. Applied learning programs nationwide were not accomplished due to the push for NCLB, nor was there another applied learning convention in Fort Worth.

Project ideas from the Fort Worth teachers' summer workshops were published in two volumes by the Department of Standards and Applied Learning for the Fort Worth schools in 1996. The *Performance Standards* (2005) Volume 1 and Volume 2 of the *New Standards for English Language Arts, Mathematics, Science, and Applied Learning* were also written by Fort Worth applied learning teachers using their classroom project ideas and project ideas collected across the nation. These summer workshops were like catalysts for the applied learning teachers due to the outstanding speakers brought in.

Guest speakers were brought in from NYU, the Harvard Graduate School of Education with their Project Zero, speakers from the Foxfire program, and Deborah Meirer, founder of Central Park East Secondary School of NYC. "That was the beginning of the applied learning curriculum for Fort Worth"(W. Wells, 2008). "It was a pure exchange of ideas with the teachers, sharing their pitfalls on what to watch out for and their successes (W. Williams, 2008). Workshops were meaningful to the applied learning faculty since published educational authors were invited. "It was a powerful thing. These teachers had published work and advanced degrees. I am extremely thankful that I just ended up at the right time at the right place (W. Wells, 2008). There was 100% agreement from the administrators who were part of the FWISD during the early 1990's that the first applied learning training was outstanding. "The teachers began

to buy into the system and they started their applied learning standards for their own school” resulting more teachers to have the applied learning training (W. Wells, 2008). The teachers’ acceptance of applied learning became a domino effect if done correctly and these teachers were open for changes in their classroom and documenting their work.

Deborah Diffily and Charlotte Sassman, both applied learning teachers from the Alice Carlson Learning Center published several books and articles on applied learning. Published work from the Fort Worth applied learning instructors have been *Sociodramatic Play* (Diffily & Fleege, 1993), *Family Friendly Communication for Early Childhood Programs* (Diffily & Morrison, 1996), *Project-based Learning* (Diffily & Sassman, 2002), *Managing Independent Reading: Effective Classroom Routines* (Diffily & Sassman, 2005). Diffily (1996) focused her attention on the small child concerning applied learning projects, but she also emphasized the importance of parental involvement when she wrote *Teachers and Families Working Together* (2004). For the middle school level, *Educational Leadership* and *Voices from the Middle* published applied learning articles by the ALA teachers (Miller, et al., 1995; Shambaugh, Hampton, & Miller, 1995) about projects and partnerships.

Summary Results of the Applied Learning Impact on FWISD

The applied learning impact on FWISD is: (a) from the SCANS Report and Fort Worth’s C³ program, Applied Learning Program was created, (b) quality teachers throughout the district generated a variety of nontraditional teaching methods and

curriculum, (c) goal oriented faculty in two schools for grades K-8, (d) small school structure and scheduling, (e) city wide and nationally recognized school program, (f) continuation of John Dewey and Lauren Resnick's philosophy, and (g) provided excellent applied learning workshops, convention, and published work. The applied learning philosophy stimulated the mind to think outside the box and brought about changes to the FWISD. What was tried and proven to work during the 1990's can still be used in the classroom for today's student.

How has the applied learning program impacted the Fort Worth Independent School District is the eighth research question? The teacher and administrator participants were able to give the most responses of how applied learning impacted the FWISD, but it was the business associates and administrators who were able to prove this impact due to their applied leaning historical knowledge in Fort Worth.

Because of the domino effect from the SCANS Report, National Standards, Vital Link, Sally Hampton, and Dr. Don Roberts an applied learning elementary school was developed. From just one elementary school, two other applied learning schools followed. Several years later, a high school applied learning program was promoted.

Even though new superintendents bring in new ideas and programs, the parent, teacher, and administrator group suggested that the new IFL program undertaken by FWISD 3 years ago could be considered an extension of applied learning since the IFL co-director was on the SCANS Report committee.

If the business participant was aware of the C³ program, then the business participants agreed that the schools working under the applied learning program

provided the district with a working model for successfully trained teachers.

Implementing this program at the elementary stage first was a good marketing strategy for the district. The nationally recognized C³ program was such a success for the district that partnerships continued to be a major emphasis for FWISD.

Three groups, student, teacher, and administrator, made comments how applied learning impacted the way teachers taught with new techniques brought back from unique applied learning teacher training workshops. The administrators said with properly trained applied learning teachers more applied learning could then be seen in more schools creating valuable pockets of excellence. Taking applied learning training during the 1990's summer months, developing applied learning projects in the classroom for over 10 years, to personally being asked by the new Fort Worth Superintendent to help save a troubled high school, an applied learning trained principal, Gary Braudaway, could be considered impacting the FWISD educational system on a smaller scale. Mr. Braudaway created his own pocket of excellence when his school finally climbed out of the low performance rating.

The parent and teacher participants thought that applied learning impacted FWISD by giving freedom of choice within the curriculum to the student and teacher. Students were able to finally have a voice about their education. With this voice they presented at local and national conferences about applied learning causing other educators to take notice of this program. One interesting comment came from a student participant about how applied learning impacted FWISD since applied learning helped students overcome their differences by constantly working in groups.

The administrator and teacher groups were emphatic about how applied learning impacted FWISD because many educators from all over the United States came to visit these model schools of applied learning during the 1990's. The educators who came to see applied learning in action went back to their cities in order to duplicate, refine, revise, or possibly ignore.

Marketing analysis are still surveying the residents of Fort Worth to understand the publics' opinion concerning the public school system, transportation infrastructure, utility services, economic health, parks and recreation, local libraries, government, and community events. A citizen satisfactory survey from the Cobalt Community Research recently mailed a Likert scale survey to the Fort Worth residents. This questionnaire had a 1 to 10-point rating with one meaning poor and ten meaning excellent. The very first question on this 22 question survey was to rate the local public school system on the following attributes: meeting the needs of the community, preparation of students for solid careers, preparation of students for college, and communication with the public. Thus, the city of Fort Worth and the Fort Worth ISD are still committed to keep new ideas flowing, apply what is needed, and to improve the students' future.

Misconceptions of Applied Learning

The last and ninth research question deals with the misconceptions of applied learning. A summary list of the misconceptions of the applied learning program involved are: (a) vocational or technical implications, (b) alternate school (c) idle program,

(d) project-based or service learning only, (e) fractures of philosophy and definitions, and (f) lack of vision. In reality, most of the misconceptions stem from the many definitions of applied learning.

Discussion of Summary Results of the Misconceptions of Applied Learning

Vocational or Technical Implications

The general public regards applied learning as vocational or technical training instead of basic skills weaved into the core curriculum. All of the business associates referred to applied learning as technical or vocational learning such as classes involving computer use, wood work, mechanical or electrical skills; however, one of the business associates did mention basic communication skills such as writing and editing. All education should be applied learning and all applied learning should be educational was best summarized by one of the business associates.

Most of the definitions of applied learning for school programs deal with vocational or technical instruction. When searching for information on secondary applied learning a wide range of articles appeared. There was the article on studying cognitive and metacognitive processes by Tomec and Peklaj (2006), Lazear (2001) discussing classroom technology, collaborative learning in logistics classes by Thomchick (1997), applied sciences from Gregegorian (1990), or the most interesting article, sex education through computer-aided instruction for early secondary students by Eamratsameekool (2008). These diverse topics fall under applied learning for secondary schools which explains why there might be confusion on what is the curriculum of applied learning.

Alternate School

It was the student participants who felt the stigma of being different when they listened to their peers explain what type of school they thought was ALA. Several of the student participants said their high school friends regarded ALA a special education school or an alternate school just because of the middle school name being the Applied Learning Academy. Many consider ALA as an alternate school for special needs. One parent continues to explain to outsiders (family or friends) about applied learning and what it is not. “Applied learning is not for remedial kids or special children” (E. English, 2008). In an email sent to a friend the parent participant wrote, “I was kind of shocked that you thought it was a school for kids that rode the short, little, yellow bus. Our daughter and her friends embraced it with such passion, the kind you just don't see in 13-year-olds” (E. English, 2008). One business associate considered the students to be special or gifted when he was invited to be a guest speaker for an applied learning project. Before he came to the school, he thought the students must be either very low academically or very gifted. He did not think the students would be typical teenagers.

In the beginning, ALA's first applications were from children who wanted to try something different instead of a traditional school setting. From the application forms, “phrases of I am not doing well in my school were written. We got an abnormal amount of problem children who were applying to our new ventures. We wanted as many mainstream kids as the problem kids” (W. Wells, 2008). Nor did it help the image of ALA to be transferred to their second location at the Bluebonnet School since the

Bluebonnet School used to be the facility for the handicap students of Fort Worth. ALA could not shake that past history from the community's minds.

Special interest programs replaced the phrase magnet schools in Fort Worth during the late 1990's, but the applied learning schools did not fall under this category or the alternate schools at this time. Alice Carlson and ALA were classified as other schools in the 1992-1994 FWISD progress report brochure, *One Mission, Many Connections*. As an interested parent seeking the best school for their child during this time frame, they might have doubts or questions concerning a school which is classified as *other* [italics added] instead of magnet or even special interest. Listed now on the FWISD web site are eight alternate secondary schools referred to as other schools and special interest schools are classified as separate programs in 18 schools. ALA is now referred to as a special interest program (SIP) and attends the annual SIP fair for incoming sixth graders and curious parents. New programs are being added each year for FWISD such as a total Spanish immersion program at the Burton Hill and Morningside Elementary Schools for the 2009-2010 school year and the International Baccalaureate (IB) program at Western Hills High School. FWISD seems to be placing special interest programs in each school to captivate their surrounding neighborhood. Alternate schools are not listed as PEAK schools and PEAK schools may be a SIP school. Special interest programs do not always guarantee that the school will excel academically, but special interest programs are one way of making a small school within a school (SWS).

The SWS model represents a combination of two reforms, creating smaller schools and the desire to increase educational choice (Ready & Lee, 2008). Ready and

Lee noticed that even though special interests are to attract *all* [italics added] students, typically the students segregate themselves by race and ethnicity, social class, or academic performance to keep their own form of smallness. Small school reform has been on-going, but at a slow pace for educational reform (Shear, Means, Mitchell, House, Gorgas, Joshi, Smerdon, & Shkolnik, 2008).

Idle Program

Without updating any program or business, customers may be lost or bored. Not generating a growing program due to the changing demographics is another way educational practices can miss out. “Applied learning gets a C- in being able to change what you have done. Just because you got an A+ five years ago, you have to be able and ready to make changes, not forgetting the basic principles of education (H. Henry, 2008). Even at the high school level, the applied learning program did not change as fast as it should have. The high school administration would not allow the teachers to develop a humanities team, a math-science team, and a cultural team so the students could really use their talents and interest. “The high school applied learning teachers had too many outside influences saying no” (O. O’Hara, 2008).

Idle academic programs within a school may mean that the administration accepts the fact that it must be a successful program, but when test scores start dropping or student enrollment decreases then internal evaluation should be attempted to find the reasons for a program’s decline. Auditing is usually required for most businesses, but academic programs should also take an internal look to improve yearly progress reports. Educational auditing for academic programs seen in Kentucky were reported by Richard

(2004) with a forced state mandated scholastic audit. Having the report in black and white stirred the faculty to do something and turn their school around causing more schools to volunteer for these state audits.

Project-based/Service Learning Only

Many of the activities seen inside the applied learning classroom would be classified as project-based or service learning rather than fulfilling a need; however, applied learning is more than service learning or project-based instruction. “There are a lot of names that get attached to this kind of work. It is kind of it and kind of not it”(W. Wells, 2008). One administrator compared applied learning to a project-based learning experience *plus* [italics added] the students have an audience; they have a client. “They are doing it for a purpose, not just to create a project, but the project is actually going to be used for something” (N. Nicholas, 2008). Another viewpoint came from the youngest administrator about applied learning not being project-based learning. “It is going to benefit someone. It will increase their sense of self-worth, not just creating this for a grade. What I am doing means something to society whether it is my school society or society at large” (D. Dubois, 2008). Applied learning is taking parts of the curriculum and fulfilling those requirements by using student led projects. These projects are not led by the teacher, the parent, or even a competition such as science fair. “Planting a tree is just as important, but it is *not* [italics added] applied learning. That is community service not applied learning.” (N. Nicholas, 2008).

Barron et al. (1998), Capraro with Slough (Eds.) (2009), and Newmann et al. (1996) discuss the benefits of project-based learning from problem solving lesson plans,

authentic pedagogy, teaching real world problems, and relying on independent, critical thinking skills. Any teacher would benefit from these goals in their lesson plan, but project-based learning is not 100% applied learning. This nurturing of the independent thinker combined with the goal-based, target skills tries to achieve a specific goal and designed curricula (Schank, 1993; Schank et al., 1993). Yet, a need must be met from the outside community to improve, revise, or produce a product for outside evaluation (*Performance Standards*, 2005).

