

**AGRICULTURAL SCIENCE TEACHERS' PERCEPTIONS OF ONLINE
CURRICULUM RESOURCES IN AGRICULTURAL EDUCATION**

A Thesis

by

VANESSA LYNN RUTHERFORD

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

MASTER OF SCIENCE

Chair of Committee,	John Rayfield
Committee Members,	Timothy Murphy
	Joyce Juntune
	Kirk Edney
	Roger Hanagriff
Head of Department,	Jack Elliot

December 2014

Major Subject: Agricultural Leadership, Education, and Communications

Copyright 2014 Vanessa Lynn Rutherford

ABSTRACT

The purpose of this study was to determine the perceptions of agricultural science teachers' use of online curriculum resources in regard to planning time, time management, classroom management, content knowledge, home and work life balance, and teacher stress. This descriptive study was conducted in the state of Texas using a population census of agricultural science teachers who were Instructional Material Services (IMS) Online subscribers. A response rate of 47.6% was achieved ($N = 290$, $n = 138$). The respondents completed an online survey using the Qualtrics™ system. The survey included 32 Likert scale items, as well as demographic items.

We conducted a pilot test using a panel of experts that included the out of state users of Instructional Material Services online system and pre-service teachers to establish reliability. Reliability was analyzed and calculated for the pilot study and a Cronbach's Alpha of $\alpha = .75$ was obtained. Additionally, post hoc reliability was calculated, resulting in a reliability of $\alpha = .73$. The instrument contained 32 Likert scale items that allowed participants to rank their level of agreement with online curriculum on a scale of one (Strongly disagree) to four (Strongly agree). These Likert scale statements addressed how online curriculum affects agricultural science teachers' planning time, content knowledge, time management, classroom management, teacher stress, and home and work life balance. The findings of this study included demographic data, self-efficacy in Agricultural Food and Natural Resource pathways, descriptive characteristics, perceptions of online curriculum resources regarding the different factors

the impact agricultural science teachers, listed previously. In this study 34.1% of the population had taught 0-5 years and 23.9% had taught more than twenty years. When asked to rank their stress on an average day we found that 61.6% of these teachers reported classroom instruction causing the most stress by either ranking it first, second, or third. Findings showed that online curriculum resources has aided in the improvement of planning time, time management, classroom management, content knowledge, and has also somewhat improved home and work life balance for these agricultural science teachers in the state of Texas.

ACKNOWLEDGEMENTS

I would like to thank my committee chair, Dr. Rayfield, for the support and time that he has devoted to my graduate school experience and research efforts. He is the sole reason that I attended Texas A&M University, and without his constant confidence in my abilities, I would not be here today. I would also like to thank Dr. Edney and Dr. Hanagriff for allowing me to work with Instructional Material Services during my graduate school career and always giving me guidance and encouragement. I could not imagine having any other people as my bosses. I was truly blessed to work with you both and you will never know how much your constant faith in me has meant. I would also like to thank my committee members, Dr. Murphy and Dr. Juntune for their support of my research project. I also owe a special thanks to all of the professors, Dr. Briers, Dr. Larke, Dr. Lindner, Dr. Strong and Mr. Hancock for encouraging me and always having time to give me advice along the way. Thank you all for your time and help in making my time as a graduate student the best it could be.

A special thank you goes out to Jamie, Kenny, and Elke for being an awesome support staff during my time as a graduate student. Not only did you help me with everything from travel and paperwork to making sure I always got my paycheck, but you all offered your friendship and that means the most of all. The memories and friendships I have developed during my short time at Texas A&M University have really made my experience of becoming an Aggie worthwhile. Thank you to all of my fellow graduate students for putting up with my sassy attitude and always making me think that I am so funny! Lockie, it is you that has gotten me through graduate school, with your loyal and

big heart and always being there to laugh at me and of course, encourage me. I truly thank you for your friendship and showing me all of the awesome things about being an Aggie. Additionally, I would like to thank all of the agricultural science teachers from Texas who took the time to be a part of my study; you will never know how much you are appreciated.

Finally, a huge thanks goes out to my family and friends for their encouragement. Mom and Brooke: Thank you for always being there for me and supporting my dreams. I could have never moved from Pleasanton to Lubbock to College Station without your help. I appreciate you both always having the utmost faith in my ability to succeed in school; it is without doubt that I have made it this far in life because of you both. I would also like to thank everyone in my support system, Debbie, Tommy, Jill and the kids, Lana, and countless others that have inspired me to be where I am today. To my grandmother, it always has been you that inspires me to do great things in the world. I know that you have always set an example for me to be a remarkable person that is always willing to help others and to always have faith in the Lord. I hope as a teacher I will be able to help people, just like you did as a nurse. Lastly, I would like to thank God for blessing me with an awesome opportunity to come to Texas A&M University for graduate school. Even through struggle and triumph it is him that reminds me to always be humble.

TABLE OF CONTENTS

	Page
ABSTRACT	ii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS	vi
LIST OF FIGURES	ix
LIST OF TABLES	x
CHAPTER.....	1
I INTRODUCTION	1
Purposes and Objectives.....	2
Definition of Terms	3
Limitations.....	4
Assumptions	5
Significance of the Problem	5
II LITERATURE REVIEW	6
Introduction	6
Agricultural Education	6
Online Curriculum Resources in Agricultural Education	8
Factors that Impact Agricultural Science Teachers.....	10
Summary of Literature Review	13
III METHODOLOGY	14
Introduction	14
Design of Study	14
Population and Sample	15
Instrumentation.....	15
Data collection.....	16
Data Analysis	17
IV RESULTS	18
Introduction	18
Demographic Data.....	19

Objective 1: Describe the Usage of Online Curriculum Resources as it Relates to Planning Time	27
Objective 2: Describe the Usage of Online Curriculum Resources as it Relates to Time Management	28
Objective 3: Describe the Usage of Online Curriculum Resources as it Relates to Classroom Management.....	30
Objective 4: Describe the Usage of Online Curriculum Resources as it Relates to Content Knowledge	31
Objective 5: Describe the Usage of Online Curriculum Resources as it Relates to Home and Work Life Balance	33
Objective 6: Describe the Usage of Online Curriculum Resources as it Relates to Teacher Stress	34
Summary	35
 V SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	36
Introduction	36
Purpose and Objectives	36
Summary of Methodology	37
Summary of Findings	39
Demographic Data.....	40
Objective 1: Usage of Online Curriculum Resources as it Relates to Planning Time	41
Conclusions	41
Recommendations	43
Objective 2: Usage of Online Curriculum Resources as it Relates to Time Management	45
Conclusions	45
Recommendations	46
Objective 3: Usage of Online Curriculum Resources as it Relates to Classroom Management.....	47
Conclusions	47
Recommendations	48
Objective 4: Usage of Online Curriculum Resources as it Relates to Content Knowledge.....	50
Conclusions	50
Recommendations	52
Objective 5: Usage of Online Curriculum Resources as it Relates to Home and Work Life Balance.....	53
Conclusions	53
Recommendations	55
Objective 6: Usage of Online Curriculum Resources as it Relates to Teacher Stress	56
Conclusions	56

Recommendations	57
Recommendations for Further Research	59
REFERENCES	61
APPENDIX A	68
APPENDIX B	75
APPENDIX C	76
APPENDIX D	78
APPENDIX E	80
APPENDIX F	82
APPENDIX G	84
APPENDIX H	85

LIST OF FIGURES

	Page
Figure 1 Agricultural Education Three Circle Model	7
Figure 2 A Conceptual Model Representing Factors that Impact Agricultural Science Teachers.....	12

LIST OF TABLES

		Page
Table 1	Demographic Variables	20
Table 2	AFNR Pathways Taught.....	22
Table 3	Rank of Self-Efficacy Regarding Content Knowledge	23
Table 4	Rank of Time Spend on an Average School Day.....	24
Table 5	Rank of Stress on an Average School Day	25
Table 6	Methods to Prepare for Class	26
Table 7	Usage of Online Curriculum Resources as it Relates to Planning Time	28
Table 8	Usage of Online Curriculum Resources as it Relates to Time Management	29
Table 9	Usage of Online Curriculum Resources as it Relates to Classroom Management	30
Table 10	Usage of Online Curriculum Resources as it Relates to Content Knowledge	32
Table 11	Usage of Online Curriculum Resources as it Relates to Home and Work Life Balance.....	33
Table 12	Usage of Online Curriculum Resources as it Relates to Teacher Stress	34

CHAPTER I

INTRODUCTION

Agricultural science teachers must manage the multiple roles of classroom teacher, FFA advisor, and supervisor of student supervised agricultural experiences (SAE) all of which place demands on their time (Ritz, Burris, & Brashears, 2013). The lack of unallocated time in the school week for an agricultural science teacher can become overwhelming (Myers, Dyer, & Washburn, 2005). Studies have shown that teachers have difficulty finding adequate teaching resources (Griffen, 1985; Joerger & Boettcher, 2000). It has also been stated that teachers struggle with lesson development and organization (Talbert, Camp, & Heathcamp, 1994). Joerger (2002) found beginning agricultural education teachers in Minnesota believed they were only somewhat knowledgeable in performing the competencies including program design and management, teaching, and classroom management. A study regarding significant stressors for female teachers in the Southeast found that 35% of participants reported creating new curriculum, lack of teaching materials, and teaching new content created high or very high stress (King, Rucker, and Duncan, 2013). According to Edney and Hanagriff (2013), online curriculum provides agricultural educators with quality, up-to-date and customizable materials that can be used in the classroom and are aligned to state and national standards. Torres, Lawver, and Lambert (2009) stated “job stress can occur when the requirement of the job does not match teachers’ resources or capabilities” (p. 108). This study focused on classroom resources in agricultural education, which are supported by the three-circle model of agricultural education,

consisting of classroom instruction, supervised agricultural experiences, and premier youth leadership organizations (Croom, 2008).

Purposes and Objectives

This study sought to define the benefits of online curriculum in terms of planning time, classroom management, time management, teacher stress, home and work life balance, and content knowledge. Because online curriculum has been continuously updated, this study was conducted to establish empirical data detailing its use by agricultural science teachers in the state of Texas.