Fractures of Philosophy and Definitions

More misconceptions come from fractures of applied learning philosophy and definitions. Fractures of the philosophy have been noticed due to the loss of experienced faculty and replaced with inexperienced teachers without applied learning background. If the new teachers are trained are they really buying into the system? “Are they really clear on the definition of applied learning? They are not taking applied learning to the next step. They are just working together in their core courses in a similar way, but not really true to the philosophy” (O. O’Hara, 2008).

The youngest research participants gave their own personal definitions about applied learning. “You actually taste it, touch it, smell it, and interact with it. You are learning the same thing, just in a different way” (Isela, 2008). One student’s definition is to learn by osmosis or absorbing rather than studying or memorizing. The phrase, applied learning, means it comes alive. “The applied really sticks; it is not just a word” (Demarcus, 2008). Applied learning is an opportunity for students to learn outside the classroom and to apply basic skills in a *social* [italics added] environment, but that is not

the final definition. “I think there are some critical factors that again can be negotiated for that big one definition. You have to be able to look at it and revise it, judge it, and redo it. It is the *semantics* [italics added]” (W. Wells, 2008).

One of the parents was concerned if “hands-on really pushes learning or is it just playing? Is it really learning”(O. Owa, August 7, 2008)? Too many parents enroll their child in this school simply because it is small and safe. “If you are going to do applied learning, certain skills should be taught at the elementary level” (J. Johns, 2008). Since these students are new to the applied learning structure having group discussion or independent research time may lead into wasted time for these students. “They start having too much fun with this free unstructured time in class. A lot of times, these kids do not see it as a need to help with an applied learning project” (G. Gomez, 2008). The key to understanding the definition of applied learning or describing this philosophy should have the word, need, attached to this phrase.

The definition of applied from a standard dictionary is “used in actual practice or to work out practical problems such as applied sciences” (Guralnik, 1978, p.67). Looking at a state program in Wisconsin for applied learning brings a “new promise for high school success with opportunities, rigorous authentic learning experiences that are relevant to the student’s learning needs and future ambitions ”(University of Wisconsin, 2008, ¶ 1) At the international level, an entire Australian state, Victoria, defines applied learning from their curriculum and assessment program with eight principles which tends to lean towards the apprenticeship and traineeship that goes with the entry level of jobs (Victorian Curriculum Assessment and Authority, 2006). Harrison (2006) tries to

define applied learning through the eyes of the Australian students who have gone through the graduate program of applied learning at Deakin University. His conclusion, each student gave a different definition, but strongly tied to “work related skills in the notion of education for its own sake rather than for a preparation for future living...simply a complex pursuit” (Harrison, 2006, p.12). Harrison used Jerome Bruner’s definition of education and this should be noted that, “it (education) is a complex pursuit of fitting a culture to the needs of its members and of fitting its members and their ways of knowing to the needs of the culture” (Bruner, 1966, p. 43) Again, the use of need is brought out by defining education at an international and state level.

Lack of Vision

The lack of vision, connections, and a continuous applied learning K-12 program helped to confuse what applied learning meant in Fort Worth. The decline of the program due to straying from the original vision or having a lack of a vision tangles the meaning of applied learning. What is the curriculum the applied learning teachers should be following? Does applied learning curriculum teach to the test? Are the lesson plans applicable to the test and to applied learning? The curriculum needs “to be geared to applied learning and all learning is applied. The curriculum has to be the right kind of curriculum that you are teaching and that you are testing them for” (H. Henry, 2008).

These questions about the curriculum and the struggle for alignment to the test leaves applied learning teachers worried that they might miss making the necessary connections from the real world into the classroom. Parents no longer see a connection

or support between the applied learning middle school and the applied learning high school.

The high school “is a school within a school within a school... They have so many different hands in the pot that they can not be true to any one philosophy. The applied learning high school program is only on paper” (O. O’Hara, 2008). It was as if the applied high school was not really there. Few of the applied learning middle school teachers would recommend this high school for their exiting eighth graders. “The continuous plan of a K-12 applied learning program fell through and gave the ALA parents a feeling of abandonment by the district” (N. Nicholas, 2008).

Another misconception for ALA was the conversion of eighth grade portfolio grades to numerical grades. Originally the students were given scores of four, three, two, one on their final narratives and portfolios, but the traditional high schools needed percentage grades. “There was an irritating problem concerning the transfer of narratives into grades for the eighth graders when leaving for high school. Some high schools did not believe in the ALA grades when it was converted from the child’s narratives” (W. Wells, 2008). Because of this skepticism, the transfer of ALA students into traditional high schools was not always a smooth connection between the middle and high schools’ offices.

A continuous K-12 educational program has been the norm for decades. That is how the United States school system has been designed. New programs are still being written for schools and typically the age groups included are for K-12. When a program is then targeted at a smaller audience such as K-3 or 6-8, the consumer is placed in a

narrow window. Ngai, (2004) writes about the K-12 multicultural curriculum while Brown, (1993) documents the K-12 conceptual science program for Iowa schools, but several of the administrator participants regarded the applied learning program just for K-8 instead of a continuous program through high school. Most of the student participants who had started out at Alice Carlson were ready to go back to the traditional high school setting. They seemed to have had enough of portfolios and projects. The student participants who had not gone to an elementary applied learning school were ready to continue with the high school level if there had been an applied learning program at the appropriate time. A lack of vision because of the weak high school applied learning program may have really been clear vision for the majority of the students.

Summary Results of the Misconceptions of Applied Learning

The summary results of the misconceptions of the applied learning program involved: (a) vocational or technical training instead of basic skills weaved into the core curriculum, (b) having student peers and the local community regard ALA as an alternate school for special needs (c) not generating a growing program due to the changing demographics, (d) project-based or service learning only rather than fulfilling a need, (e) fractures of applied learning philosophy and definitions, and (f) the lack of vision, connections, and a continuous applied learning K-12 program. Once the *Performance Standards* (2005) were published in 1997, the confusion of the definition of applied learning should have been reduced, but listening to the variety of definitions from the participants proved otherwise. Not all participants thought there were

misconceptions about applied learning. When asked about the definition of applied learning one administrator quickly said she was not aware of any misconceptions about this phrase and seemed puzzled that there would be (D. Dickens, 2008).

The last and ninth research question deals with the misconceptions of applied learning. When anyone enters this phrase, applied learning definition, into an Internet search engine applied sciences, technical, or vocational references appear. One search engine gave out 1, 350, 000 definitions to this phrase. Four of the five group participants, business associate, student, parent, and administrator gave different explanations about applied learning. Technological or vocational learning are the misconceptions about applied learning from the business participants who were not involved with the original C³ planning. When a high school student attends school for half a day and then goes off campus to a designated work site that is not applied learning, but merely applying for future jobs by being introduced into the work force and learning job skills.

A misconception comes from the name of the school. When hearing the name, Applied Learning Academy, each group considered the school to be private, special education, gifted, or more than likely an alternate learning center for troubled youth. Student participants would tell their new friends in high school what middle school they attended and received unusual looks from their friends' faces. Parents would tell family or friends about the Applied Learning Academy and would then have to explain what the school was about. One business associate considered the students to be special or gifted when he was invited to be a guest speaker for an applied learning class.

Another misconception about applied learning is the definition given by all the group participants. Each participant would define applied learning in their terms rather than give a textbook definition. The business associate referred to applied learning to technical or vocational learning. Students considered applied learning related to service learning and project-based learning or using all your senses for socially learning. Student participants referred to applied learning as hands-on or project-based without the community connection. Some of the students did not make this connection that the applied learning project should be a community need which the students work, plan, and try to solve the problem by designing a product, redoing a product, or planning an event for an outside audience or evaluation.

Some parent participants knew there were connections to real world applications while one parent participant considered applied learning as playing. Some parents' misconception about applied learning was linked with the Montessori method of teaching where the love of work emerges when a child is given the freedom to learn at their own level. The overlap of the words, work and freedom can be confused with applied learning since the Applied Learning students do go out into the work force through the Vital Link Program and learn the necessary skills for that particular job. Applied learning students learn, work, and study *together* [italics added] a class objective or topic. The ALA student does not necessarily work at their own pace or with different age groups mixed together in the same classroom which is what you would find at the Montessori schools.

Teachers and administrators were the closest to defining applied learning by revising work and having an outside audience, but these participants also gave different definitions. Inexperienced teachers' misconception about applied learning is the same as the students where it is teacher driven with hands-on project-based learning with no community connection or outside evaluation. For example, the researcher was given permission to look through an experienced applied learning teacher's journal which she is keeping throughout the 2008-2009 school year for her sixth grade applied learning class. Below are excerpts from this journal to illustrate that the applied learning class is student driven with group projects:

August 27, 2008: Today we brainstormed problems at the school or in the community which could be solved/improved. 3 students pointed out the use of multiple ideas as a Habit of the Mind.

August 29, 2008: Discussed 3 types of projects from New Standards. Applied to brainstorming list. Chose groups based on interest. 2 large groups and 2 small groups-interesting dynamics. They seem to know who is good to work with. The speakers for each pair were very poised.

Sept.3, 2008: Examined 3 models of proposals. Used question on steps to proposal writing to evaluate the effectiveness of proposals. Brainstormed details of the problem. Very concrete.

Sept. 12, 2008: Went back to steps to writing proposals-not enough detail. Began writing survey, need to have info to support the need. Making progress, but large groups are slowed down and 2 or 3 are unengaged.

Sept. 16, 2008: Designed proposal rubric-the group needs help seeing the big picture. They get hung up on minor details-Created the image of being out on a limb and asking what if the limb is....used to draw group back to discussion. (O. O'Hara, personal communication, 2009).

The journaling shows the beginning steps for applied learning. Another example of teacher's misconception for applied learning is when the math and science teachers got together to brainstorm ideas on what could be done for TAKS prepping. The Fort Worth ISD required all schools to tutor for the TAKS and hold TAKS Camps, but the Applied Learning Academy applied their imagination and skills to actually measure, hammer, glue, and paint actual mathematical products for a Math and Science Day Camp. New applied learning faculty came up with ideas to make consumable things such as balsa cars to reinforce measurement skills, but it was the experienced applied learning teachers who turned the products into bat houses, blue bird houses, or quilts to give to the surrounding community or national organizations which could use and need these products. Outside evaluators were brought in to assist with the making of these items and give an explanation on why these products are needed. Assessment by the outside evaluators was not done since this was not a class project, but an entire day devoted to math measurement on science topics to produce needed products.

Student evaluations from the Math and Science Day Camp came in showing a 100% wanting another Math and Science Day Camp for next year. "I learned about the different steps it takes to build a blue bird house. I like it because it was fun to build the stuff" (11-year-old student, personal communication, March 5, 2009).

One new ALA teacher was almost in tears during this Math and Science Day Camp, because she was totally out of her element. Even she had to apply her rustic math skills and learn side by side with the students about how to make a bird house. By the end of the day, she was very excited with the finished products scattered all over her classroom. “The whole experience was delightful. Anytime I can play loud music and use power tools in my classroom, a good time is guaranteed; however, my measuring skills leave much to be desired” (New applied learning teacher, personal communication, March 11, 2009).

Three groups, parents, teachers, and administrators considered the applied learning high school to be a misconception. Since the high school program was implemented very late, parents thought the district lacked the applied learning vision. These groups also said there was little connection between the high school program and the applied learning middle school program.

Individually some of the group participants gave interesting comments about applied learning misconceptions. Teacher participants think a misconception about attending an applied learning school is not for the philosophy, but for the small and safe campus. The business associates said applied learning should continue to change since your clients (the public) are changing.

A new administrator’s misconception about applied learning is micromanaging the concept or not thinking applied learning is rigorous if they have not been trained or taught using applied learning. One administrator participant who works closely with the superintendent did not think there were any misconceptions about applied learning that

she was aware of and was surprised with this question during the interview. Thus, a broad spectrum of ideas was displayed for this particular research question.

Implications of Theoretical Framework from the Research

The three theoretical applications for the framework of this research came from the critical theorist, situated learning, and the feminist theorist. Review of the scripted dialogue was undertaken and key words or phrases were focused on from the script of each participant. Before the start of the data collection, it was assumed that the situated learning theory would be the main foundation for the applied learning teaching method simply because this was the theory closely related to Dewey and his philosophy. Even though the total comments were close in number, the participants did allude more often to the situated learning theory. Finding the percentage of the three theories, situated learning had 45% referrals when compared to the critical theory with 33% and the feminist theory with 22%.