The research objectives of this study were as follows:

1. Describe the use of online curriculum resources as they relate to planning time practices for agricultural science teachers.
2. Describe the use of online curriculum resources as they relate to time management practices for agricultural science teachers.
3. Describe the use of online curriculum resources as they relate to classroom management practices for agricultural science teachers.
4. Describe the use of online curriculum resources as they relate to content knowledge for agricultural science teachers.
5. Describe the use of online curriculum resources as they relate to balance of home and work life for agricultural science teachers.
6. Describe the use of online curriculum resources as they relate to teacher stress for agricultural science teachers.

Definition of Terms

Instructional Material Services: A curriculum service that provides agricultural science teachers with curriculum development materials that is based out of the Agricultural Leadership, Education, and Communications department at Texas A&M University (Edney and Hanagriff, 2013).

Teacher stress: Occupational stress specific to educators. Kyriacou (1987) defined this as “the experience by a teacher of unpleasant emotions, such as tension, frustration, anxiety, anger, and depression, resulting from aspects of work as a teacher” (p. 147).

Classroom instruction: Croom (2008) defined this as “... are those activities that provide learning experiences within the confines of a school facility. These classroom activities are characterized by learning activities designed by an agriculture teacher and presented to students using formal instruction methods such as lecture, demonstration, guided and independent practice, review, and assessment” (p. 110).

Online curriculum: Traditional educational curriculum available on the worldwide web via the Internet (Instructional material services, 2012).

Classroom management: Oliver, Wehby, & Reschly (2011) defined this as “ a collection of nonacademic instructional classroom procedures implemented by teachers in classroom settings with all students for the purposes of teaching prosocial behavior as well as preventing and reducing inappropriate behavior” (p. 7).

Time management: The ability to plan tasks and/or activities in a balanced way in reference to time (Meister & Melnick, 2003).

Work life balance: Grzywacz and Carlson (2007) defined this as “accomplishment of role-related expectations that are negotiated and shared between an individual and his or her role-related partners in the work and family domains” (p. 458).

Agricultural science teacher: A teacher in the Agriculture, Food, and Natural Resources has the responsibility of an instructional program, FFA, and Supervised Agricultural Experiences. Teachers must have proper certification in Agricultural Education and a bachelor’s degree (Vocational Agriculture Teacher Association of Texas, 2013).

Supervised Agricultural Experience (SAE): one of the three essential components of agricultural education, SAE projects offer project-based and experiential learning opportunities for students. SAE projects are typically supervised by the agricultural science teacher (National FFA Organization, 2012a).

FFA: the intracurricular student leadership organization portion of agricultural education. The FFA emphasizes learning through experience, leadership, competition, and service by giving students opportunities to pursue their interests and talents in a variety of competitions, contests, and leadership growth activities (National FFA Organization, 2012b).

Instructional Stress: a type of stress that agricultural science teachers experience while preparing, presenting, and reflecting anything related to instruction for the classroom.

Limitations

The limitations of this study include the ability to generalize results to all agricultural science teachers in the United States. The results cannot be generalized to all teachers because the competencies on the instrument are specific to agricultural science

teachers in the state of Texas. Although competencies are consistent to other teaching disciplines, it would not be deemed appropriate to generalize these results to those disciplines.

Assumptions

For this study, the following assumptions are accepted as facts and guided the study:

1. All respondents were certified agricultural science teachers in Texas.
2. All respondents completed the survey in an honest manner.
3. All respondents were IMS Online subscribers.

Significance of the Problem

The need for the study was to determine the benefits online curriculum has on an agricultural science teacher. Problems and challenges that face beginning agricultural science teachers include but are not limited to: time management, organizational management, classroom management, and student discipline (Mundt and Connors, 1999). Stair and Warner (2013) concluded that professional programs should continue to provide teachers with opportunities to explore new professional materials and provide access to teaching resources. According to Joerger and Boettcher (2000), teachers have difficulty finding adequate teaching resources. Potentially, online curriculum resources can relieve stress from teachers, and can allow them more time to focus on other aspects of their job responsibilities.

CHAPTER II

LITERATURE REVIEW

Introduction

A literature review covering online curriculum, agricultural education, and factors affecting agricultural science teachers was conducted to frame this study. The classroom was the focus of this study because the researchers concentrated on online curriculum resources to improve the classroom for agricultural science teachers. The researchers also focused on the factors that affect agricultural science teachers such as stress, time management, and classroom management skills. This literature review provides the reader with the basic knowledge regarding online curriculum resources in the classroom and the factors that contribute to teacher success or failure in the classroom.

Agricultural Education

This study focused on classroom resources in agricultural education, which was supported by the three-circle model of agricultural education (Croom, 2008) shown in Figure 1.

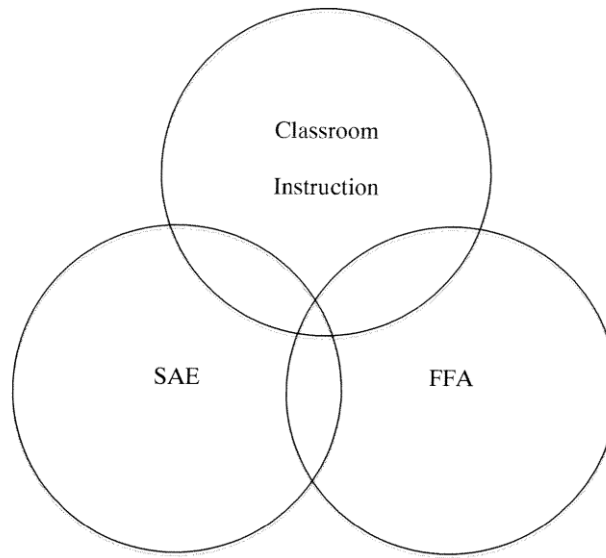


Figure 1: Agricultural Education Three Circle Model. (Croom, 2008)

This model consists of classroom instruction, supervised agricultural experiences, and FFA, a premier youth leadership organization. In order to achieve a well-rounded agricultural science program, each component must be equally utilized. The classroom component provides knowledge-based learning for students; the SAE component allows for the application of this knowledge to real world experiences; the FFA component provides an opportunity for students to receive recognition for their accomplishments (Croom, 2008). As previously stated, this study focused on the classroom component of agricultural science teachers and how online curriculum resources aid these teachers in becoming more effective in the classroom. Croom (2008) stated “Formal instruction in agricultural education probably began in 1858”, and “The

Smith-Hughes Act of 1917 provided a more sophisticated linkage between classroom instruction and supervised experience” (p. 117). Miller, Kahler, and Rheault (1989) acknowledged five performance areas for an effective agriculture teacher; these five areas included productive teaching behaviors, organized, structured class management, positive interpersonal relationships; professional responsibilities, and personal characteristics. Kahler (1974) found that all teachers regardless of experience level placed top priority on and expressed tremendous difficulty with the part of their program titled “classroom teaching.” Garton and Chung (1996) reported parallel results and found beginning teachers ranked the competencies in the areas of instruction and program planning above other competencies regarding in-service needs. Talbert, Vaughn, and Croom (2006) stated that classroom activities are created by the agricultural science teacher and conferred to students by demonstration, lecture, assessment, review, and practice.

Online Curriculum Resources in Agricultural Education

Peiter (2002) stated the only thing that remains constant in agricultural education is change, and that curriculum is constantly changing to meet the needs and interests of students. Peiter (2002) stated “Our founding fathers, Rufus Stimson, Charles Prosser and Seaman Knapp were innovators! They made a new discovery- establishing a school-based program to educate farm boys who were returning to the farm. Just as innovations begin, program changes were and must continue to be made if we are to keep up with the diverse needs of the students” (p. 5). Stair and Warner (2013) stated “The planning model most reported by participants was to first plan objectives, followed by content,

strategies, educational activities, and lastly the assessment” (p. 11). Agricultural science teachers reported using a multitude of professional curriculum materials to support their development of lesson plans. It was also commonly reported that respondents begin their plan by considering content first, then moving onto other parts of the lesson (Stair & Warner, 2013). Harasim (2000) stated “The invention of the World Wide Web in 1992 made online education increasingly accessible and allowed new pedagogical models to emerge. Because the Web is easy to use and capable of presenting multimedia, it expanded the range of disciplines that could be offered online” (p. 42). Smith and Jones (1999) found that web-based education had begun to be used in teacher education to boost current general education teacher preparation curriculum and technology such as the Internet has been widely used to facilitate instruction through new delivery methods. Stair & Warner (2013) stated “Teacher education programs and teacher in-service programs should continue to provide teachers with opportunities to explore new professional materials and provide access to teaching resources that can enhance instructional practices” (p. 12). According to Layfield and Dobbins (2002), experienced agricultural science teachers ranked competencies of integration of technology in the classroom at the top of their in-service needs. We acknowledge that this study occurred over 10 years ago; however, we still feel the findings are relevant. Gillete (1996) stated that online learning environments have provided opportunities for teachers to customize innovative instruction.

The framework of this study was embedded in the idea that a teacher must have curriculum resources in order to be a successful and effective agricultural science

teacher. Torres et.al (2009) reported excessive demands on teachers' time. Teachers also have difficulty finding adequate teaching resources (Griffen, 1985; Joerger & Boettcher, 2000). This study was framed around the mission of The Instructional Material Services (IMS). IMS was developed in 1965 to provide curriculum resources and was housed by Texas A&M University's Agricultural Leadership, Education, and Communications department. In July of 2013, IMS implemented a new online system (IMS Online) to expand into online resources and adapt new web based technologies. This new system included online access to written materials, lesson plans, presentations and assessment for topics. These materials were also cross-walked to Texas standards educational standards and National Agricultural Food and Natural Resources (AFNR) to offer improved and detailed lesson plans. Updating educational content and sharing those updates with users was an essential aspect of IMS Online. All content in IMS Online was managed utilizing a database structure where content was individually cataloged. As content was updated, the new edited files were uploaded into the database and immediately accessible for all users. Content improvement was essential for success, but effectively and automatically sharing those updates with users has been difficult.