At times there were overlaps in the phrases such as thinking for yourself (critical) versus locating yourself (feminist) or having the freedom of choice could belong in both of these two theories. Another example would be community of practice (situated learning) or cooperative work (feminist); however, examining what the participant was referring to and then deciding which theoretical application best fits, the phrase was then placed in a theoretical category. Surprisingly, one sentence could refer to all three theories. For example, one student participant said, "Portfolios were a way for me to express myself (feminist-locating yourself), to critically think about what I learned (critical-developing independent voice, think for yourself) and what I did" (situated

learning-reflection on activity). For each phrase or key word made within a sentence it would be counted separately and the decision as to which category the phrase should belong to was again weighed heavily on the entire context of the sentence.

Situated Theory

As to which theory is favored or applied, the situated learning theory was referred to most often by the participants; however when comparing all five groups together, two groups (teachers and parents) related their comments to the critical theory while the administrators' and business associates' interviews cited the situated learning theory the most. Life skills, reflections, active, social interaction, community of practice, situated around an activity, learning through social development, or finding the need to learn were the words and phrases which referred to the writings of John Brown, Allan Collins, Paul Duguid, James Gee, Jean Lave, Etienne Wenger, and Lev Vygotsky for the situated learning theory. The phrases such as learn by doing, hands-on, and project-based learning were also very similar to the philosophy of Dewey and his experimental Laboratory Schools in Chicago. The administrators and business participants gave the most references to the situated learning theory during their interviews while the student and teacher group gave the least. Even though there were more teachers interviewed, by pulling out the key words for all the theories and finding the total for each group, a percentage was then calculated. The business participants gave references to the situated theory 69% and the administrators' comments showed a 67% reference. Students and teachers were almost equal having 19% and 18% respectively.

Critical Theory

One aspect of education, brought out by Paulo Freire (1990) has been well documented since his publication of *Pedagogy of the Oppressed* on the banking concept of education. This was *not* [italics added] one of the theories which frames applied learning; it is the total opposite style of teaching when compared to the applied learning method. It was the parent group who mentioned the concept of banking education the most with phrases such as memorizing worksheets, TAKS drills, and regurgitating homework. A 25% rate of referencing to the banking concept was given by the parents during their interviews which was also the same amount of referencing for situated learning.

Power, change, ownership of work, loss of voice, deskilling, development of the independent voice, thinking for yourself and sharing roles were the words that related most to the writings of Paulo Freire, Ira Shor, Peter McLaren, Henry Giroux, and Paul Willis. The teachers and parents made the most references to the critical theory with 46% remarks from the teachers and 42% comments from the parents during their interviews. The least references concerning the critical theory came from the business associates with only a 14% reference. Both administrators and students shared equally their critical theory comments giving a 23% rate.

Feminist Theory

What was surprising was the student group gave the most references to the feminist theory. Phrases with gender references, the process of thinking or communicating, finding yourself, developing close relationships, free choices, written

products, narratives, cooperative work, process of thinking, learning the power of the culture, and product development helped to identify the feminist theory. Students had a 40% rate of citing the feminist theory while the parents had the least with only an 18% reference. It was assumed that the teacher group would reference the feminist theory the most since all teacher participants were females having an median age of fifty and who grew up watching Gloria Steinman, Shirley Chisholm, and Bella Abzug on television.

From the student group, the majority of the participants were females, but being gender specific inside the applied learning class was not really specified. It is interesting to note that the parent group which related to the feminist theory the least had children who were both male and female equally distributed among these participants.

Using a typical TAKS question of rating the theories (including the banking concept) from the greatest to the least for each group the results are:

Business associates (n= 4) = situated learning, critical, feminist, (banking concept)

Students (n=9) = feminist, critical, situated, (banking concept)

Parents (n=7) = critical, situated learning, (banking concept), feminist

Teachers (n=6) = critical, feminist, situated learning, (banking concept)

Administrators (n=6) = situated learning, critical, feminist, (banking concept)

The application from the referencing by the participants to the three theories reconceptualized the original design of the applied learning model.

3-D Theoretical Applied Learning Model

Once the structural foundation had been laid to establish the applied learning method, the articulated framework was next introduced to best explain this method of

teaching. The design from the quantum mechanics model of an atom with different orbitals to represent portfolio assessment, project-based inquiry, and service learning surrounded by the community as the outer shell was selected to illustrate an applied learning conceptual model (see Figure 2). In order to tie in both the theoretical applications to the articulated framework of applied learning, a new conceptual display was designed. Originally, a standard five-tiered staircase illustration was selected to show the applied learning theoretical framework. Situated learning theory begins the climb upward with critical theory as the second level, and then the feminist theory as the last tier of the articulated framework. Portfolio assessment and project-based inquiry are then placed at the top of this five-tiered design (see Figure 3). Community and service learning projects surrounds this two dimensional framework as a circle, but the design does not generate enough energy flow, continuous growth of applied intelligence, or a flexible exchange between the overlapping theories and orbitals of the applied learning teaching method.

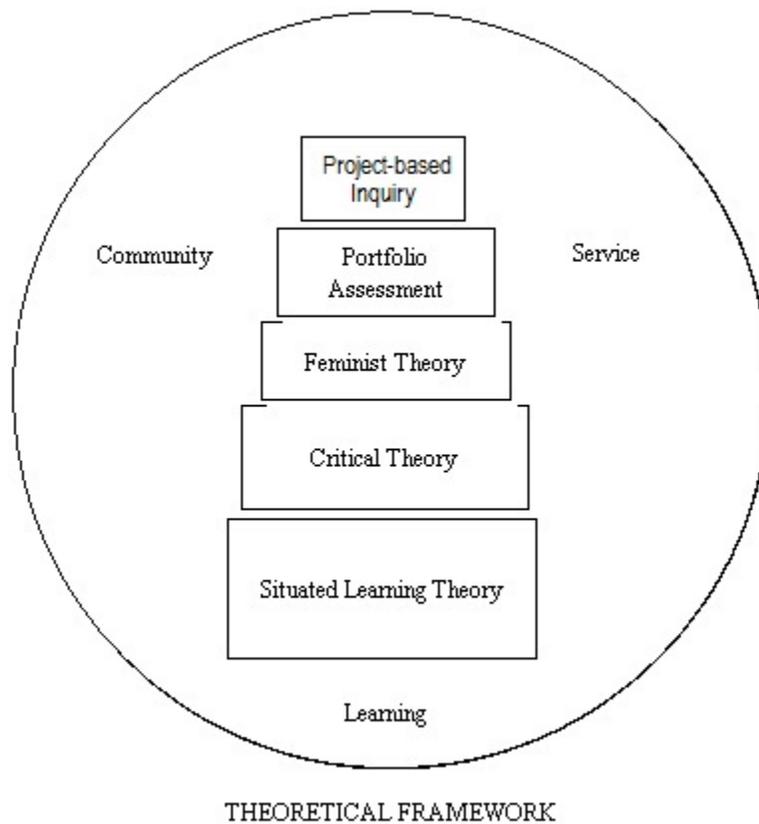


Figure 3. A two dimensional design combining all three theories to the articulated framework of applied learning.

After the research a new figure had to illustrate the final design of the visual display on how the value of each theory builds into the applied learning teaching method. This design must satisfy the quantum mechanics of having a higher order energy level as the child grows academically. From the results of the participants' interviews, the three theories and the articulated framework of applied learning should be designed atomically together rather than a two dimensional drawing. As the energy increases for the atom so does the outreach of the orbitals and the expansion of the

atomic radius. Similarly, the student's skills grow in applied learning through portfolio assessment, service learning, and project-based learning represented by the three axes with community involvement being the first energy level of education. Each of the theories represents an outer energy shell of higher academic energy starting with the feminist theory closest to the inner core of the student and community followed by the critical theory and lastly, the situated learning theory enveloping the entire student (see Figure 4). A reconceptualized diagram emerges to synthesis the collected data and the theoretical framework from the case study of the ALA middle school.

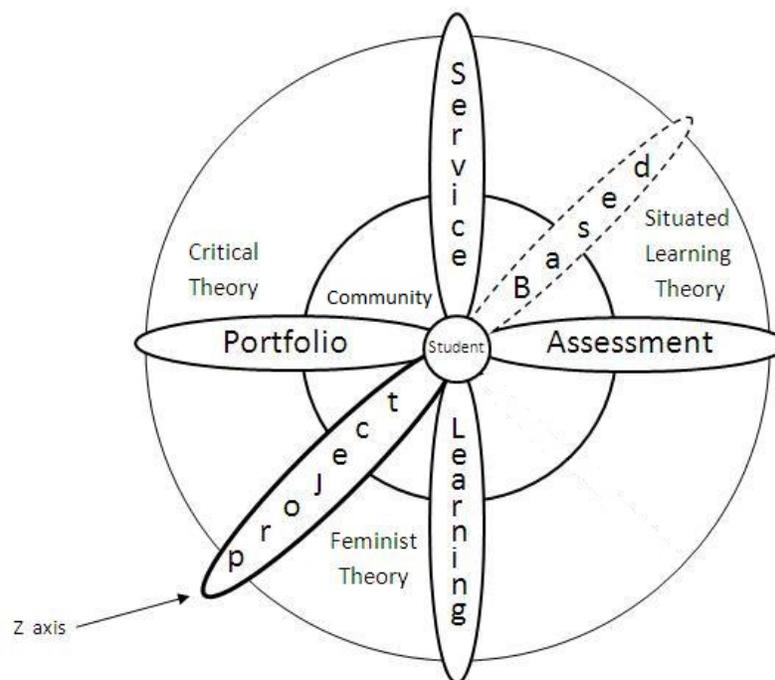


Figure 4. The reconceptualized quantum design of applied learning incorporating the theoretical models within the figure.

Future Investigation

The participants' dialogues brought out several future investigations to explore. Just as science discoveries do not follow a standard scientific method, research does not stop once the problem has been answered. Typically more questions are asked causing more discoveries to be made. Revealed through the printed script, more questions appeared which would require further study.

The most demanding and hardest research would be the ability to measure the outcome of applied learning. Student content and subject comprehension can be gathered from TAKS scores, but what about organizational, communicative, adaptability, creativity, cooperative, critical thinking, and problem solving skills? Needed are new non-standard assessment skill sets and evaluators who would be able to design the criteria and judge these skills found in applied learning. A look at the exiting students who remained in the applied learning program for K-12, K-8, or K-5 could be another angle to investigate and understand the outcome of applied learning.

Assessing an educational program is necessary in order to see the real value of its educational worth, but assessment brings more cost to the school district and the economics of teaching a new program should not be ignored. Assessment of critical thinking skills, communication skills, creativity skills, and cooperation skills should be considered creating a C⁴ project of study. Teaching the applied learning method, is it cost effective when compared to a traditional school? What does it cost the district to educate a child in an applied learning school is an important question any taxpayer should ask. Even though the public school system is not run on profit margins, the public

is aware of the cost of education when taxes are paid each year. Education does cost money, but how far can the educational dollar be stretched is a good question to pose especially when the surrounding community's economy is lean and weak.

The use of education and technology has many journals and publications to identify if this is a valuable teaching tool; however, looking at electronic portfolios combined with audio-visual media for portfolio presentations to increase narrative performance is an investigation for the future. Can the computer improve the child's portfolio presentation with the help of this technology? Some applied learning teachers and students are hesitant in developing electronic portfolios and files to display or maintain their work. The use of technology within the classrooms for projects is not seen as much as it should be. A few teachers seem to be holding back on using these instruments within the classroom and not encouraging students to design and maintain electronic portfolios. Learning to make electronic portfolios would be a vital and marketable skill to have even at this young age.

Portfolios created many questions for future investigations. Portfolio assessment and quality is still questionable since the show and tell portfolio is not the same as a display of reflection and growth. What do parents expect to see and really understand from a child's portfolio? What the child submits to show growth, is it what the parent wishes to see? Is there a measurement of success for teachers who have students organizing portfolios in class and classes without using portfolios? The majority of students did think the portfolio pushed the student and teacher to do better since it is a visual incentive to keep doing better. The teacher can see from the child's work if there

is growth and improvement in organizational skills, but do all students and parents understand this? How much time in class should be devoted to portfolios? For the struggling student in organizational skills, should more time be given outside of class? How should a teacher evaluate the portfolio if the parent organizes the portfolio rather than the student? With a third party, non-family member, present at the time of portfolio presentation, does this help or hinder the student's performance? Allowing the student to have a wider variety of choices for portfolio presentations does this increase their knowledge skills of the subject matter?