Factors that Impact Agricultural Science Teachers

Layfield and Dobbins (2002) stated "Without question, teachers are faced with challenges trying to provide an adequate learning environment and preparing their students for productive lives in today's fast-paced world" (p. 46). According to Wolf (2011), teachers must believe they are knowledgeable in tasks that they are required to execute as agricultural science teachers. Teachers with low self-efficacy are most often

overwhelmed with classroom problems (Swan, Wolf, & Cano, 2011). According to Carroll, Rayfield, & Murphy (2014) agricultural science teachers in the state of Texas reported having the lowest self-efficacy in classroom instruction. Mundt and Connors (1999) found that time; organizational management, classroom management, and student discipline were problems and challenges beginning agricultural science teachers faced. Self-efficacy has been found by other researchers to be one of the most important variables that determines a teacher's performance and effectiveness in the classroom (Calik, Sezgin, Kavgaci, & Cagatay Killnic, 2012).

Murray, Flowers, Croom, and Wilson (2011) stated "The time required for teachers to establish a complete agricultural education program including classroom, FFA, and SAE typically involves longer than a 40 hour work week" (p. 107). Cooper and Nelson (1981) found similar results that on average, agricultural science teachers work 55 hours a week. Torres, Ulmer, and Aschenbrener (2007) noted that agricultural science teachers value the need to provide adequate planning and instruction to students. Torres, Lawver, and Lambert (2009) found similar results that teachers have excessive demands of their time with increased responsibilities from students, parents, administrators, and peers. In addition to emotional stress, agricultural science teachers face internal and external pressures to succeed in their programs (Cano, 1990). Meister and Melnick (2003) concluded that 84% of the teachers reported feeling "overwhelmed by the workload" and that "time management is another area where teacher preparation programs need a greater focus" (p. 92). McKim, Rayfield, Harlin, & Adams (2013)

supported the notion that agricultural science teachers experience moderate stress levels; however, their stress level fluctuates throughout different parts of the year.

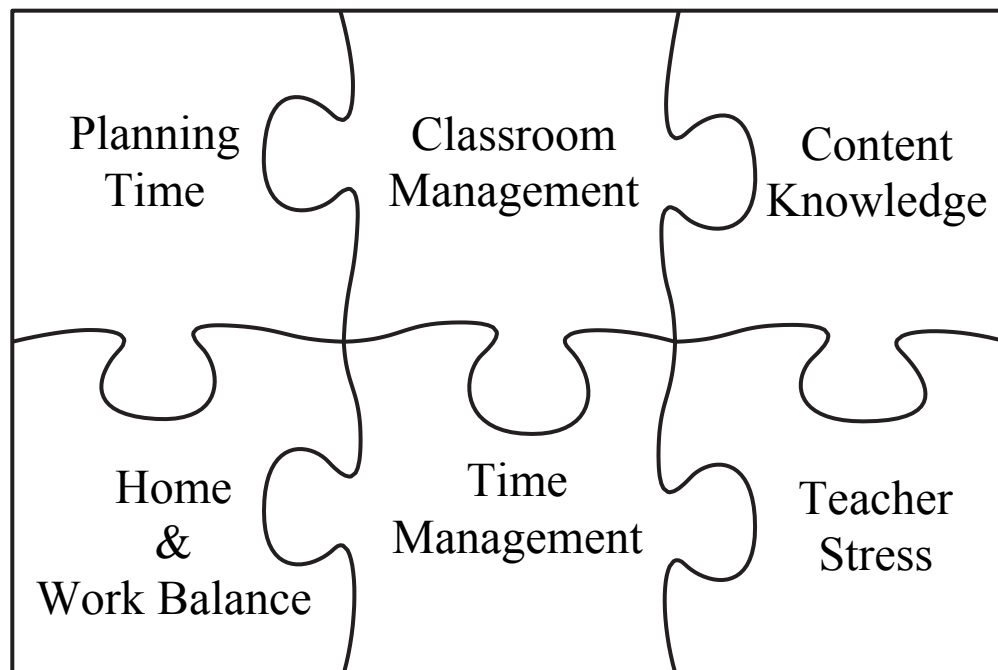


Figure 2: A conceptual model representing factors that impact agricultural science teachers

Factors that impact agricultural science teachers are shown in Figure 2 above. We identified six different factors that are important aspects of an agricultural science teachers' job. The puzzle represents that each part is needed in order for success to occur; if one piece is missing the puzzle is incomplete. It takes all factors working together for an agricultural science teacher to be successful in the classroom (Mundt and Connors, 1999; Murray et. al., 2011; Torres et. al., 2007; McKim et. al., 2013). A

potential solution to assist agricultural science teachers in the classroom is to provide curriculum resources to reduce their preparation time, improve their lesson planning skills, assist them with alignment of state and national standards, and allow them the opportunity to bridge the gap in areas where the teacher lacks topical experience.

Priority two of the National Research Agenda for American Association for Agricultural Education (AAAE) focuses on the changing nature of agriculture due to the rapid progression of technologies adoption decisions made by consumers (Doerfert, 2011).

Summary of Literature Review

Agricultural education is in the process of integrating technology advancements in the classroom (Doerfert, 2011). Online classrooms and curriculum are being used more every year (Smith, Smith, and Boone, 2000). According to Croom (2008), the classroom aspect of the three-circle model in agricultural education is an important aspect of overall program success. Online resources are emerging in education, and more specifically agricultural education. Web-based education has begun to be used to boost current general education teacher preparation curriculum (Smith and Jones, 1999). A teacher's performance and effectiveness in the classroom can be determined by a very important factor, self-efficacy (Calik, Sezgin, Kavgaci, & Cagatay Killnic, 2012). This literature supports the purpose of this study by demonstrating the advancement of technology in education, factors agricultural educators face, and the base of agricultural education, which is defined as the three circle model (Croom, 2008).

CHAPTER III

METHODOLOGY

Introduction

To accomplish the objectives stated in Chapter I, the researchers developed a detailed plan and methodology. The population, sample, instrumentation, data collection, and data analysis are discussed in the sections below.

Design of Study

This study was descriptive with a cross-sectional design, and was based on a researcher created instrument. Fraenkel & Wallen (2009) explained that a descriptive study should attempt to explain a state of affairs as fully and carefully as possible. The dependent variable for this study was the usage of online curriculum as it pertains to the classroom component for agricultural science teachers. The independent variables were the usage of online curriculum by agricultural science teachers, as well as demographic characteristics (gender, age, years of teaching experience, and education). The researchers addressed the objectives for this study by using a researcher created online questionnaire as the means of data collection. The online questionnaire was sent through Qualtrics™ online survey management software.

Population and Sample

The population of interest for this study was all IMS Online users in the state of Texas. An IMS Online user was defined as a teacher who has a paid one year subscription through IMS. A list of all IMS Online users was obtained from the membership services department of IMS. This resulted in a population census of the group of IMS Online users. The size of the population was $N = 290$ agricultural science teachers. A total of $n = 138$ respondents completed the survey resulting in a 47.6% response rate.

Instrumentation

We used Qualtrics™ software developed the instrument for this study. The respondents were presented two questions regarding their curriculum accessibility, then they were presented with Likert scale items, two ranks, and lastly, they were presented with demographic questions. A link to the Qualtrics™ survey was sent out via email. Fraenkel & Wallen (2009) defined a descriptive survey as “asking the same set of questions (often prepared in the form of a written questionnaire or ability test) of large number of individuals either by mail, by telephone, or in person” (p. 13). We conducted a pilot test using a panel of experts that included the out of state users of IMS Online and pre-service teachers to establish reliability. Reliability was analyzed and calculated for the pilot study and a Cronbach’s Alpha of $\alpha = .75$ was obtained. Additionally, post hoc reliability was calculated, resulting in a reliability of $\alpha = .73$. According to Nunnally (1978), an alpha of $\alpha = .70$ or higher is an acceptable reliability measurement; however, a lower alpha is not necessarily a detriment (Nunnally, 1978). Nunnally (1978)

concluded that in the early stages research and through instrument development, it may be acceptable to have only modest reliability, defined as 0.60-0.70. The researchers developed a panel of experts in the field of agricultural education to determine the validity of the instrument. There were no known threats to internal validity.

To account for non-response error the researchers used method one (Lindner, Murphy, Briers, 2001); which, is a comparison of early to late respondents by running an independent samples t-test. No statistically significant differences were found between early and late respondents; therefore, non-response error should not be considered a threat to internal validity.

The instrument contained 32 Likert scale items that allow participants to rank their level of agreement with online curriculum on a scale of one (Strongly disagree) to four (Strongly agree). In addition to the 32 Likert scale items, the researcher created 13 demographic questions to address the research objectives for this study. A panel of experts then reviewed these questions to establish content and face validity.

Data Collection

Dillman, Smyth, and Christian's (2009) tailored design method was followed for the data collection procedures during this study. The questionnaire was uploaded to Qualtrics™ and all emails were sent and collected using the Qualtrics™ system. Qualtrics™ is an online survey system that allows researchers to create surveys, distribute them electronically, and collect/download data.

Dillman, Smyth, and Christian (2009) recommended using multiple contacts and varying the message used in each email. There is no set number of contacts

recommended.

For this study, we used five points of contact, an initial pre-notice without the survey inviting respondents, and four follow-up emails. Each email was sent out in one-week intervals over a five-week period. Dillman, Smyth, and Christian (2009) recommended personalizing the respondents' email by including their first or last name, as well as creating variation among emails to increase response rate. Because Dillman, Smyth, and Christian (2009) state that sending an email or including a message from an important individual may increase response rate, the final follow-up email was sent from Instructional Materials Service (IMS) director, Dr. Kirk Edney.

Data Analysis

The data collected from this survey were analyzed using Statistical Package for Social Sciences (SPSS). The data were exported directly from Qualtrics™ software into an SPSS spreadsheet. Means and standard deviations were calculated for each of the Likert-scale items to determine the perceptions of the agricultural science teachers regarding online curriculum. Frequencies and percentages were calculated for the demographic questions.

CHAPTER IV

RESULTS

Introduction

The purpose of this study was to describe the use of online curriculum resources in regard to planning time, time management, classroom management, home and work life balance, stress, and content knowledge of agricultural science teachers in the state of Texas. The findings of this study were reflected from the research objectives stated in Chapter One. The research objectives of this study were as follows:

1. Describe the use of online curriculum resources as they relate to planning time practices for agricultural science teachers.
2. Describe the use of online curriculum resources as they relate to time management practices for agricultural science teachers.
3. Describe the use of online curriculum resources as they relate to classroom management practices for agricultural science teachers.
4. Describe the use of online curriculum resources as they relate to content knowledge for agricultural science teachers.
5. Describe the use of online curriculum resources as they relate to balance of home and work life for agricultural science teachers.
6. Describe the use of online curriculum resources as they relate to teacher stress for agricultural science teachers.

Descriptive statistics were calculated and used to report the findings of these studies objectives.

Demographic Data

Demographic data were collected for participants through the online instrument. Frequencies and percentages were reported for the type of teaching tool accessed by participants now versus the type they accessed as first year teachers. Frequencies and percentages were also reported for of gender, number of years in the profession, size of community, highest degree obtained, age, and certification method. There were also characteristic descriptors that show what type of classes the participants taught, what consumed their time the most in an average school day, what caused the most stress, and the different methods they used to access curriculum.

The respondents varied widely in how many years they had been in the classroom; however, majority of respondents had been in the classroom either 0-5 years ($n = 47$) or more than 20 years ($n = 33$). A majority of respondents ($n = 82$) reported their highest degree obtained as a Bachelor's degree. The size of the community was determined by categorizing each participant's school according to population density. These were considered rural, (less than 2,500 people), suburban, between (2,501 and 50,000 people), or urban, (more than 50,001 people), in line with the classification of the U.S. Census Bureau (2011). The majority of teachers came from a rural ($n = 63$) or suburban community ($n = 43$). Additionally, data showed that 52.2% ($n = 72$) of respondents reported using printed products to access curriculum in their first year of teaching, but 89.9% ($n = 124$) reported currently using a computer or laptop to access curriculum. The majority of respondents (78.3%; $n = 108$) reported they were

traditionally certified in agricultural science. Complete demographic information is presented in Table 1.

Table 1

Demographic Variables. Selected Teacher Characteristics (n = 138)

Demographic Variables	<i>f</i>	%
Teaching Tool to Access Curriculum in 1 st year		
Computer or Laptop	65	47.10
Printed Products	72	52.20
Ipad or Tablet	1	.70
Teaching Tool to Access Curriculum Currently		
Computer or Laptop	124	89.90
Printed Products	8	5.80
Ipad or Tablet	6	4.30
Gender		
Male	81	52.90
Female	46	47.10
Not Reported	11	8.00
Number of Years as an Agricultural Science Teacher		
0-5 years	47	34.10
6-10 years	25	18.10
11-15 years	13	9.40
16-20 years	9	6.50
More than 20 years	33	23.90
Not Reported	11	8.00
Population of Community		
Less than 2,500	63	45.70
Between 2,501 and 50,000	43	31.20
Greater than 50,000	21	15.20
Not Reported	11	8.00
Highest Degree Obtained		
Bachelor Degree	82	59.40
Master Degree	43	31.20
Doctoral Degree	2	1.40
Not Reported	11	8.00
Age		
20-25	16	11.60
26-30	26	18.80
31-35	16	11.60

Table 1. Continued		
Demographic Variables	<i>f</i>	%
36-40	10	7.20
41-45	18	13.00
46-50	11	8.00
More than 50	30	21.70
Not Reported	11	8.00
Teaching Certification Method		
Traditionally Certified in Agricultural Science	108	78.30
Alternatively Certified	19	13.80
Not Reported	11	8.00

Teacher pathway characteristics are shown in Table 2 and 3. A majority of respondents (75.4%; $n = 104$) taught classes that fall into the Animal Systems pathway and several of the respondents (65.2%; $n = 90$) taught classes in the Comprehensive pathway. When respondents were asked to rank their knowledge level related to self-efficacy in the different Animal, Food, and Natural Resources pathways, most respondents (71%; $n = 98$) felt they were most knowledgeable in the Animal Systems or Comprehensive pathways.

Table 2

Pathways Taught. Selected Teacher Characteristics (n = 138)

Pathways Taught	<i>f</i>	%
AFNR Pathway that Represents Classes Taught		
Agribusiness Systems	25	18.10
Animal Systems	104	75.40
Biotechnology Systems	10	7.20
Comprehensive Systems	90	65.20
Environmental Service Systems	21	15.20
Food Products and Processing Systems	23	16.70
Natural Resource Systems	56	40.60
Plant Systems	74	53.60
Power, Structural, and Technical Systems	67	48.60

Table 3

*Rank of Self-Efficacy Regarding Content Knowledge. Selected Teacher Characteristics
(n = 138)*

Rank of Self-Efficacy Regarding Content Knowledge	<i>f</i>	%
Agribusiness Systems		
1 st – 3 rd	17	12.30
4 th – 6 th	58	42.00
7 th – 9 th	63	45.60
Animal Systems		
1 st – 3 rd	115	83.30
4 th – 6 th	18	13.00
7 th – 9 th	5	3.50
Biotechnology Systems		
1 st – 3 rd	5	3.50
4 th – 6 th	23	16.70
7 th – 9 th	110	79.70
Comprehensive Systems		
1 st – 3 rd	101	73.20
4 th – 6 th	27	19.60
7 th – 9 th	10	7.20
Environmental Service Systems		
1 st – 3 rd	10	7.20
4 th – 6 th	55	39.90
7 th – 9 th	73	52.90
Food Products and Processing Systems		
1 st – 3 rd	27	19.50
4 th – 6 th	68	49.30
7 th – 9 th	43	31.20
Natural Resource Systems		
1 st – 3 rd	27	19.50
4 th – 6 th	69	49.90
7 th – 9 th	42	30.40
Plant Systems		
1 st – 3 rd	60	43.50
4 th – 6 th	57	41.40
7 th – 9 th	21	15.10
Power, Structural, and Technical Systems		
1 st – 3 rd	53	38.40
4 th – 6 th	38	27.50
7 th – 9 th	47	34.10

Time spent during the school day is shown in Table 4. Additionally, data showed that 97.10% ($n = 134$) of respondents spend most of their time on an average school day on classroom instruction by ranking it 1st, 2nd, or 3rd.

Table 4

<i>Rank of Time Spent on Average School Day. Selected Teacher Characteristics (n = 138)</i>		
Rank of Time Spent on Average School Day	<i>f</i>	%
Classroom Instruction		
1 st – 3 rd	134	97.10
4 th – 6 th	4	2.90
Supervised Agricultural Experiences		
1 st – 3 rd	103	74.60
4 th – 6 th	35	25.30
FFA Advisor		
1 st – 3 rd	123	89.20
4 th – 6 th	15	10.90
Parent Interactions		
1 st – 3 rd	16	11.60
4 th – 6 th	122	88.40
Administration Interactions		
1 st – 3 rd	34	24.60
4 th – 6 th	104	75.40
Non-Career Related Activities		
1 st – 3 rd	4	2.80
4 th – 6 th	134	97.10

Components that caused the most stress for agricultural science teachers are shown in Table 5. Respondents also reported (61.60%; $n = 85$) that classroom instruction causes more stress than Supervised Agricultural Experience (SAE), parent interactions, administration interactions, and their non-career related activities.

Additionally, 54.30% ($n = 75$) reported that either parent or administration interactions were the most stressful part of their job.

Table 5

<i>Rank of Stress on Average School Day. Selected Teacher Characteristics ($n = 138$)</i>		
Rank of Stress on Average School Day	<i>f</i>	<i>%</i>
Classroom Instruction		
1 st – 3 rd	85	61.60
4 th – 6 th	53	38.30
Supervised Agricultural Experiences		
1 st – 3 rd	75	54.30
4 th – 6 th	63	45.70
FFA Advisor		
1 st – 3 rd	85	61.60
4 th – 6 th	53	38.40
Parent Interactions		
1 st – 3 rd	71	51.50
4 th – 6 th	67	48.50
Administration Interactions		
1 st – 3 rd	75	54.30
4 th – 6 th	63	45.70
Non-Career Related Activities		
1 st – 3 rd	23	16.70
4 th – 6 th	115	83.20

Respondents were also asked about the methods used to access curriculum and how long each of these methods took them when used, which is shown in Table 6. Majority of respondents ($n = 93$) reported when using IMS Online to access curriculum it took them one hour or less. Similar results were reported when using other online methods; the majority ($n = 91$) reported that, when using iCEV, it took them one hour or

less and that using a web search ($n = 55$) took one or less and ($n = 51$) took two hours to access curriculum.

Table 6

Methods to Prepare for Class. Selected Teacher Characteristics (n = 138)

Methods to Prepare for Class	<i>f</i>	%
Web Search		
1 hour or less	55	39.90
2 hours	51	37.00
3 hours	18	13.00
4 hours or more	10	7.20
Not Used/ Not Familiar	4	2.90
IMS Online		
1 hour or less	93	67.40
2 hours	28	20.30
3 hours	1	0.70
4 hours or more	2	1.40
Not Used/ Not Familiar	14	10.10
Self-Developed Items		
1 hour or less	48	34.80
2 hours	47	34.10
3 hours	24	17.40
4 hours or more	19	13.80
Not Used/ Not Familiar	0	0.00
iCEV		
1 hour or less	91	65.90
2 hours	27	19.60
3 hours	7	5.10
4 hours or more	1	0.70
Not Used/ Not Familiar	12	8.70
Printed Products		
1 hour or less	61	44.20
2 hours	55	39.90
3 hours	14	10.10
4 hours or more	2	1.40
Not Used/ Not Familiar	6	4.30
Educational Excellence		
1 hour or less	19	13.80
2 hours	14	10.10

Table 6. Continued

Methods to Prepare for Class	<i>f</i>	%
3 hours	6	4.30
4 hours or more	1	0.70
Not Used/ Not Familiar	98	71.00
Peer Developed Items		
1 hour or less	70	50.70
2 hours	33	23.90
3 hours	9	6.50
4 hours or more	3	2.20
Not Used/ Not Familiar	23	16.70
CASE Curriculum		
1 hour or less	17	12.30
2 hours	12	8.70
3 hours	2	1.40
4 hours or more	2	1.40
Not Used/ Not Familiar	105	76.10

**Objective 1: Describe the Usage of Online Curriculum Resources as it Relates to
Planning Time**

The purpose of research objective one was to describe the perceptions of agricultural science teachers regarding online curriculum resources and planning time for agricultural science teachers in the state of Texas. The results for research objective one were analyzed and reported into a table. The data are reported in Table 7, using means and standard deviations. The instrument ranged from a score of one (Strongly Disagree) to a score of four (Strongly Agree).