Lastly, applied learning is not the panacea for all students since some students just do not understand the value and importance of keeping old work. Daily grades with little homework are the best assessment methods for the part-time student. Lost journals, papers, and folders are a constant headache for the teacher and parent of this child. Should removal of a failing student be undertaken when the child does not benefit from applied learning assessment? This student would do fine in a traditional setting where daily worksheets are required and only class grades recorded. When the grade is then entered into the teacher's report, the student's work may then be tossed out of sight, but does the content remain with the student?

From these questions, it is apparent further research is recommended and needed. Continuous study for improving a system is part of the applied learning philosophy. If this teaching approach is to flourish, applicable research should be undertaken.

Implications for Applied Learning Schools

As the 2008-2009 school year comes to a close, most students wait for their TAKS scores to come in. Several years ago, ALA teachers and students were not concerned about these test scores; now they are. Once rated a Recognized campus, ALA's rating dropped to Acceptable due to 8th grade science test scores of 67% passing in 2007-2008. Today, TAKS trumps applied learning. The ALA classrooms sound and look more and more like traditional classrooms. Tutoring and pullouts are now the norm of teaching instead of applied learning when the month of March appears. During team conference periods, teachers deal with failing students rather than cross-curricular planning. The push for higher TAKS scores weighs heavily on the applied learning teachers' shoulders.

ALA has also lost the strong voice of supportive parental force internally and externally. Fewer parents come to volunteer and many do not understand the importance of portfolio assessments. Language barriers between home and school further complicate this issue. Simple, concrete grades are easier to understand rather than a child's written reflective piece from the portfolio. Parent interest in continuing with applied learning for their child in the middle school grades has waned. From the two applied learning elementary schools, only one third of the exiting fifth graders are enrolling in the applied learning middle school as future ALA sixth graders. Parents are choosing the special interest programs of college preparatory classes at other middle schools over applied learning.

Applied learning involves an educational team who understand and is committed to support this program from ground zero. Teaching applied learning requires a strong commitment from faculty and administrators as well as a deep understanding of applied learning since long hours for quality teaming and community planning is necessary. The April 2009 issue of the National Science Teacher's Association (NSTA) high school journal, the *Science Teacher*, demonstrated how community partnerships connect students and teachers to real world applications of classroom skills. Challenging and stimulating ideas which can take students outside their classroom walls to begin service learning or class projects with the surrounding community can not happen without the support of administration. One applied learning teacher at ALA was invited to teach at an elementary school since the principal was interested in establishing applied learning on her campus. The principal assured the ALA teacher she wanted to have the entire campus become applied learning, and she wanted the ALA teacher to help train the other teachers. However, once hired there were no applied learning workshops at the elementary school. Instead staff development focused on the TAKS results and closing the achievement gaps between student groups. Every training or in-service was focused on achieving a recognized or exemplary status. After several months, the ALA teacher was then instructed by the principal to take applied learning out of her classes especially those with low-performing students. According to the principal, these students did not need real world applications. The principal informed the ALA teacher that the surrounding community was not ready for this type of learning. The former ALA teacher left this elementary school the following year and is now teaching at a Montessori

campus where the administration and faculty “see eye to eye with my real-world, learning- based education” (A. Adams, personal communication, June 13, 2009).

The future for applied learning schools may be hard to establish, but maintaining applied learning classrooms is critical. The implications of the applied learning philosophy have even greater meaning during this time of economic decline, major lay-offs, and increased global communication because students are taught to use acquired knowledge to *improve* [italics added] society. An applied learning classroom intrinsically teaches students to be self-motivated and accountable while cultivating their critical thinking skills through solving rigorous open-ended problems. Deeper penetration to problems and projects are searched rather than skimming the issues for test questions (Deming & Cracolice, 2004; Slough & Milam, 2008). Such skills translate into contributions and solutions for the local community. Community stability can be strengthened and enhanced while students and teachers are challenged by new ideas and can become better informed citizens (Katz, 1984). Teaching applied learning has become much more important today than ever because students need to be socially ready for our society as well as marketable. The traditional curriculum is structured toward tackling difficult concepts for academic success not how to be a better citizen by working and solving problems together whether as a family member, intelligent consumer, or future employee. “Applied learning involves not only the academic challenges that students need, but also how to *use* [italics added] these academic challenges to help others and improve themselves socially, their families, and their communities” (J. Fisher, personal communication, July 23, 2009). Few students realize the community they build inside

the classroom creates a living culture held together by their commonalities and appreciation or understanding of their differences. “Our society needs people who know how to deal with the differences rather than abandon, ignore, or worse start fights because of these differences” (J. Fisher, personal communication, July 23, 2009). We are creating a society where few people are taught to think or see the importance of connecting acquired knowledge to improve our communities. Applied learning schools teach that connection.

Applied learning classes reflect on the steps of learning. Reflection puts the learning in context and deepens the connection to other learning which makes the subject content relevant, rigorous, and real (Finch & Mooney, 2002; Steinberg, Cushman, & Riordan, 1999). Those are the three R’s for today’s students in applied learning classes. Applied learning must continue to teach the students how to think not what to think. Applied learning students are consistently seeking ways to go beyond what is asked and access alternate resources proving that they can become life-long learners. A synthesis of subjects is blended into the class curriculum rather than just one subject per class. A deeper and richer inquiry approach is undertaken when the student can develop and work on problem-based learning to produce an authentic product for a real audience. There is nothing artificial in this type of education since it is the students who determine the solution to the problem.

The applied learning philosophy is supported by the research from *Turning Points: Preparing American Youth for the 21st Century* by the Carnegie Council on Adolescent Development (1989). This document of restructuring the middle school

environment gave eight core principles and five of the reforms are essential to applied learning:

- Divide large middle-grades schools into smaller communities for learning which fosters trusting relationships between adults and peers.
- Create successful experiences for all students by eliminating tracking and promoting cooperative learning.
- Give teachers and administrators decision-making power concerning curriculum, management, budgetary decisions, and instruction.
- Encourage families in the education process.
- Connect middle schools with their communities. (p.9).

The research collected from this study strongly supports what was once stated in 1989. A good applied learning school gives the freedom to the faculty and administration to design their own lessons guided by state, national, and when possible international standards. Enrollment must be capped to maintain a small campus providing better relationships and student connections. Strong parental support would strengthen the school since it is the parents' choice to seek out and enroll their child in these unique campuses. The mission statement of an applied learning school must be stated in a way that encompasses the community with service learning and project-based programs promoting higher-order thinking skills for the student instead of TAKS driven curriculum.

Many schools continue to exemplify the power of these connections using the Paul Torrance model for gifted teaching. Dr. E. Paul Torrance, dedicated his life

enhancing school curriculum. He developed widely used tests to target the gifted student, published over 2,000 articles on creativity, and designed the Future Problem Solving Program International (FPSPI) and the Incubation Model of Teaching. A small rural Texas school district, Midlothian ISD, adopted the FPSPI program and has continued with this gifted program for the past 13 years for their upper elementary to high school age gifted students. In 1996, a class of 17 eighth graders at the middle school helped their town by designing an emergency warning system to alert residents of a natural or man-made disaster and won top honors at the state problem-solving FPSPI competition qualifying these students to compete at the national finals in Rhode Island.

FPSPI could be a model of applied learning for any school since the program asks students to identify the challenge, select an underlying problem, produce a solution idea, generate and select the criteria for application, and then develop a plan of action to follow through. However, applied learning is for *all* [italics added] students not just students who have been identified as gifted. Applied learning should be the basis for any classroom because it prepares our students to enhance our global society rather than hindering or worse showing indifference to some students. Applied learning students do not have to enter competitions for recognition or feed off of dictated problems. Applied learning is simply asking the students what problems they see outside in their own community. Students are then able to get behind the scenes and learn how to plan events in order to understand their community. Without the community stepping into the classroom or the student stepping out into the surrounding environment to help find solutions for local problems, the applied learning method loses context and meaning.

Implications for Non-Applied Learning Schools

All schools must be preparing their students for the future. So many school districts are not teaching students to have visions. Students are just focusing on the content of the text to pass the state test. The implication of schools not teaching applied learning is to remain in the 20th century. Will our students be able to understand and solve the problems of global climatic changes, food distribution, reduction of aquifers and fresh water, immigration and refugee displacement, antibiotic resistant bacteria, or green energy? These generations of students need to understand that learning together is a process which involves negotiation, patience, and collaboration. Corporate greed and a narcissistic attitude come from individual thinking not community thinking. We have to set the educational standards on the path of project-based, problem-solving by working and learning together. Acquiring knowledge is only as valuable when it helps others and betters communities. Applied learning involves self, others, and the community. Further, schools must prepare students to master essential skills for the 21st century. A college degree does not guarantee an immediate job due to the present day weak economy. Critical and creative problem solving skills are essential for any employee when the job market changes so radically.

Traditional schools usually do not provide learning programs flexible enough to meet these changing needs. Schools that work do not have to be labeled applied learning but must have an administrative team and staff dedicated to the principles or philosophy of applied learning. Polytechnic High School serves as an example. Out of 15 PEAK schools in Fort Worth, one high school was able to raise their TAKS scores enough to be

rated Acceptable instead of Unacceptable. Too many variables are involved to isolate the deciding factor that made Polytechnic High School become more successful. Principal Gary Braudaway gives credit to his faculty and student body for their dedication and hard work, but should the credit go to his applied learning background? The students and staff finally saw that there was a *need* [italics added] to raise Polytechnic's test scores because their high school could have been closed down by the state if it was rated Unacceptable for the fifth year. The principal's understanding of the applied learning philosophy gave him the knowledge and skills needed to get the students involved with their own learning, build relationships between the students and faculty, give students choices in their school work, and bring families and local community within the classroom walls. With all of these factors in place, the school's academic performance improved.

Few schools are applied learning, but schools do have a choice to seek other methods of teaching to help their students be prepared for their future. Ken Kay, President of the Partnership for 21st Century Skills supplies an online resource for school districts to help students develop the necessary skills for our global economy. Skills which are emphasized by Ken Kay are creativity, critical thinking, communication, and collaboration. A conference was recently held in Orlando, Florida, March 13-16, 2009, for *Learning Without Boundaries* featured key note speakers Ken Kay, Doug Levin, Cable in the Classroom, Washington, D.C., and Jessie Woolley-Wilson, Blackboard Inc., Washington, D.C. who promoted out of the box thinking for the 21st Century Classroom.

Just like the C³ program started in Fort Worth over 20 years ago, the business world is still aware of the important connection between the classroom and the community.

Two Texas charter schools exemplify an applied learning environment by connecting the classroom with the community, the NYOS (Not Your Ordinary School) K-12 Charter School in Austin and iSchool High in Lewisville. Both schools promote research based, project oriented, innovative instructional teaching methods. Strong relationships between the instructors, administrators, and students are developed since all classes in both schools are kept small. The students on both campuses are required to serve their surrounding community for classroom enrichment by making real world relevance. While TAKS results are monitored; they are not emphasized. Attention is given to other higher-order thinking skills which provide a fertile ground for teachers, eager to try new teaching strategies, and the freedom to design their own curriculum for their particular students.

Traditional public schools still educate the majority of our children's society. It is disheartening to hear from one Texas state representative that public schools are tools of perversion (Dunbar, 2008). Educators want the best method to teach the students, but the best method might not be the easiest (Chieppo & Gass, 2009). Educational success comes by way of hard work, time, and commitment no matter what program or philosophy is chosen. Barriers exist for any new program implemented by school districts. Difficulties existed for the Biological Science Curriculum Study (BSCS) inquiry approach when Fort Worth ISD studied this program three years ago for the high school science classes. It was difficult and foreign, but science teachers pulled engaging

activities from this textbook series. Widely successful and tested for 50 years, this inquiry method approach in science raises the student's critical thinking skills (Bybee, Powell, & Trowbridge, 2008). In applied learning there are no textbooks. There are no bells or whistles, nor gadgets or computer programs to buy that stimulate student learning in applied learning classes. Applied learning applications for nontraditional schools that still have the freedom to choose their curriculum may provide the best fertile ground to prepare students for their futures. Yet, understanding the reconceptualized quantum design of applied learning will keep the students out of the box.

CHAPTER VI

CONCLUSION

The beginning of this dissertation study was to develop a qualitative study examining the Applied Learning Academy from five subgroups of participants who had been directly involved and influenced by the applied learning teaching method. The rationale for studying this small young urban school was to analyze what factors have and do contribute to the success of ALA's TAKS reading and math test scores. The research significance provides a pedagogical and philosophical discussion of the applied learning method of teaching in order to confirm and inform districts, state, and national curriculum writers of the correlation between test scores and applied learning. The research questions grew to nine and centered on what would be the success factors of ALA, the benefits of applied learning, the drawbacks, portfolios, project-based learning, community partnerships, and misconceptions of applied learning. There were two questions which centered on the business associates impact on ALA and the impact of applied learning on FWISD which is more converging to the local area's interest rather than the national public.