Table 7

<i>Usage of Online Curriculum Resources as it Relates to Planning Time (n = 138)</i>		
Planning Time Statements	<i>M</i>	<i>SD</i>
I am satisfied with the amount of time I have to prepare for class.	2.57	.83
As I gain experience teaching I am able to use planning time more effectively.	3.25	.55
I access online curriculum to build lessons during my planning time.	3.10	.62
My planning time does not benefit from online curriculum resources.	1.77	.64
My planning time has improved since I started using online curriculum resources.	3.20	.62

Note: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly Agree.

Respondents were given five statements of agreement regarding their planning time in the classroom and the impact online curriculum has on their planning time. The respondents agreed that their planning time has improved since they started using online curriculum resources ($M = 3.20$). Mirrored negative results were found in the statement “My planning time does not benefit from online curriculum resources” ($M = 1.77$). Respondents also reported being satisfied with the amount of planning time they had for class ($M = 2.57$). Teachers reported accessing online curriculum to build their lessons during their planning time ($M = 3.10$). Additionally, teachers reported that as their experience grows they are able to use planning time more effectively ($M = 3.25$).

Objective 2: Describe the Usage of Online Curriculum Resources as it Relates to Time Management

The purpose of research objective two was to describe the perceptions of agricultural science teachers regarding online curriculum resources and time

management for agricultural science teachers in the state of Texas. The results for research objective two were analyzed and are reported in Table 8, using means and standard deviations. The instrument ranged from a score of one (Strongly Disagree) to a score of four (Strongly Agree).

Table 8

<i>Usage of Online Curriculum Resources as it Relates to Time Management (N = 138)</i>		
Time Management Statements	<i>M</i>	<i>SD</i>
I struggle with time management in the classroom.	2.17	.68
I am able to manage my time in the classroom.	3.00	.58
I am better able to use my time when I use online curriculum resources.	3.00	.54
I have improved my time management because of online curriculum resources.	3.00	.60

Note: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly Agree

Respondents were given four statements of agreement regarding their time management in the classroom and the impact online curriculum has on their time management. Teachers reported that they do not struggle with time management in the classroom ($M = 2.17$), and also reported that they are able to manage their time in the classroom ($M = 3.00$). Additionally, respondents reported that they are better able to use their time when they use online curriculum resources. Finally, respondents stated that their time management skills have improved because of the use of online curriculum resources ($M = 3.00$).

**Objective 3: Describe the Usage of Online Curriculum Resources as it Relates to
Classroom Management**

The purpose of research objective three was to describe the perceptions of agricultural science teachers regarding online curriculum resources and classroom management for agricultural science teachers in the state of Texas. The results for research objective three were analyzed and are reported in Table 9, using means and standard deviations. The instrument scoring one (Strongly Disagree) to four (Strongly Agree).

Table 9

Usage of Online Curriculum Resources as it Relates to Classroom Management (n = 138)

Classroom Management Statements	<i>M</i>	<i>SD</i>
I struggle with classroom management.	1.90	.64
I am able to manage my classroom effectively.	3.12	.60
When I am prepared for class my classroom management improves.	3.50	.56
Having class activities for my students decreases behavior problems.	3.50	.57
I am better able to serve my students during class since I have used online curriculum resources.	3.10	.58

Note: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly Agree.

Respondents were given five statements of agreement regarding their classroom management and the impact online curriculum has on their classroom management. Teachers reported that they do not struggle with classroom management ($M = 1.90$).

They also reported that they are able to manage their classrooms effectively ($M = 3.12$). Respondents reported that when they are prepared for class their classroom management improves ($M = 3.50$). Additionally, they reported that behavior problems among their students decreases when they have activities in class with a mean score of 3.50. Teachers reported that they are better able to serve their students during class time since they began using online curriculum resources ($M = 3.10$).

**Objective 4: Describe the Usage of Online Curriculum Resources as it Relates to
Content Knowledge**

The purpose of research objective four was to describe the perceptions of agricultural science teachers regarding online curriculum resources and content knowledge for agricultural science teachers in the state of Texas. The results for research objective four are shown in Table 10, using means and standard deviations. The instrument ranged from a score of one (Strongly Disagree) to a score of four (Strongly Agree).

Table 10

Usage of Online Curriculum Resources as it Relates to Content Knowledge (n = 138)

Content Knowledge Statements	<i>M</i>	<i>SD</i>
I sometimes struggle with my content knowledge in the classroom.	2.19	.69
I am currently teaching courses where some of the content is unfamiliar to me.	2.44	.78
I wish I was more knowledgeable about the content I teach.	2.68	.64
I am continuously learning new content information for my classes.	3.13	.48
I am always seeking new resources for content knowledge.	3.18	.42
I am more knowledgeable about the content I teach since I have used online curriculum resources.	3.00	.57
I serve my students better when I use online curriculum resources to prepare for class.	3.00	.50

Note: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly Agree.

Respondents were given eight statements of agreement regarding their content knowledge in the classroom and the impact online curriculum has on their knowledge. Respondents reported that they normally do not struggle with their content knowledge in the classroom ($M = 2.19$), and they are currently teaching courses that has familiar content ($M = 2.44$). Teachers agreed that they are continuously learning new content information for their classes ($M = 3.13$), and they do wish to be more knowledgeable about the content they teach ($M = 2.68$). Additionally, teachers reported they are always seeking new resources to better their content knowledge ($M = 3.18$). Teachers agreed they are more knowledgeable about the content they teach since using online curriculum resources, and they serve their students better when they use online curriculum resources to prepare for class.

**Objective 5: Describe the Usage of Online Curriculum Resources as it Relates to
Home and Work Life Balance**

The purpose of research objective five was to describe the perceptions of agricultural science teachers regarding online curriculum resources and home and work life balance for agricultural science teachers in the state of Texas. Table 11 shows the results for research objective five, which are reported using means and standard deviations. The instrument ranged from a score of one (Strongly Disagree) to a score of four (Strongly Agree).

Table 11

Usage of Online Curriculum Resources as it Relates to Home and Work Life Balance (n = 138)

Home and Work Life Balance Statements	<i>M</i>	<i>SD</i>
I am satisfied with my home and work life balance.	2.54	.78
I am at work more than I am at home during an average week.	3.30	.68
I struggle with balancing my home and work life.	2.69	.79
When I am better prepared for class it helps me maintain a healthy home and work life balance.	3.10	.53
My home and work life balance has improved because I have online curriculum resources.	2.67	.63

Note: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly Agree.

Respondents were given five statements regarding their home and work balance and the impact online curriculum has on their home and work balance. Teachers reported they do struggle balancing their home and work life ($M = 2.69$), and data shows they

were satisfied with their home and work life balance ($M = 2.54$). They did think using online curriculum resources had improved their home and work life balance ($M = 2.67$). Additionally, respondents reported they are at work more than they are at home during an average week ($M = 3.30$) and reported when they are better prepared for class, it helps them maintain a healthy home and work life balance ($M = 3.10$).

Objective 6: Describe the Usage of Online Curriculum Resources as it Relates to Teacher Stress

The purpose of research objective six was to describe the perceptions of agricultural science teachers regarding online curriculum resources and stress for agricultural science teachers in the state of Texas. The results for research objective six are reported in Table 12, using means and standard deviations. The instrument ranged from a score of one (Strongly Disagree) to a score of four (Strongly Agree).

Table 12

<i>Usage of Online Curriculum Resources as it Relates to Teacher Stress (n = 138)</i>		
Teacher Stress Statements	<i>M</i>	<i>SD</i>
I am able to manage my stress in the classroom.	1.91	.59
Classroom preparation stresses me out on a daily basis.	2.26	.63
Maintaining a balance of my job responsibilities stresses me out.	2.67	.71
I do not cope well with instructional stress in the classroom.	2.07	.63
I am less stressed when I am prepared for class.	3.27	.50
My stress level has decreased in the classroom because I use online curriculum resources.	2.76	.64

Note: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly Agree.

Respondents were given six statements of agreement regarding teacher stress in the classroom and the impact online curriculum has on their stress. Teachers reported they are not able to manage their stress in the classroom ($M = 1.91$). Classroom preparation and maintaining a balance of job responsibilities are not stressful to the respondents ($M = 2.26$); however, maintaining a balance of job responsibilities can be stressful ($M = 2.67$). Teachers reported they do cope well with instructional stress in the classroom ($M = 2.07$). Additionally, they agreed that their stress levels have decreased since using online curriculum resources ($M = 2.76$), and they also reported they are less stressed when they are prepared for class ($M = 3.27$).

Summary

A study of $n = 138$ agricultural science teachers from the state of Texas were conducted to evaluate their perceptions of online curriculum resources in one of the domains of agricultural education: classroom instruction. The findings of this study included demographic data, self-efficacy in AFNR pathways, descriptive characteristics, perceptions of online curriculum resources regarding planning time, time management, classroom management, content knowledge, home and work life balance, and teacher stress were reported using descriptive and frequency statistics.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

Based on results presented in Chapter IV, several conclusions, implications, and recommendations can be made about online curriculum resources for agricultural science teachers from the state of Texas. The research objectives are further discussed and recommendations for further research are addressed.

Purpose and Objectives

This study sought to define the benefits of online curriculum in terms of planning time, classroom management, time management, personal and work life balance, and content knowledge. Because online curriculum is being continuously updated, this study was conducted to establish empirical data detailing its use by agricultural science teachers in the state of Texas. The research objectives of this study were as follows:

1. Describe the use of online curriculum resources as they relate to planning time practices for agricultural science teachers.
2. Describe the use of online curriculum resources as they relate to time management practices for agricultural science teachers.
3. Describe the use of online curriculum resources as they relate to classroom management practices for agricultural science teachers.
4. Describe the use of online curriculum resources as they relate to content knowledge for agricultural science teachers.

5. Describe the use of online curriculum resources as they relate to balance of home and work life for agricultural science teachers.
6. Describe the use of online curriculum resources as they relate to teacher stress for agricultural science teachers.

Summary of Methodology

This study was descriptive with a cross-sectional design. Fraenkel & Wallen (2009) defined descriptive studies as “a given state of affairs as fully and carefully as possible” (p.15). A cross-sectional design has been described as a method in which all data are collected at one point in time (Gay, Mills, & Airasian, 2012). The researcher-developed survey was utilized as the means of data collection in order to address the research objectives.