An historical approach was reported to completely understand the roots of applied learning. The Fort Worth community and school district is a vibrant and growing school district which strives to obtain each year more exemplary and recognized schools. Strong leadership is provided which seeks out and purchases the best resources for the Fort Worth schools; however, like many school districts, the budget cuts are happening due to the short fall of revenue. There is not a quick fix for any school to bring up low

scores on high stakes tests, but not all districts need to purchase expensive technology if the funds are not there. It takes hours of committed faculty, students, parents, and community to work together to turn around a lagging school.

What was seen through this study was a reconceptualized model of applied learning drawn from the collected data to explain the internal and external theoretical frameworks of what is applied learning. Fort Worth is the home to the standards of applied learning. The FWISD educators developed and wrote the original standards for applied learning during the 1990's. Governmental policies change on a national scale and school policies change on the local level as leadership changes. Change is inevitable for anything living. Even though high stakes testing is the main focus for schools' accountability, ALA remains recognized with their test scores. Change is occurring at ALA internally with new faculty, administration, student body, and parents. Externally ALA is changing by the surrounding community, district guidelines for a mandated curriculum, and continuous district testing to measure the student's comprehension of the TEKS or to measure the pace of the teacher's lesson plans.

Reconceptualized Quantum Design of Applied Learning

Three theories initially framed the theoretical framework. These three theories encircle the internal structure of this atomic pedagogy. Constantly changing and moving since each student is different from the other, the reconceptualized quantum model implies that applied learning can grow and change for the student's educational path. From a pilot study major components of applied learning allowed the student to grow academically from project-based classes, portfolio assessment, service learning and

community partnerships. The community surrounds the student since in reality the community surrounds the school (see Figure 1). This diagram was adapted from Bransford, et al., (2000, p.134) design of learning environments and Dewey's (1900/1990, p.73) model school where parallel arrows flow from home, university/research, business, and the garden/park. Yet, the diagram was without the emergence of any theoretical proof of being successful to unify this system of methodology.

Studying various theories such as grounded or poststructuralism, three theories correlated to the design of applied learning. These three are critical, situated learning, and feminist theory. The basic mantra to applied learning is to improve or create a product or system to satisfy an outside client, while student initiated and teacher facilitated. Allowing the student to have a voice with the decisions in class causes the teacher to become a facilitator and actively engages the students to problem solve. This teaching strategy satisfies the critical theorist.

Social interaction with group work, making connections from experiences, learning lifelong skills from authentic situations describes the situated learning theory. Making the constant connections from class to school to community to the surrounding culture explains applied learning too. Social development at home, school, and the community keeps the student actively participating in academics.

Lastly, the feminist theory touches on learning through relationships by thinking and doing. There is an awareness of self through reflection and the understanding of the culture of power. Interdependence gives way to finding the voice of the student and

sharpened by learning from problematic situations. Cooperative work is keen with this learning process. What ties all three theories together to applied learning would be the interactive experience of education for social change or involvement within the community. It was also discovered not one theory dominated the other two since it depended on the subgroup of participants. For example, the business associates and the administrators favored situated learning by listening to their dialogues and recording what particular phases matched with this theory while the parents and teachers leaned more towards the critical theory. It was the students who mentioned more phrases resembling the feminist theory. Imagine three different pieces of cloth for a quilt; an artistic flow can be created when there is a repeating pattern found. What is found from these three theories is the interactive experience by doing.

Thus, the final design of applied learning (see Figure 4) keeps the atomic orbital shape of the second energy level, but adds the third energy level illustrating the three theories and stabilizes the applied learning framework. The design must be student centered, with the community surrounding the student and the three axes promoting service learning, portfolio assessment, and project-based instruction as the internal framework of applied learning. Notice that these orbitals extend beyond the theoretical framework since continuous change must be undertaken as the student population changes. This 3-D model can enlarge or alter as the student grows and interacts within the applied learning classroom.

Because of this interaction with conversation and reflection, it was only natural that a qualitative study be selected for applied learning. A case study report by listening

to the narrative stories from the participants would be the method of collecting data. Personal experiences would be shared in the report to enrich the stories behind applied learning. Crystallization occurred from the repeated phrases of the different participants such as outside the box, critical mass, and pockets of excellence.

A simplified format of the results was placed inside a data chart for each of the nine questions. The successful factors of applied learning for high reading and math test scores comes from having an applicable curriculum which makes connections and provides opportunities for the student. Strong commitment from teachers, parents, and the community are involved to keep a continuous program flowing. The small size of the school allowed relationships to be nurtured strengthening the student's skill in cognitive development.

The benefits of applied learning allow the students to feel that they belong in the community due to the constant involvement with the partnerships and having real audiences evaluate students' products from authentic situations. Students are given choices within their academic growth to develop their cognitive skills and think outside the box.

The drawbacks of applied learning come from a lack of understanding and communication about the program between the students, parents, teachers, and community. Internal problems can be fixed with morer cooperation from a committed faculty, but external problems such as increased enrollment and decrease partnerships will require assistance from the district's administration.

Portfolios increase student, parent, and teacher engagement more so than traditional assessment, but does require more effort from the faculty to evaluate and set the recommended standards. Ownership and metacognitive development are reinforced through portfolios. Students leaving ALA did not have many problems adjusting to traditional assessments since report cards were easier.

Project-based learning allows the student to learn to negotiate and delegate tasks much like the real world. Critical thinking skills are developed and an increase of interaction within the class and the surrounding community creating vital connections. Student initiated rubrics causes a better understanding of the final outcome from the assessment. Students regretted not having as many project-based classes when they went to traditional schools.

Community partnerships provided the connections from the classroom to the real world for the student. Total engagement from volunteering experiences help to stimulate learning and create little communities within the classroom. Once a student is in the habit of volunteering a pattern is then created to continue volunteering even as an adult. Students filled the void of missing partnerships with clubs provided by the traditional high school or sports.

Business associates impacted the applied learning schools by helping to create the Vital Link and the Applied Learning program under the city's initiated C³ program. Business associates who were the original planners of the C³ program helped to design lesson plans and advised school partnerships to form the necessary connections from class to community.

The applied learning impacted the FWISD by generating a project-based, service oriented curriculum initiated by the SCANS Report to keep students actively engaged in and out of the classroom. Dewey and Resnick's philosophy continues inside the applied learning classrooms. Published articles, books, workshops, and conferences were developed by the impact of applied learning.

The misconceptions of applied learning come from the lack of communication about the term. This lack of communication also creates a fractured philosophy and poor commitment from the faculty causing idle programs seen inside the classroom. Vocational training or alternate schooling is first expressed as applied learning from the outside public. It is not just service learning or project-based, but a combination of several applications.

In conclusion the implications of applied learning schools are a better sense of creative production by whole community learners involving the students, teachers, parents, and the outside community partnerships. Applied learning students are taught how to think rather than what to think. Students in applied learning schools learn to deal with the differences by acquiring knowledge to improve our community and will hopefully make the cross curricular connections to become lifelong learners.

The implications of applied learning to non-applied learning schools provide models for teachers and administrators to visit and study since there are no bells or whistles, nor gadgets or computer programs to buy to stimulate student learning in applied learning classes. Applied learning applications for non-traditional schools which

still have the freedom to choose their curriculum may provide the best fertile ground to plant the applied learning philosophy and keep the students out of the box.

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APPENDIX A

EIGHTH GRADE SCIENCE NARRATIVE FIRST NINE WEEKS

Standard	Exceeds Standard	Meets Standard	Developing Toward Standard	Below Standard/ Unacceptable
Conducts field and lab investigations using safe, appropriate, and ethical practices				
Uses scientific inquiry methods during field and lab investigations				
Uses critical thinking and scientific problem solving to make informed decisions				
Works individually and in groups to collect and share information and ideas				
Identifies a design problem and proposes a solution				
Design and test a model to solve the problem				
Evaluate the model and make recommendations for improve the model				
Understands structure and properties of matter				
Understands chemical reactions				
Identifies endothermic and exothermic reactions				

APPENDIX B

SCANS FIVE COMPETENCIES

Resources: Identifies, organizes, plans, and allocates resources

- A. *Time* – Selects goal-relevant activities, ranks them, allocates time, and prepares and follows a schedules
- B. *Money* – Uses or prepares budgets, makes forecast, keeps records, and makes adjustments to meet objectives
- C. *Material and Facilities* – Acquires, stores, allocates, and uses materials or space efficiently
- D. *Human Resources* – Assesses skills and distributes work accordingly, evaluates performance and provides feedback

Interpersonal: Works with others

- A. *Participates as a Member of a Team* – Contributes to group effort
- B. *Teaches Others New Skills* –
- C. *Serves Clients/Customers* – Works to satisfy customers' expectations
- D. *Exercises Leadership* – Communicates ideas to justify position, persuades and convinces others, responsible challenges existing procedures and policies
- E. *Negotiates* – Works toward agreements involving exchange of resources, resolves divergent interests
- F. *Works with Diversity* – Works well with men and women from diverse backgrounds

Information: Acquires and uses information

- A. *Acquires and Evaluates Information*
- B. *Organizes and Maintains Information*
- C. *Interprets and Communicates Information*
- D. *Uses Computers to Process Information*

Systems: Understands complex inter-relationships

- A. *Understands Systems* – Knows how social, organizational, and technological systems work and operates effectively with them
- B. *Monitors and Corrects Performance* – Distinguishes trends, predicts impacts on system operations, diagnoses deviations in systems' performance and corrects malfunctions
- C. *Improves or Designs Systems* – Suggests modifications to existing systems and develops new or alternative systems to improve performance

Technology: Works with a variety of technologies

- A. *Select Technology* – Chooses procedures, tools or equipment including computers and related technologies
- B. *Applies Technology to Task* – Understands overall intent and proper procedures for setup and operation of equipment
- C. *Maintains and Troubleshoots Equipment* – Prevents, identifies, or solves problems with equipment, including computers and other technologies

(United States Department of Labor Employment & Training Administration, 2009, p. x)

APPENDIX C

DAILY CALENDAR OF FWISD SCIENCE CURRICULUM

<p>8/27-Module 1 (1 day) Introduction to Brain Activators & Journal Writing Classroom Procedures Gateways to Science 8th 1.2 Safety TE p. 5-9; SE p. 5-7 BLM 6-8</p> <p>Module 2 (3 days) Glencoe Science p. 19 Product Testing</p>	<p>9/17- Module 4 (3 days) Curriculum Brain Activators Journals Gateways to Science 8th Grade 1.5 Models of Atoms TE p. 17-19 SE p. 21-23 BLM 18-22 Glencoe Inquiry Labs Isotopes and Atomic Mass p. 47-48 FOSS Electronics-Investigation 1</p>	<p>10/8 Module 1 (3 days) CPO Book Ch 23 p. 140-159; 393-409 Solution Chemistry Solute/Solvent/ Solubility IPC 9A,D</p> <p style="text-align: center;">Gateways to Science</p> <p>1.8 Chemical Changes p. 26-28 1.9 Compounds & Chemical Equations p.29-31 1.10 Reactions p. 33-35</p>
<p>9/3- Module 3 (6 days) Gateways to Science 8th 1.3 Three States of Matter BLM 10 TE p.10 - 12; SE p. 8-12 1.4 Atomic Structure TE p 13-17 SE p. 13-20 BLM 11-17 Glencoe Science Inquiry Labs p. 43- 44 The Four States of Matter Glencoe 8th – Mini Lab- Modeling the Nuclear Atom</p> <p>FOSS Chemical Interactions- Investigation 7:part 5</p>	<p>9/24 Module 5 (3 days) Gateways to Science 8th Grade 1.6 Periodic Table of Elements TE p. 20-22 SE p. 24-26 BLM 26-28 STAFF DEVELOPMENT WAIVER DAY 9/28 Module 6 (5-days) Gateways to Science 8th Grade 1.7 Specific Heat TE p.23-25 SE p.29-34 BLM 29-30</p>	<p>10/15</p> <p>FOSS Chemical Interactions: Investigation 1: Substances, Part 1-2 Gateways to Science SE p. 45 – Explore Activity</p>
<p>9/10- Module 3 continued</p>	<p>10/1 Module 6 continued</p>	<p>10/22</p> <p>FOSS Chemical Interactions Kit</p>

APPENDIX D

DISTRICT CORRESPONDENCE SENT TO SCIENCE TEACHERS ON DAILY INSTRUCTION

January 21, 2009

OK...I have tried 4 ways to get these to you - it is 12 pages of little postage size stamps - all different that you have to have for this activity. I will be giving out the hard copy during this Stipend Saturday on the 24th and I can put it on your computer - so bring your thumb drive. And I will also pass out the 8th grade TAKS countdown (hard copy and CD) and also an additional TAKS tutorial packet for your pull-outs. All of this can be uploaded to your computer. Please bring your lap tops.

February 14, 2009

Attached is the Rubric for your Prom. Board SE lessons.

Also, if you attend the after school Promethean Board help this coming week - the software will be installed on your lap top & we (specialists) are receiving copies of the software - so we can install on your computers and you can install it @home also.

And....even if Avatar "says" the classes are full - come anyway and bring your laptop.

And.....always bring your laptops.

February 19, 2009

Attached are the "prompts" - it has been suggested that these are used during your presentations Monday - figure it out and give it your most excellent "shot"!

February 20, 2009

- Monday - Bring back to us the Prom. Board installation disks after you have loaded it on everyone's computer
- 8th grade schools - Monday - bring us a list of science teachers in your building who do not have their Prom. Board software loaded yet. Please get this done today! (And it shouldn't be anyone since you are doing this today/now. :)
- AND...Shane and I will give LCTs a 4Gb disk Monday w/the *latest/bestest* Prom. Board SE's - first 3 weeks. So..you would want to use these for your waiver presentations. (All videos are embedded and working)
- During your presentations - please make sure you show then the "teacher notes"
- Last thing - at the end of your presentations - **HAVE EACH TEACHER WRITE AN OPEN-ENDED OR TAKS FORMATTED QUESTION THAT GOES W/THE SE.** They can write this question on their SE rotation sheet - and these will be picked up by LCTs from their last group @11:30.

APPENDIX E

CRITIQUE CHECKLIST FOR A CASE STUDY REPORT

1. Is this report easy to read?
2. Does it fit together, each sentence contributing to the whole?
3. Does this report have a conceptual structure (i.e., themes or issues)?
4. Are its issues developed in a serious and scholarly way?
5. Is the case adequately defined?
6. Is there a sense of story to the presentation?
7. Is the reader provided some vicarious experience?
8. Have quotations been used effectively?
9. Are headings, figures, artifacts, appendixes, indexes effectively used?
10. Was it edited well, then again with a last minute polish?
11. Has the writer made sound assertions, neither over or underinterpreting?
12. Has adequate attention been paid to various contexts?
13. Were sufficient raw data presented?
14. Were data sources well chosen and in sufficient number?
15. Do observations and interpretations appear to have been triangulated?
16. Is the role and point of view of the researcher nicely apparent?
17. Is the nature of the intended audience apparent?
18. Is empathy shown for all sides?
19. Are personal intentions examined?
20. Does it appear individuals were put at risk?

Robert E. Stake (1995) checklist within the writing a report (p.131).

APPENDIX F

1. What is your occupation?
2. Why did you choose this career?
3. What do you remember about your schooling?
4. If you had to go back to school what would you replace and/or copy?
5. How long have you been living here?
6. What occupation do/did your parents have?
7. What will you be doing in the next ten years?

APPENDIX G

Group One, Business Associate Questions:

1. How can you summarize your involvement with the applied learning school?
2. What was the idea behind developing an applied learning school?
3. What was your initial intention when you became involved with the Applied Learning Academy? To what extent was your intention met?

Indirect:

4. In your opinion, what has been effective or ineffective about this school?
5. Why do you think the district has ignored this teaching program?
6. How do you think the people in business today would view the Applied Learning Academy?

Group Two, Student Questions:

1. What are your experiences with the Applied Learning Academy when comparing it to your school now?
2. After you left the applied learning program, what was the biggest change (transition) you had to adjust to in a regular high school?
3. What did you like the most/least at the Applied Learning Academy?
4. What benefits and drawbacks have you seen coming from the Applied Learning Academy?

Indirect:

5. How would you describe the portfolio and portfolio conferences?
6. Why do you think your parents sent you to the Applied Learning Academy?

Group Three, Parent Questions:

1. After your child left the applied learning program, what did you notice about your child's academic performance in high school?
2. What benefits and drawbacks have you seen by having your child go to The Applied Learning Academy?

Indirect:

3. What do you remember about your child's portfolio presentations?
4. In your opinion, what are the strengths and weaknesses of The Applied Learning Academy?
5. What else should I know to get an accurate description of The Applied Learning Academy?

Group Four and Five, Teacher and Administrator Questions:

1. What are the benefits and drawbacks when teaching the applied learning method?
2. What are the strengths and weaknesses of the portfolio assessment?
3. To what extent does portfolio assessment help students learn the course work?

Indirect:

4. What changes have you seen with the applied learning method of teaching?
5. Is there anything else you would like to share about the applied learning method?

APPENDIX H

NARRATIVE ACCOUNTS FROM TEACHERS CONCERNING COMMUNITY

PARTNERSHIPS

Five narrative stories from teachers will be shared to explain how applied learning can be used in the classroom involving the surrounding community. These narratives were told during their personal interviews to the investigator. The first story is from a high school science class at the applied learning high school. The teacher then later transferred to a traditional high school, but continued to apply the components of applied learning within her science classes. At a traditional high school her projects are somewhat limited. She is slowly convincing her traditional principal what can be accomplished with the freedom of using applied learning in the classroom. Below is the first narrative from Ms. W. Williams as told in a personal communication, August 6, 2008.

(Narrative Account from Teacher W. Williams) My first applied learning project (after I had the training) we decided to do a Mars landing pod which we sent to JPL (Jet Propulsion Lab) in California, the big one. We (students and teacher) sent them our ideas, our specifications and stuff and little models as ideas for things that could land on Mars. We were actually talking about environments and adaptations to the different environments in my 10th grade biology class which is how the class came up with this idea. We did hear back from some of the professionals, but it led us to some really interesting people that we contacted the next year

with our new project. It was great. The next year the class was interested in studying about radiation. Dr. Glenn Seaborg and Dr. Albert Ghiorso wrote my students back concerning their questions about the names of the newest elements discovered. Dr. Ghiorso at the Lawrence Berkley Laboratory thought they were really cool so he told them to call him. The students started really getting into the radiation thing now. They would call him and ask him questions about stuff and then he would talk to them about it. He wrote a letter and said I really loved your kids and what is your high school all about. He thought I was teaching at a gifted school. These kids were just typical freshman labeled economically disadvantaged and at-risk. The students began to design a magazine for the school community called *What's Up* about radiation. We wrote movie reviews, articles about heavy water. There were articles and cartoons. It took almost the entire spring semester. Four students stayed after school in June to finish up the magazine. One day a week was dedicated to spend on the magazine project. Some gave up their lunch to work on the magazine. When they got into it, they got into it.

Another class of thirty students, all with different reading levels from the lowest level to average level, was in the reading recover program and these students wanted to write a children's book. Some of these students were involved in the gangs and had difficult lives outside the school. Once they got into this children's book, they went all the way with it. One

student who had been absent came back just to finish his part even though he was being chased by the police helicopters, but he came back to get his part in the children's book and then he left.

At this traditional high school, I would love to teach the universal myths on creation. I am able to mix science and religion in biology. The logistics is impossible due to the curriculum. Maybe if I started with a small freshman class, but the relationships, rigor, and relevance has got to be there. I totally believe in this. We are doing a camp for LEP kids. You learn at play. Children love to learn when playing. The problem with LEP kids, they are not immersed in our culture only their culture. If you can take these kids and immerse them in a fun way to really learn the language they would be able to understand English at a faster rate. In October we are going through changes from middle school to high school so we are trying to build community and relationships too. In November we are going to focus on the home and their roots with demographic studies visiting the three oldest cemeteries and find out who is in their own neighborhoods. During this summer camp we will be introducing vocabulary while studying the Fort Worth culture. We will visit the stock yards to introduce cowboy terminology and have a cook out to work with the typical food vocabulary of our area.

For my AP Biology students, these high school kids have to interview an authority figure within the medical field they choose. They have to make

time after class to find that person and set up an interview. They have to have documentation and they are been fine with this project, maybe because they are older kids. With the younger kids then you just have to have professionals come to the classrooms as guest speakers, but people are not willing to work for the schools it seems like they use too. It is not the fear; they are just so busy with their own schedule and work. To keep applied learning alive, I start out with something small in my classes like a body system brochure. Design it like a travel agency would that gives you tours through the human body. Write a persuasive piece with appropriate vocabulary about the human systems. This is just a project-based learning experience, but then I move it up a notch to do brochures for someone else. I then make it a whole class project but now it is for the health and selected diseases. We do research on the common diseases for adults and I have medical friends to look over these brochures and give comments before we display them in the teachers lounge. People would pick them up and read these brochures not knowing that the students made them. A substitute teacher found some copies in my room and asked if she could take some with her since they were so informative and interesting.

This year, the chairman of the health department at my school asked me how we can help science TAKS scores. Here is another need and that would be a good thing to do to get these two departments working

together. I think that would be a good deal to do. In the past, I would throw out the information and see what the kids came up with. Now, because of the time schedule, I just show them what we can do to help. Next, we can do units of systems for the middle schools. I have permission from the administration to let my students do presentations for the middle school teachers. The students are really good with these units on the body systems. After the TAKS exams is the time to work on helpful and worthwhile projects (W. Williams, personal communication, August 6, 2008).

The second narrative story is from an art teacher, D. Dunbar, at one of the applied learning schools as told during a personal communication August 22, 2008.

(Narrative Account from Teacher D. Dunbar) In the past we did murals, and sculptures from glass and metal by working along side with the local artists found in Fort Worth such as Tina McIntire, Jo Dufo, Lori Tomlinson, and Johnny Pate. We had this time during our Intersession break. With the Amon Carter Museum, the kids designed a guided tour like a lunch box tour. We could do something similar to that and find out what the local museums needs are and how we can fill the need. That is how we are going to do that. We always had an art educator thing at the museum. They are always willing to work with us, but it is just getting the funds to get over there. I have talked with my girls from last year and told them I wanted them to have a repeat visit to the museum. I have

talked with the museum and asked what the museum has that our school could help with. One of the things at her last visit that she said was if the kids could design a mini gallery tour of the permanent collections. When the students come back to school, I will see what they come up with. The kids must go and tour the museum and get acquainted with the permanent collection there. A project just couldn't work with a temporary collection since it moves on a regular basis. I definitely want to do a partnership this year with the Modern Art Museum. We have had past partnerships with the Amon Carter Museum. We might be able to do that again. We had repeat visits paid for by the Imagination Celebration organization. That is another thing I do not know how the principal funded those past projects, but she always did for me.

Once the school year started, another art project developed when the art students decided to raise money for ovarian cancer. About thirty art students made individual art pieces on canvases. In October these students held a silent auction and raised over \$2000.00 from their art work. The money went to an ALA family to help pay for their medical bills (D. Dunbar, personal communication, August 22, 2008).

The third narrative story is from a teacher, O. O'Hara, at ALA explaining how her class project turned into an applied learning project during a personal communication October 15, 2008:

(Narrative Account from Teacher O. O'Hara) Working Wednesday was a grand idea at first, but the kids were moving towards compliance. We were moving toward compacting their projects into what someone else had done before the past years or what somebody was able to sell to a business partnership rather than what the students were truly interested in. It was not just the teachers saying we have an opportunity to work at the Botanic Gardens, let use see what we can do. That was kind of what we used to do in the past, but it moved towards we have to be in the Botanic Gardens for the volunteer service hours because they expect us and that is when the bus is operating. It was not the same where the student had choices. It is making choices on what to do, it is having the power to choose the direction of the way things go, to see a problem and to solve it in a way that it satisfies you. We are slowly moving back towards what we had lost due to the bus transportation problems and finances. The kids who actually started the projects at Thistle Hill or the Log Cabin Village, they really got the power from those projects and programs, but the kids who followed the next year and didn't establish anything new basically got nothing but volunteer hour experiences. They didn't get the same power from that project. The kids who were the initial planters at the Botanic Gardens they took the power of that project and even met Jane Goodall at the end of the year because of it. I took my students to the Botanic Gardens because they needed service hours and because they

needed to know some more things about plants. We got both of those things taken care of and we learned so much more than we anticipated, but we didn't take a piece of that garden with us and actually use it for a more positive growth in their learning. So, there are some good things and some bad things in our evolution of ALA.