The population of interest for this study was all agricultural science teachers that were users of IMS Online in the state of Texas during the 2013-2014 school year. An IMS Online user was defined as an agriculture teacher who has a, paid one-year subscription through IMS. A list of all IMS Online users was obtained from the membership services department of IMS. Once the list was obtained, a population census was taken. The size of the population was 290 agricultural science teachers. A total of 138 respondents completed the survey resulting in a 47.6% response rate.

The instrument was developed to study the usage of online curriculum resources by agricultural teachers in regards to planning time, classroom management, content knowledge, time management, teacher stress, and home and work life balance. Once the instrument was developed it was edited and reviewed by a panel of experts in order to

establish content and face validity. The researchers conducted a pilot test using a panel that included out of state users of IMS Online and pre-service teachers at Texas A&M University in the Department of Agriculture Leadership, Education, and Communications. Reliability was analyzed and calculated for the pilot study and a reliability score of $\alpha = .75$ was calculated. Reliability was also analyzed post hoc for this study, resulting in a reliability score of $\alpha = .73$. According to Nunnally (1978) the early stages of research and instrument development, it may be acceptable to have only modest reliability, defined as 0.60-0.70. Nunnally (1978) also concluded that an alpha of 0.70 or higher is an acceptable reliability measurement; however, a lower alpha is not necessarily a detriment. The researchers assembled a panel of experts in the field of agricultural education to determine the validity of the instrument. There were no known threats to internal validity.

The instrument contained 32- Likert scale items that allowed participants to rank their level of agreement in terms of the use of online curriculum resources on a scale of one (Strongly disagree) to four (Strongly agree).

To account for non-response error the researchers used method one (Lindner, Murphy Briers, 2001); which, is a comparison of early to late respondents by running an independent samples t-test. No statistically significant differences were found between early and late respondents; therefore, non-response error should not be considered a threat to internal validity.

In addition to the 32 Likert scale items, the researchers created 13 demographic questions to address the research objectives for this study. A panel of experts then validated these questions.

Dillman, Smyth, and Christian's (2009) tailored design method was followed for the data collection procedures used during this study. The survey was uploaded to Qualtrics™ and all emails were sent and collected using the Qualtrics™ system.

Dillman, Smyth, and Christian (2009) recommended using multiple contacts and to vary the message used in each email. For this study, the researchers used five points of contact, an initial email not including the survey link, and four follow-up emails. Each email was sent out in one-week intervals over a five-week period.

The data collected from this survey was analyzed using the Statistical Package for Social Sciences (SPSS). The data was exported directly from Qualtrics™ into a SPSS spreadsheet. Means and standard deviations were reported for each of the Likert scale items to determine the use of online curriculum resources and the affect that use has on different aspects of agricultural science teachers' lives. Percentages and frequencies were reported for demographic questions.

Summary of Findings

This study provided a glimpse of agricultural science teachers in the state of Texas that use online curriculum resources. Results were not generalizable to all teachers in the state; however, they provide an insight to the use of online curriculum resources of agricultural science teachers.

Demographic Data

According to the data, 34.1% of the respondents have taught agriculture for zero to five years, 23.9% have taught more than 20 years, 18.1% have taught six to 10 years, 9.4% have taught 11-15 years, 6.5% have taught 16-20 years, and 8% have not reported how long they have been in the profession. The breakdown of gender was closely balanced with males accounting for 52.9% of the population and females for 47.1% of the population. Female agricultural science teachers have been on the rise in what was once a male driven profession. Data also revealed that 45.7% of the respondents taught in a rural community (less than 2,500 people), 31.2% taught in a suburban community (between 2,501 and 50,000), 15.2% of the respondents taught in an urban community (greater than 50,001), and 8% have not reported what type of community they teach in. The majority of the population reported their highest degree obtained as a Bachelor's degree (n= 82), however, 31.2% of the population had completed a Master's degree.

In their first year of teaching, the majority (52.2%) of respondents used printed products to access their curriculum; however, in their current year of teaching, majority (89.9%) of respondents used a computer or laptop to access their curriculum. This showed the researchers that technology for curriculum use has grown in the agricultural education classroom. A majority (71%) reported that they were the most knowledgeable in the Animal Systems or Comprehensive pathways. Additionally, data showed that 80.4% of respondents spent most of their time on an average school day in the classroom component. Surprisingly, 47.8% of teachers reported that classroom instruction has caused them the most stress when compared to Supervised Agricultural Experiences,

being an FFA advisor, parent interactions, administration interactions, and their non-career related activities. This data has lead the researchers to believe that teachers have been prioritizing the classroom above other job responsibilities. Additionally, a majority ($n = 93$) reported that when they have used IMS Online to access curriculum, it took them one hour or less. Parallel results were found when asked about iCEV, with the majority of respondents ($n = 91$) reporting that it took them one hour or less to access curriculum. From the data, we concluded that when they have used online curriculum resources, it has taken the teachers less time than printed products or peer-developed products.

The purpose of the demographic data was to merely describe the population and to have an understanding about the agricultural science teachers in Texas who are IMS Online users, not to make comparisons or inferences.

As a result of this study, universities, teacher preparation programs, teachers, stakeholders, curriculum writers, and various other members in the field of agricultural education can catch a glimpse of the use of online curriculum resources and how it relates to different aspects in an agricultural science teacher's life across the state of Texas.

Objective 1: Usage of Online Curriculum Resources as it Relates to Planning Time

Conclusions

The purpose of research objective one was to describe the perceptions of agricultural science teachers regarding online curriculum resources and planning time for agricultural science teachers in the state of Texas. Teachers reported they were

satisfied with the amount of time they had to prepare for class ($M = 2.57$). Additionally, they reported they were unsatisfied with their planning time due to the fact that agricultural science teachers have multiple responsibilities inside and outside of the classroom.

Teachers also agreed they have accessed online curriculum to build lessons during their planning time ($M = 3.10$). This leads us to believe that online curriculum resources have been utilized during planning time, and that it is an emerging method to aid teachers in preparing their lesson plans for class and for their administrators. Respondents disagree with the statement, “My planning time does not benefit from online curriculum resources” ($M = 1.77$). Teachers’ strong disagreement with that statement allowed us to conclude that online curriculum resources were not only aiding the agricultural science teachers with content for the classroom, but it has also improved their planning skills inside and outside the classroom. Teachers also agreed that planning time has in fact improved since they started using online curriculum resources ($M = 3.20$). As experience has been gained by these teachers in the classroom their planning time will be used more effectively ($M = 3.25$).

Overall, we can conclude that teachers were being more effective with their planning time both in and out of the classroom and some of this effectiveness can be related to their use of online curriculum resources. The increased effectiveness of planning time, both in and out of the classroom, will lead to increased teacher satisfaction. Additionally, utilizing a resource that affords teachers the opportunity to

address administrative directives more effectively and efficiently will increase teacher satisfaction.

Our data suggested that online resources have allowed teachers to plan better. In order to implement practices of online curriculum resources, education from teacher preparation programs must be improved to give pre-service teachers the knowledge to access these resources. Additionally, professional development and in-service programs for agricultural science teachers should focus on aiding teachers in accessing and properly using online curriculum resources during their planning time.

In order for online curriculum resources to aid teachers in their curriculum needs, they must be trained from the time their degree plans begin in their teacher certification program. For those teachers who did not have the opportunity to learn how to access and use online curriculum resources in their college years they must participate in professional development workshops to fully utilize what online curriculum resources have to offer

Recommendations

Duncan, Ricketts, Peake, & Uessler (2006) stated, “The most important pre-service and in-service preparation needs in the competency area of technical agriculture, is their ability to integrate current advances in agricultural technology into the curriculum” (p.32). This study showed that 89.9% of respondents use a computer or laptop to access their curriculum currently; however, respondents reported that during their first year of teaching only 47.1% used a computer or laptop to access curriculum. This demonstrated that technology has grown for agricultural science teachers in the

state of Texas. It is recommended that professional development focus on training pre-service and secondary agricultural science teachers in the use of resources in a timely manner. This study described the perception that teachers were unsatisfied with their planning time for class; however, they also reported that their planning time has improved since using online curriculum resources. Teacher preparation programs should focus on training pre-service teachers how to utilize online curriculum resources, to build lesson plans, and to create activities prior to their student teaching experience.

Secondary agricultural science teachers have reported that online curriculum resources aid them in building their lesson plans, and they also reported that as they have gained experience their planning time has improved. We recommend that online curriculum writers continue to improve and provide lesson plans, activities, and presentations to aid agricultural science teachers in their planning time. It is recommended that professional development focus on working with agricultural science teachers on utilizing online curriculum resources to build lesson plans to turn in to the career and technical education director and/or principal. Improvement could possibly begin by curriculum writers analyzing the curriculum needs of agricultural science teachers and continual improvement of online curriculum resources so teachers can utilize online curriculum resources during their planning time.

Objective 2: Usage of Online Curriculum Resources as it Relates to Time Management

Conclusions

The purpose of research objective two was to describe the perceptions of agricultural science teachers regarding online curriculum resources and time management for agricultural science teachers in the state of Texas. Teachers reported that they have not struggled with their time management in the classroom ($M = 2.17$). This data leads us to conclude that agricultural science teachers in the state of Texas have utilized their planning time to avoid struggling with their time management in the classroom with students. These results are parallel with the results that teachers agreed they have been able to manage their time in the classroom ($M = 3.00$). Additionally, teachers reported they have been better able to use their time when they have used online curriculum resources ($M = 3.00$). We can conclude that online curriculum resources have aided teachers with their time management skills. Time saved can be defined as less transition time and greater cohesiveness between lesson components. Students are better-managed and more focused when instruction is presented using effective curriculum materials. This allows classroom time to be managed more effectively.

Not only did teachers report they have been better able to use their time, but they also reported their time management skills as a whole have improved because of the use of online curriculum resources ($M = 3.00$). We are confident with the conclusion that online curriculum has saved teachers time and eliminated stress related to time management in and outside the classroom.

Based on data collected, it can be concluded that agricultural science teachers have been using online curriculum resources in preparing for class. Murray, Flowers, Croom, and Wilson (2011) found that the time required for an agricultural science teacher to have a successful agricultural education program typically takes more than the average forty hour work week. When teachers were asked to rank what they spend the most time on as an agricultural science teacher 80.4% of the population ranked classroom instruction as number one. This suggests to us that teachers have been prioritizing classroom management just as highly or maybe more so than other components of agricultural education. The utilization of online curriculum has assisted teachers in addressing the challenges of managing time in the agricultural science classroom.

Recommendations

In Myers, Dyer, & Washburn (2005) 70.4% of agricultural science teachers agreed that time management has been a problem faced by beginning agricultural science teachers. In this study, teachers reported that they have not struggled with time management and that they have been able to manage their time in the classroom. It is recommended that teacher preparation programs focus on the importance of time management in the classroom and if not exercised properly it can potentially be a factor in teachers leaving the profession. We recommend professional development training for agricultural science teachers, focusing on how to properly manage time in the classroom. Teachers did report that online curriculum resources have made them better able to use their time; so, online curriculum writers are recommended to continue to provide quick

and easy accessible curriculum for agricultural science teachers. In a 45-minute class period, time is everything; so, it is crucial that all presentations and/or activities during class happen in a timely manner.

Online curriculum has provided easy access for teachers while they are in class or before and after class. It is recommended that the agricultural science teachers and career and technical education coordinators attend professional development and/or in-service programs that focus on managing teachers' time in the classroom. Teachers reported their time management skills have improved because of online curriculum; so, it is recommended that teachers continue to utilize online curriculum resources and that they share their personal victories with peers.

Objective 3: Usage of Online Curriculum Resources as it Relates to Classroom Management

Conclusions

The purpose of research objective three was to describe the perceptions of agricultural science teachers regarding online curriculum resources and classroom management for agricultural science teachers in the state of Texas. Teachers reported that they have not struggled with classroom management ($M = 1.90$), and they have been able to manage their classroom effectively ($M = 3.12$). It can be concluded from this data that agricultural science teachers in the state of Texas have been in charge of their classroom management and behavioral issues in the classroom. Additionally, teachers reported that when they have been prepared for class, their classroom management has improved ($M = 3.50$). This suggests us to believe that utilizing planning time effectively

and having good time management skills will increase the teachers' classroom management abilities. Online curriculum resources have provided student and class activities, with that being said, teachers reported that having class activities for their students decreased behavior problems ($M = 3.50$). Lastly, teachers reported that they have been better able to serve their students during class since they have used online curriculum resources ($M = 3.10$). We can conclude that online curriculum resources have improved classroom management practices for agricultural science teachers by lessening the burden of creating new activities daily, weekly, and/or monthly for their students. Having activities has decreased behaviors problems which could lead to an improved classroom atmosphere for both students and teacher. We can conclude when teachers are prepared it improves their classroom management this suggests that having organized and planned out class periods will decrease behavior problems. According to Mundt and Connors (1999) classroom management and student discipline were problems and challenges that agricultural science teachers face; however, utilizing online curriculum resources to their full potential can ease the task of managing the classroom for agricultural science teachers. If we provide more teachers with access to online curriculum resources it could result in effective planning time, improved time management skills, and increased classroom management abilities.

Recommendations

In Myer, Dyer, & Washburn (2005) 81.5% of agricultural science teachers agreed that management of student discipline in the classroom is a problem being faced by beginning agricultural science teachers. In this study, agricultural science teachers

reported that they have not struggled with classroom management and believe they have been able to manage their classrooms effectively. We do not know if this is due to the fact that this population has already had access to online curriculum resources which has influenced their self-efficacy in the management of their classroom. Teachers did report that when they have prepared for class it has improved their classroom management and when they have class activities it has decreased behavior problems in the classroom. Online curriculum resources have provided agricultural science teachers with activities for every lesson in the content, which has allowed teachers the opportunity to focus on learning with their students verses having to babysit misbehaved children. We recommend that teacher preparation programs focus on skills related to classroom management when preparing pre-service teachers prior to their student teaching experience. Pre-service teachers have a lack of classroom experience; so, if they are properly taught how to utilize online curriculum activities it could alleviate pressure off of the pre-service teachers.

Current teachers have not reported having an issue with classroom management; however, that does not mean professional development should not focus on managing the classroom. Since teachers in this study reported that they were better able to serve their students during class since they have used online curriculum resources, it is recommended to online curriculum writers to focus on developing and improving student orientated curriculum and activities to engage the students verses the students having to sit through lecture.

Objective 4: Usage of Online Curriculum Resources as it Relates to Content

Knowledge

Conclusions

The purpose of research objective four was to describe the perceptions of agricultural science teachers regarding online curriculum resources and content knowledge for agricultural science teachers in the state of Texas. Content knowledge in agriculture, food, and natural resources is always growing in a positive way. The only thing that has remained the same in this content is that it is forever changing. Online curriculum resources are also always updating and changing to keep up with state and national standards to keep teachers informed and up-to-date with curriculum for their classes. Wolf (2011) found that agricultural science teachers must believe that they are knowledgeable in the different tasks that they are required to execute as teachers. Teachers reported that they have not struggled with their content knowledge in their classrooms ($M = 2.19$); however, we do not know if this is due to the online curriculum resources these teachers have access to or if it is due to another source of information.

When teachers were asked if they were currently teaching courses where some of the content was unfamiliar to them, they disagreed with a mean score of 2.44. Additionally, when asked if they wish they were more knowledgeable about the content they teach they reported that they agreed ($M = 2.68$), and they also reported that they have continuously learned new content information for their classes ($M = 3.13$). If teachers have continuously learned new content that would translate into wishing the teacher was more knowledgeable.

Teachers also reported that they have always sought new resources for content knowledge ($M = 3.18$). This leads us to believe that teachers want to be more knowledgeable, and may also want to increase the amount of teaching methods they can use for a particular subject, or find more student and class activities about content they are already familiar with.

Lastly, teachers reported that they were more knowledgeable about the content they teach since using online curriculum resources ($M = 3.00$). We concluded that online curriculum resources are not only decreasing the amount of time it takes to plan for class, improving time management skills, and improving classroom management skills with activities, but has also educated agricultural science teachers in subjects that they know little to nothing about.

Even with subjects teachers are familiar with, online curriculum resources have been utilized for different approaches for lesson plans, activities, and presentations. The teachers have also reported that they have been better able to serve their students when they have used online curriculum to prepare for class ($M = 3.00$). Having an online curriculum resource has not only benefited teachers' content knowledge but has also benefited the students. Teachers have had the option of printing off student notes and presentations when they have utilized online curriculum resources. This option has allowed teachers' content in the classroom to go home with the student and has allowed the student to investigate the topic more or even aid in studying for a unit or class exam.

With the data collected in this study, we can conclude that online curriculum resources have allowed teachers to become more knowledgeable about the content they

teach. This suggests that when teachers are more knowledgeable about classroom topics it eases the process of tying the FFA and SAE component into classroom instruction. When content knowledge is available to teachers at their own discretion it benefits them as a classroom teacher both short and long term. This has the effect of encouraging teachers to become life-long learners, while unconsciously updating their content knowledge.

Recommendations

Carroll, Rayfield, & Murphy (2014) reported early-career agricultural science teachers in Texas have the lowest self-efficacy in the classroom instruction domain. Our findings suggested that agricultural science teachers have had the highest self-efficacy in the Animal Systems and Comprehensive pathways; however, teachers' self-efficacy has struggled in the pathways of environmental service systems, food products and processing systems, and natural resource systems. We recommend that a greater emphasis should be placed on preparing teachers with content knowledge for the classroom.

Teachers in this study also reported the method most frequently used was mainly from an online curriculum resource, such as IMS Online, iCEV, and web searches. Teachers can be better prepared to utilize technology to plan for class, to use during class, and as a tool for students by offering a college course or professional development opportunities devoted to training and preparing agricultural science teachers for technology in teaching.

It is also recommended curriculum developers of both traditional and online curriculum resources interact with pre-service and secondary agricultural science teachers in Texas and across the nation to hear comments and concerns of what agricultural science teachers need in regards to curriculum for their classroom.

It is recommended to train teachers in properly using online curriculum resources. We recommend less professional development be geared toward technology applications and more professional development on how to utilize online curriculum in both planning for class and teaching it. It is important for agricultural science teachers to be confident in their content knowledge and to have readily available resources for curriculum at their leisure. Therefore, it is important to increase content knowledge through the use of online curriculum resources.

Objective 5: Usage of Online Curriculum Resources as it Relates to Home and Work Life Balance

Conclusions

The purpose of objective five was to describe the perceptions of agricultural science teachers regarding online curriculum resources and home and work life balance for agricultural science teachers in the state of Texas. Home and work life balance are important to the research in this study because they have been a crucial piece to the agricultural science teachers' daily life and revolves around their career's life span.

Teachers reported they have been satisfied with their home and work life balance ($M = 2.54$); however, when asked if they struggled with the balance of their home and work life they agreed ($M = 2.69$). It can be concluded from this data that teachers have

been balancing their home and work life to the best of their ability; however, even with their best foot forward, teachers in Texas were satisfied, but at the same time struggling with their home and work life balance.

Additionally, teachers reported being at work more than they are at home ($M = 3.30$). This comes as no surprise to us because agricultural science teachers in Texas have very busy work schedules between teaching class, supervising agricultural experiences, advising an FFA chapter, and countless camps, conventions, and meetings. Teachers reported that when they were better prepared for class, it helped them maintain a healthy home and work life balance ($M = 3.10$). With this data, then we can conclude that when teachers have the proper resources, whether that is online curriculum resources or another form of curriculum resources, they have benefited in many different aspects that have ranged from being more knowledgeable in the classroom, using planning time more effectively, decreasing behavior problems in class, and improving their time management skills. Enhanced improvements in these aspects of an agricultural science teacher's daily life can result in an increased self-efficacy, and a better home and work life balance.

Teachers reported that their home and work life balance had improved because of online curriculum ($M = 2.67$), and it has improved other aspects of their professional lives. We can conclude that online curriculum resources have benefited teachers in being prepared for class in different lights. Home and work life balance has not been a concern of school administrators, parents, and/or students; however, we believe that when having

a manageable balance between the teachers' home and work life it can benefit them professionally as well as personally.