In my history/social studies class, the students wanted to study history through the effects of love and romance rather than war and greed. The kids really looked into what is the effect of romance on the world and what is the Hollywood version of romance versus the historical romance versus the real life romance. After studying for weeks, the students then performed a play about this topic and presented it to their parents one night. Tickets were sold and the seats were full. Many parents came up later and told me how they now understood this play better (O. O'Hara, personal communication, October 15, 2008).

The fourth narrative story comes from G. Gomez, another ALA teacher sharing the future project ideas as told during a personal communication, July 25, 2008:

(Narrative Account from Teacher G. Gomez) Parents have spoken to me about learning how to use the Internet and I would like to get the kids started on that idea. I want the kids to follow up on it and have the lesson of presenting that at a Saturday class. I think there is a real need for this. We are getting more and more Spanish speaking parents than anything else and they feel unsafe having a computer at home.

A partnership or presentation about the importance of learning languages is also needed. We need to let the students be aware of the many job opportunities out there especially here in Texas for being bilingual. Applied learning projects can still be done. It should not be pushed aside. You just have to juggle with the time. I would like to do more things in my classroom like have the kids go out of classroom and meet the Spanish Chamber of Commerce. Get real life experiences with the Spanish speaking world.

It doesn't always have to be outside our building since we have the INA school sharing the same facility. I remember one year, the science teacher had his kids design a health fair in our gym. The kids did not need a bus to go anywhere everyone came to them. The kids brought in dental hygienist and the cardiologist, and it seems all of us were involved. It just takes time and practice to make those necessary phone calls (G. Gomez, personal communication, July 25, 2008).

The fifth narrative story comes from a science teacher, J. Johns, at ALA expressing her ideas about partnerships and projects during a personal interview July 29, 2008:

(Narrative Account from Teacher J. Johns) I let my kids stumble upon a product test that made sense to them since it related to a real problem we had in our classroom. Instead of telling them what product to test, the students decided what to test because the glue sticks that we used for our

planet brochures just did not hold up to our standards. They did write letters to the manufacturers, but unfortunately that was all at the end of the year and we did not get a chance to proof read the letters nor mail them out. This year making flyers for the ALA Fall Festival and then going to the actual printer to see how the flyers were made was incredible for me and for the students. It was a perfect applied learning project from the beginning to the very end with our product for the school's fund raiser (J. Johns, personal interview, July 29, 2008).

APPENDIX I

**NARRATIVE ACCOUNTS FROM ADMINISTRATORS CONCERNING
COMMUNITY PARTNERSHIPS**

Below are the last five narratives from the administrative participants.

Combining their years of teaching experience would exceed easily over hundred twenty years. Their positions within the educational field were as high as Superintendent to a middle school Principal, but they all sat in those wooden desks when they were young and eventually they grew up to firmly plant their feet and hearts inside a classroom to teach the children. From these five narratives, the importance of community partnerships for any school to find, keep, and maintain is brought out.

(Narrative Account from Administrator W. Wells) For me, in my classroom, I still had not done the class project. I had made several false starts, but this was just nuts, I can't do it. It was December 1st and I was going to give the money back to Sally. But then I got greedy and decided to get one done. You would not believe all the sleepless nights trying to get ready for the planning. I would get to school at 6am and filled up the chalkboard with standards and ideas, the whole bit and I approached the classes. If I was going to do it in one class, I was going to do it in all my classes.

The district did not have any curriculum for us to follow. I let the kids decide on how much they were going to do. Of course for the AP classes, I was more restrictive since there was a list. Before they would read they

would ask really intelligent picks and questions about the book. That was the research they were beginning. We never had to start reading front to back; we could skip around in the book. It was nonnegotiable not to read. I spent a lot of time going to the book stores. I would collect their money and go buy the books for them.

When I was teaching in high school with applied learning, we stressed an outside audience for the projects. It wasn't good enough for us as the audience or even the school. We spent most of the time down at the principal's office getting approval and I learned what everybody else learned. We were all ready to do this except for the adults in education. That was the real barrier we had to get through, but I also learned that those barriers are there for a reason because somebody had abused somewhere along the line. Those barriers needed to be met and I convinced the kids of that and they bought into it lock stock and barrel of course. What that amounted to during the Christmas vacation, I had to retool the whole spring semester.

Who am I to say a kid can't do that type of high level assignment. What I saw many times multiplied. If it was the student's will (*Foxfire*), if it comes from the student, it will get done. That is the number one deal. If it is their idea it is easier. All good work comes the student's imagination and will. This worked for the dummies and the AP kids. That was one of the epiphanies of my classroom experiences. The idea was just to read a

book and when they finished they would read another! It was wonderful to see that culture bud up. I had teachers complain to me, I can't get Susie's attention, and she is always reading a book in my class. Class must be pretty boring then huh?

If there were students in a group that showed unwillingness, then you could fire them. Now all the rejects were in their own group. You know what they did, they showed all the people they were wrong for rejecting then and they worked and they worked hard. It was so good. All those magical things happened. The people that didn't have "buy-ins" you gave them the chalk and said, "What do you want to do, how are you going to do it?" We worked for those standards. We are not a softball class or a soccer class. We are going to learn English but how we learn, you will get to decide.

How are we going to learn? How are we going to get at it? We divided up into groups of literature groups, project groups, and writing groups. They had to work out a schedule since they weren't the same and they had to schedule time with me. I literally have war stories out the wazoo: Little Miss perky Cheerleader screaming I hate this class over and over because she was use to getting her way all the time since she was an only child except in this class. They won't do what I told them to do.

Magic happened from the first day on. I could not believe. All those things that were talking about happened. This was the first week in

December. We did nothing except apply learning for those three weeks of December. I had projects gin on within each classroom. I jumped off of the deep end, and here we went, but it worked. You heard about what people talked about, but I saw first hand it worked. I was journaling all that fall about trying to start and not getting it done, Sally taught me that about writing the good things and the bad things.

The next six weeks, here is the TEKS, check off what we have covered and now what are we going to do this six weeks. I would introduce new words or things they did not understand at the beginning of the class but not lasting 10 minutes. I would have somebody put a clock on me. I would show them examples, student samples, what ever they needed to understand before they could work on their own time. They acquired the language to do those things.

My whole role in the classroom completely flipped. I was the helper, I was the good guy. The kids disciplined each other more so than I. If I was out of class at a conference, my lesson plan was, “The kids know what to do, *please* [italics added] help them do it.” That was the lesson plan. The kids knew I would be back; the calendar was on the wall. The other kids gripped at them more than I did.

Group work with students had to have at least three people or it just did not work for that group dynamic feeling. Negotiating just could not happen with two people. That was the hardest part getting along with all

of the other students except just do it my way. That is what group work meant to most people was getting in groups, I decide what I want to do and then we do it. Instead you had to depend and work with the other people.

You must make sure everyone in your building knows what is going on with your class projects otherwise you go through frustrations. Let the custodians who clean up, secretaries who run paper off for the students know what you are doing. I have fought all those battles, but it is worth it. When teaching in the classroom we had to get Midge Rach and just let her know, “you can go and goof; you can go and mess up and we will cover your back side, but we would prefer to know what we have to cover, so keep the lines of communication open.” “If you got questions ask them, tell us what is going on. Ask our opinion; we want you to do this.” That wasn’t good enough for us. We want to hear if from your boss, so Sally arranged a meeting with Don Roberts to make sure we had his blessings with these project ideas. The old cliché says, if you do what you always done, you get what you always got. We have got to do better. Even if we make mistakes, what will come out of your work: will it be better than where we are now? So, you have permission to fail. That made us feel a little bit stronger, but throughout the year we were on the phone with each other giving comfort and support. How’s it going with you? I don’t think I can do this, etc... Everybody started with a different angle, a

different view, but that is OK. We all did it with different flavors, we all got our stipend and it worked.

We had kids with projects and taking everyone else's multiple choice tests and working it into a test review and selling it to everybody. I got into trouble for that kind of stuff. Well, if you would get a new test, then they couldn't do that, so get a new test. They made the calendar for the school.

I have seen enough, but I think it is magical when you do have to do the group thing. I think what is missing in our academic system is I can grow my own academic personality who can withstand anything. If you are going to be the best engineer, which engineer will get paid the most? Is it the one that works the hardest and is the best? No, that is not it. It is his boss, the guy who can work with people and who knows the engineering skills. You got to be able to work with people. We need to teach that to our best and brightest. You still got to work with people no matter what company you work for, but that is negotiable. It is important for me, but I would not force that concept down everyone's throat.

Miles Myers, President of the National Council of English Teachers, was asked about applied learning. We have been doing that *forever* [italics added] in English. What else is a journalism class if its not applied learning! He was so dismissive of what it could be. But how many kids get to do that, in any school? Yes, a product is produced by putting out a

paper for a real audience, but in fact journalism is slowly dying at the university and the global level because there is not enough funds for it or the Internet with the Blogs have taken hold of the outside audience (W. Wells, personal communication, July 30, 2008).

From W. Wells's interview, teaching under the strict Advanced Placement testing guidelines, but having the freedom to allow the students to take control over their own curriculum amazed the investigator. Teaching to the test can be 'applied' when letting the students take charge of how to learn the material.

Next, a college professor writes to the investigator concerning applied learning within a college classroom. Once a trainer/administrator for the applied learning method of teaching during the 1990's in Fort Worth, this participant is still teaching at the university level.

(Narrative Account from Administrator S. Smith) The chance to develop the applied learning program interested me professionally and personally. I had published a book, *Writing in Nonacademic Setting*, and I had become convinced that at least some of the problems people deal with in the business are more challenging than problems students deal with in schools. Granted, problems in a course like calculus are very difficult. But they are also well-defined problems-that is, they have a single correct answer that can be arrived at by carefully following a predetermined series of steps. What I find more interesting and challenging are ill-

defined problems. With this sort of problem, no one knows in advance what the answer is, what steps must be taken in order to solve the problem or even exactly what the problem is.

In my own college classes I teach all my students to write for audiences other than for me, i.e. an audience that will actually need and want to understand the topic about which students are writing about. And for their final assignment of the semester, students have to propose a solution to a problem (on campus, in an organization, on a job) and present their proposal to a person who can implement their solution (S. Smith, personal communication, October 17, 2008).

The third administrative participant shares the stories of teaching in a rural school and how the teaching style changed when transferring to ALA. Now, as an administrator in a traditional urban public school, the changes on the quality of education of ALA are compared to the traditional school.

(Narrative Account from Administrator D. Dubois) After three years teaching in Mississippi, I was getting stagnant. I wasn't growing professionally. There was no support. We were warm bodies; even the program that we went through the Master's degree, but it didn't really help us be good teachers. They would say OK what you never do is give them multiple choice tests. And then they gave us multiple choice tests. We had portfolios, but basically it was on how pretty it was, you got an

A, rather than context depending on who you got. It was more or less warm bodies for the classroom.

In Mississippi I was just trying to survive, just survive. I was just trying to relate to rural America. There were a lot of differences. There were not receptive to outsiders; the language barrier. I was foreign. It was different, a very different situation. It was very stressful. I felt that in a lot of situations, I was not supported by the administration and I was not supported by the people in my program. I felt I was left out there. I was placed at this school before I even got there.

We learned all the counties of Mississippi by cooking cookies in the shape of the state. So, that was their motivation. They could make the cookies if they knew all the counties. Their reading level for these high school kids ranged from 4th grade to higher. I had eighteen year old freshman in my class who could not read. There was a lot of that.

I was very traditional, but my high school students did have projects to do for my class. They had to make a booklet of the Bill of Rights and they enjoyed it, but it was a lot of plagiarism. I did not know how to change their way to do things. I did not know how to scaffold. They did work in groups. There were not real professional opportunities for the teachers like programs or how to make you a better teacher. There was not that at all. I did get burned out. I needed something different. I felt it was pulling me down, So, I left the state to come to ALA to teach.

My first three years was teaching traditional because I was use to it. My own elementary schooling was very nontraditional. Grades 3, 4, 5 were in the same class. It was a public school by choice. We went on a three day camping trip to a homestead to learn about how the people used to live. My friend told me there was an opening at ALA. I said I don't know. He said "It's a great place, you would like it, it's fantastic, no one ever wants to leave, and they love it here. While I was teaching, the principal sat down with me one day and we went over what a rubric was. What is a 2 or 3 on a paper to make sure I knew what it meant?

Coming to ALA, besides an age difference of students in my class, I was shocked when these sixth graders started crying. I thought I was the worst person ever. That was an adjustment for me. I went from predominately 99.9% African American rural community to a more diverse one in a lot of different ways. It was not harder or easier just different because my schooling was more like ALA.

I liked the fact I was teaching English, reading, and social studies all together. I had the students for two hours then we rotated the kids. A lot of it I was flying by the seat of my pants at first, but one day the principal sat down and showed me the rubrics and how to evaluate the papers that were a 2 or 4. Dr. John came in and we had the magazine study for pull out days. I was taught how to teach kids to read by magazines. I used this method once in a while. I could understand not wanting to read, because I

hated reading while growing up too which changed when I was at ALA. I love reading about literature. ALA changed my attitude about reading. I love to read about literature, but when I was young I hated it. But probably the purpose of ALA at that point was to foster the love of reading. I don't know what it is now at ALA. It was not this is what you going to read. It was easier for me to be in that situation with students who were reluctant readers.

I had never been exposed to rubrics before for classwork. I went for one summer for two weeks or one week in 2003 at the Alice Carlson School. There were only three teachers being taught. I think that might have been the last year they had the training for applied learning. The next summer might have been level two, but I wasn't able to do level two or level three since I went to Mexico on a Fulbright. It helped a little bit to firm up the idea of what applied learning is.

I did not really plan much with the math/science teachers or make connections. The next year there was some with making a rubric and then there was the rock formation story book so they would elaborate on it my writing class.

One year, some teachers visited our site due to a conference in Fort Wroth, Their activities had other students looked at their work and how it could be improved and how they followed the rubric that I gave them.

Their audience was the school and downtown people came in. The students had to research and give a speech. They had to create the model and a board. They had to make a puzzle or T/F quiz, some activity that would be placed in the brochure book.

I was tired of the kids using the word ghetto since they said it all the time, so I wanted them to actually see where the word came from and we talked about the Holocaust. We saw snippets of *Schindler's List*. They had to wear the metal pin that said "I am loved" in the Hebrew all day to get use to the Star of David. They watched the scene of *X-Men* where Magneto was pulled away from his family in a concentration camp. Connections were made from other characters. I had Special Ed and higher level so I had five different reading groups and each group read a particular book about the Holocaust and then we would share what we read.

This was not my applied learning project, but it was a community one. I had the students create their own country. They had to come up with their own name and explain it. They hated it because they thought it was too much work. What does the name mean and explain it? How did you come up with the name? What does the colors of your flag mean? We read about symbols. They had to create a national anthem, explain their economic system and resources. They had to create a map and locate this country on the globe with the latitude and longitude. They made a political and physical map of each. They had to explain their history of

how their country came to be. They had their own language and a dictionary of what their words meant.

I made them recite the famous verse from Henry Henley, "I am the master of my fate, I am the captain of my soul." And we learned about his life and the big words in it. We learned about how the Hebrew word meant God, so I asked whose the master of your fate is and prove with concrete evidence about what you are saying. I was not pushing my religion, but just use the concrete evidence to support what you are saying. It developed their higher order level of thinking. Another time I got the kids out of the classroom into the community was when I took the kids on a bus down to Ben & Jerry's and they had to read the bus map to get back. Then there was the living museum. The kids researched somebody obscure. I was trying to encourage them to look at African Americans around the world. That was a lot of work. Some things you don't think about. I did this for two year or three years. It was still effort, but it was getting easier a little bit and my philosophy did change after applied learning.

Now, it is hard to do applied learning in my new position being now the academic coordinator within an at-risk high school. I am not training teachers. I am in an AYP-TAKS school, so there are a lot of constraints. At ALA we had a lot of freedom. The students have to go through a lot of

testing. They don't see the forest because of the trees. TAKS is it. It's not learning. It's not how much more we get out of it.

For the community, at this traditional high school, we do have a car we raffle for attendance; a lap top for parents as incentives. We have TAKS night for parents to come. In my graduate program, I learned it is very important to feed the people. People feel appreciated when you feed them.

One thing I took from ALA, was *Laying the Foundation* training. Our English teacher is using that and she got a few 2's and 3's on her AP kids' tests. She is more creative. If she uses it all year, she should get higher scores for next year. Last year was her first year teaching at this school so I am excited about this year with her classes (D. Dubois, personal communication, August 19, 2008).

The fourth and fifth administrator's stories give the highlights of ALA's past history. These administrators were the life force of ALA. Can a new program live on without the original mentors who started the ALA school? Is it the personality which drives a new educational program or can a new program remain strong and thrive simply because of the true meaning behind it's philosophy?

(Narrative Account from Administrator N. Nicholas) I don't want my grandchildren to start school. I hate it when they will start. I really do because school is boring. It is boring shit. It is. It's stifling. That is just my estimation and I was a school girl who loved school. I was a

conscientious student because my parent's would have killed me. But I recognized that we were doing entirely too much reading of the textbook and doing the questions at the end and there was nothing to make that relevant to me or even to help me fill it away. I learned it for the test and I couldn't tell you anything afterwards.

When I started teaching my own principal was putting a lot on the line by letting me do things in my class such as night field trips. I wanted to take my students to UTA to see the film director Spike Lee. My principal helped pay for this trip. She liked to come in and see the class and how we worked together. She liked that and that the kids were doing things. They planned.

We had speakers come in and talk about the homeless. Who are they? We had a Halloween party at the Presbyterian night shelter for the children and there were quite a few children there. The children did everything. Everything was donated and the children got it all together. They wrote letters. They called people. These activities were from one class, but it was an hour and half long and we were able to extend the time if we needed to. We then started a newsletter for the homeless agencies such as that Presbyterian night shelter, homes entities, to advertise what they needed and the newsletter went to the elementary schools and churches. There came a point where two different agencies called me to ask me if they could get into this newsletter. The children did it all themselves. We

chose our projects together, but I guided them away from certain projects because of time.

Another thing, we did debates. The last time we had an election, we opened it up for a lot of discussion. We looked at all the rules from other games and saw what all the debates have to have. We saw presidential debates on the TV, but they did not follow the rules of debate which I had taught in class. They came back and told me that's not how the adults do it. We came up with lots of ideas and wrote them down, narrowed down the ideas, and there were things that they came up with and that I knew so much was out there that we tried to do something that not a lot of other people were doing.

When I started teaching at ALA, during the second year of ALA, we were trying to find a partnership. We didn't have enough kids to have a partner the first year of the school. Casa came to look at us to see if we would be an acceptable partnership. We talked to the kids before Casa came over. No matter what they offer, you are going to smile and say, "yes!" That will be wonderful, because this is getting your foot in the door. Do you understand? The guy talked about what we talked about such as pen pals, but a female student said that's wonderful, and we thought of some things too. We want to write a play and perform it on Casa's stage with Casa helping to direct it. The 7th grade probably was 25-30 kids at this time and worked on this partnership with Casa. Casa took this idea to their board

and they said yes. It was performed at Casa on the Square. Kids did the playbill too. We sold tickets and it was a full house. It was an excellent play. There were five writers and the girls kind of mediated everything. Casa gasped and was hesitant about the desire of students wanting to write a play and perform it, but they went ahead and let the kids do it on a dare for that summer. What grew out of it was the performance theater downtown. From then on Casa Manana held a student performance each summer. The kids started to help out in other areas then and Casa became a great spokesman for ALA especially when they C³ program developed. That got lots of positive feedback. The partnership and connections with Casa Manana saved ALA from the new superintendent. Casa Manana allowed the kids to stage their own play the first year with this partnership. Another partnership with the Botanic Gardens was also started by the science teacher. This nearly killed me with this project due to the inconvenience of scheduling the kids around everything, all of us, but it was an opportunity. You got to be an opportunist!

Our idea for fund raising was for the parents to park the cars for the Stock Show. We made a fortune that first year, but the downtown administration took it over after that.

At the end of ALA's first academic year, the students wanted the awards to be called the "Academy Awards" where we rented sequin dresses and tuxedos. We used our soda money to help with the cost. People were

amazed on what the kids did and how they acted. The district began calling our school to help out with projects. Debbie Russell from FWISD public relations called us. She needed help with a Japanese group and their scheduling for transportation, lodging and activities. Our students helped planned this too (N. Nicholas, personal communication, August 4, 2008).

The last narrative story comes from the oldest administrative participants, but the applied learning history was not as deep. Instead the participant gave pockets of detailed information given concerning Fort Worth's educational trends during the late 1980's to the 1990's and how his own educational philosophy changed during this time frame. It could possibly be said his own personal paradigm shifted when he came to Fort Worth.

(Narrative Account from Administrator H. Hoffman) I heard Madeline Hunter at a lecture and I continued to go hear her speak wherever she was. After that, she had the same philosophy or I had the same philosophy as she did because we both knew that we really thought and felt that the system was such that it caused the teachers, administrators, and the board to do anything other than just give the students textbooks, take tests, get grades, play football, basketball and all of that. I was fortunate to run into her early. She knew that if I moved to another school district it wouldn't be, but thirty minutes before I called her. She was unbelievable. I was also lucky to have people around me with a vision. I had people each place I moved to who were highly involved in education.

The local communities weren't telling the students why they needed to get an education and that is what we were actually trying to do with this new program of C³, to give the students opportunities to have experience in what the school ought to be about, not what it was. I am not saying teachers didn't do their job, some did and some didn't, but still that was the way was. They had no opportunities to do anything else because there was a narrow span of going to get this book, finish this book, and don't relate it to anything else and so forth. That type of activity was going on at that time. I had some experiences in other places and wanted to do this or try to do this earlier. I did with some degree in other cities before I came to Fort Worth.

When I first went to Fort Worth, I began to read in the morning paper people of the business community saying something bad about the school district or say they are just wasting money. You have heard all of that before; I got fed up because every morning I was trying to do my best. These comments were not just hurting me, but the kids, the teachers, all of us. The business people really counted on John Roach. So, I called him up one morning and said, "I am your new superintendent and I got a few things I would like to talk with you. If you have any time in the next few days for me to come over and talk with you, I would appreciate it". He said, "Well, just come on over." So, I went over to his huge office. I told him that the other business people are coming to you with every little

thing that goes wrong or happening in the schools and then the paper gets it from you or somebody else and we can't do our work. We can't do anything else. I would be willing to say I made a mistake by coming to Fort Worth, if you all are not going to give me an opportunity to do something about it. If you support me, if you get those people off from me telling how bad we are every morning in the paper, we will change this school district. He said this change thing just like the political people are talking about it now. At that point, it was just me and Mr. John Roach of Tandy Corporation. He evidently talked to the business community about what I told him. Yawl can pay me for five or six years, I can probably hang on, but we would have accomplished nothing. If you all will help me, help the school system, and the school system helps the homes, then we will come out of this with a lot of kids ready to go out in the work place or go on to future colleges for more education. He said he would do that and he did. He and his company gave a meeting with fine food for almost anybody who did anything every year while I was there. We had one guy in the city who was not giving me a chance, I told Roach about that and he got somebody to get behind that and that stopped him. We were not trying to hide anything. If we had not gotten his [John Roach] support, and if I had not gone to get it then we would have, I would have been gone in three to four years and Fort Worth would have been the same.

I was learning as we were growing too. One of the things that actually made me want to change Fort Worth when I came here as a superintendent, was some of the remarks I heard at a business meeting. Two or three of these businessmen were kind of smart mouth, saying, “Well here is our new superintendent, and we better get on him and tell him what to do and all of that”. I listened to them a little bit and I finally told them you know what, Fort Worth is probably a good district compared to others, but it is not what it needs to be. I drove all over the areas of Fort Worth, all over the city to different places. I say the black kids, brown kids, sitting on the front porches, not going to school. If they went they would just go to play or do whatever. It depended on the teacher and the principal.

Alice Carlson Applied Learning Center was what I expected after it got started, but I didn't realize this could be what it was. The faculty over there decided what they wanted it to be, something different and I was helping them. They would come up with more stuff and I would support them. It would keep changing; keep bringing the tie-ins to what happens when you leave school. We had so many people in the past who wasted several years when they went to school, then all of a sudden society requires them to do more than what they are use to. Here they are with an old fashion education in a different world. That is basically one of the reasons why I started pushing the school districts that I worked in.

Fortunately, that kept me having a place to work forever. If I left one district, then a good one wanted me to come to do the same stuff only add something else to it.

Of course C³ was our involvement of community, corporation and classroom all together. It's amazing that you never did see these three things put together in any other school district or I never felt this.

Actually, I wanted to do it before I got to Fort Worth. We had done some parts of it, but not to the extent like Fort Worth. We involved the entire community, thousands of people. No other places I have been before had done this. I guess I just didn't push it. The C³ program was nationally recognized. It put Fort Worth on the top, but that is what education is about. Educators are always looking for the next best thing, whether they call it applied learning or not (H. Hoffman, personal communication, September 27, 2008).

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Project Director (PI), *Best Buy Technology and Environmental Grant*. Fort Worth ISD. \$1500 for 2003 to increase technology inside the classroom with environmental studies