Recommendations

Myers, Dyer, & Washburn (2005) reported that 70.4% of agricultural science teachers in their study identified balancing work and personal life as a problem beginning teachers face. In this study, teachers reported that they were satisfied with their home and work life balance, but they also reported that they have struggled balancing it. We recommend that teacher preparation programs develop a better understanding on how to aid teachers in balancing their home and work life as much as possible due to the high percentage of teacher attrition. Fulton, Yoon, and Lee (2005) suggested that teachers leave the profession due to personal reasons, and (Ingersoll, 2004) found similar results, reporting that 15% to 33% of teachers change careers, annually. University teacher education faculty, veteran agricultural science teachers, and professional teacher organizations should focus on professional development and in-service needs to address how to balance teachers' home and work life could coordinate programs.

Teachers reported that online curriculum resources have not improved the balance of home and work; however, they did report that when they have been better prepared for class it has helped them maintain a healthy home and work life balance. It is recommended to online curriculum developers to create curriculum that is easily accessible and that agricultural science teachers can access from multiple locations such as their home or school.

Objective 6: Usage of Online Curriculum Resources as it Relates to Teacher Stress

Conclusions

The purpose of research objective six was to describe the perceptions of agricultural science teachers regarding online curriculum resources and teacher stress for agricultural science teachers in the state of Texas. According to Cano (1990) agricultural science teachers have not just dealt with emotional stress, but they have also faced internal and external pressures to have a successful agricultural education program. In this study teachers reported they were not able to manage their stress in the classroom. This data suggests to us those agricultural science teachers in Texas need a variety of ways to manage stress in the classroom and not let the stress of the job impact their students.

Additionally, teachers reported their classroom preparation has not stressed them out ($M = 2.26$); however, maintaining their job responsibilities has stressed them out ($M = 2.67$). Teachers reported they have not been able to manage their stress in the classroom ($M = 1.91$). Teachers have reported being stress in regards to managing their job responsibilities and classroom; however, they have reported that they do not experience stress when preparing for class. This data suggests that the preparation aspect does not increase stress levels, but that managing their job responsibilities and dealing with their students in class does. Agricultural science teachers in Texas also reported that they have coped well with instructional stress in the classroom ($M = 2.07$). Lastly, the teachers agreed that their stress has decreased in the classroom due to online curriculum

resources ($M = 2.76$); and they have also reported that when they have been prepared for class it has decreased their stress level ($M = 3.27$). We can conclude that stress related to the classroom has decreased through the use of online curriculum resources. These findings may demonstrate the existence of a disconnect between actual stress levels of agricultural science teachers and stress levels they are willing to self-report.

When asked to rank what causes stress on an average school day 23.2% reported that classroom instruction has stressed them out the most and 24.6% ranked classroom instruction second in regards to stress on an average school day. Meister and Melnick (2003) found that over 80% of the population in their study reported feeling overwhelmed by their workload, and McKim, Rayfield, Harlin, & Adams (2013) found similar results that supported agricultural science teachers experience moderate stress levels even though their stress level can fluctuate throughout different parts of the school year. Since teachers have reported lower stress levels when prepared for class, we can conclude that online curriculum resources have aided in preparing for class thus resulting in lower stress levels for teachers in the classroom.

Recommendations

Myers, Dyer, & Washburn (2005) reported that 74.1% of the 27 teachers in their study claimed that managing stress was a problem faced by beginning agricultural science teachers. In this study, teachers reported that they were able to manage their stress in the classroom and maintaining their job responsibilities has not caused them to be stressed; however, similar to the findings regarding classroom management, the positive response from teachers could be due to the fact that they have already used

online curriculum resources. Even with those facts when teachers were asked to rank what causes them the most stress 40% of respondents ranked classroom instruction either first or second. We recommend that teacher preparation programs teach pre-service teachers how to handle stressful situations with administrators, students, and parents. Professional development and in-service programs for secondary agricultural science teachers is also recommended in order to improve quality of life for both agricultural science teachers and students while in the classroom.

Online curriculum developers are recommended to provide workshops for teachers on how to eliminate instructional stress before, during, and after class. Teachers in this study reported that they have been less stressed when they have been prepared for class. So, if teachers are given opportunities on how to improve stress level we believe teacher attrition will decrease for agricultural science teachers.

Further examination of the slight perceived disconnect between the literature addressing teacher stress levels and the self-reported stress levels in this particular study of agricultural science teachers is needed. Meister and Melnick (2003) and McKim et. al. (2013) both found that agricultural science teachers reported they were overwhelmed and experienced a high level of job-related stress. However, our study found some evidence that contradicts previous findings. A qualitative study could best address these issues by interviewing and working with agricultural science teachers on specific triggers of stress to further investigate why this slight disconnect is present and to determine a solution to the issue.

Recommendations for Further Research

The results of this study provide us with several opportunities for further research within the field of agricultural science regarding online curriculum resources for teachers. This study should be replicated in other states, but a follow up study should be conducted in Texas to follow trends of technology because we as researchers need to advance with technology. Agricultural education has been progressing with technology daily, both in and out of the classroom.

A study comparing veteran agricultural science teachers and early-career teachers in terms of their curriculum needs and how both groups utilize online curriculum resources may illustrate changes in curriculum needs for agricultural science teachers over time. Additionally, a needs assessment regarding what agricultural science teachers need in the classroom, could help researchers, administration, and teacher preparation programs better understand both traditional and online curriculum resource needs for agricultural science teachers.

Edwards and Briers (1999) found that some of the most pressing issues for agricultural science teachers were problems dealing with curriculum development and lesson planning. In this study, agricultural science teachers reported that they were not satisfied with their planning time and that online curriculum resource has improved their planning time for classes. They also said they have accessed online curriculum resources when they have built their lesson plans. This study provides evidence that online curriculum resources have been relieving some of the pressure agricultural science teachers have been facing with lesson planning and curriculum development.

Over 40% of respondents in this study reported that classroom instruction was either the 1st or 2nd most stressful part of being an agricultural science teacher. With a shortage of agricultural science teachers throughout the state of Texas and nationally, this should be of great concern to administrators, teacher preparation programs, and any individual related to the field of agricultural education. Further research should be done to examine how to relieve teacher stress in the classroom. Additionally, a need's assessment regarding how to ease stress in the classroom, could help teacher preparation programs better understand how to alleviate stress on beginning agricultural teachers and improve deficiencies within curriculum development and lesson planning. We recommend qualitative studies to investigate the relationship between the use of online curriculum resources and the impact that use has on agriculture science teachers' professional lives in regard to planning time, time management, classroom management, teacher stress, content knowledge, and home and work life balance. This study will help to further determine how online curriculum resources can benefit agricultural science teachers in Texas and nationwide.

REFERENCES

- Calik, T., Sezgin, F., Kavgaci, H., & Cagatay Kilinic, A. (2012). Examination of Relationships between Instructional Leadership of School Principals and Self-Efficacy of Teachers and Collective Teacher Efficacy. *Educational Sciences: Theory and Practice*, 12(4), 2498-2504.
- Camp, W. G., & Heath-Camp, B. (1992). *Professional development of beginning vocational teacher: An introduction to the professional development program for beginning vocational teachers*. (NCRVE Publication No. MDS-272). Berkeley, CA: National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. ED 351 568)
- Cano, J. (1990, June). Teacher stress – Teacher burnout: A profession at risk. *The Agricultural Education Magazine*, 62(12), 13-14, 22.
- Carroll, B., Rayfield, J., & Murphy, T. (2014). *Benchmarking self-efficacy of early-career agricultural science teachers in Texas*. American Association for Agricultural Education: Southern Region Conference, Dallas, Texas.
- Cooper, E. L., & Nelson, C. L. (1981). Professionalism: Spouse and house. *The Agricultural Education Magazine*, 54(1), 17–18.
- Croom, D. B. (2008). The development of the integrated three-component model of agricultural education. *Journal of Agricultural Education*, 49(1), 110-120. doi: 10.5032/jae.2008.01110
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method* (3rd ed.). New York, NY: Wiley and Sons.

- Doerfert, D. L. (Ed.) (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015*. Lubbock, TX: Texas Tech University, Department of Agricultural Educations and Communications.
- Duncan, D. W., Ricketts, J. C., Peake, J. B., & Uessler, J. (2006). Teacher preparation and in-service needs of Georgia agriculture teachers. *Journal of Agricultural Education*, 47(2), 24-35. doi: 10.5032/jae.2006.02024
- Edney, K., & Hanagriff, R. (2013). *Instructional material services*. Retrieved April 15, 2014, from <https://www.myimsservices.com>
- Edwards, M. C., & Briers, G. E. (1998). Assessing the Inservice Needs of Entry-Phase Agriculture Teachers in Texas: A Discrepancy Model versus Direct Assessment. *Journal of Agricultural Education*, 40(4), 40-49. doi: 10.5032/jae.1999.03040
- Fraenkel, J. R., & Wallen, N. E. (2009). *How to design and evaluate research in education*. New York, NY: McGraw-Hill.
- Fulton, K., Yoon, I., & Lee, C. (2005). Induction into learning communities. *National Commission of Teaching and America's Future*. Washington, DC. Retrieved from: <http://eric.ed.gov/PDFS/ED494581.pdf>
- Garton, B. L., & Chung, N. (1996). The inservice needs of beginning teachers of agriculture as perceived by beginning teachers, teacher educators, and state supervisors. *Journal of Agricultural Education*, 37, 52-58. doi: 10.5032/jae.1996.03052

- Gay, L. R., Mills, G. E., Airasian, P. (2012). Educational research: Competencies for analysis and applications (10th ed.). Upper Saddle River, NJ: Pearson Education, Inc.
- Gillete, D. H., (1996). Using electronic tools to promote active learning. *New Direction for Teaching and Learning*, 67, 59-70.
- Griffen, G. A. (1985). Teacher induction: Research issues. *Journal of Teacher Education*, 36(1), 42-46.
- Grzywacz JG, Carlson DS (2007) Conceptualizing work-family balance: implications for practice and research. *Adv Dev Hum Resource* 9:455–471
- Harasim, L. (2000). Shift happens online education as a new paradigm. *Internet and Higher Education*, 3, 41-61. doi: [http://dx.doi.org/10.1016/S1096-7516\(00\)00032-4](http://dx.doi.org/10.1016/S1096-7516(00)00032-4)
- Ingersoll, R. (2004). Four myths about America's teacher quality problems. In M. Smylie & D. Miretzky (Eds.), *Developing the teacher workforce: The 103rd Yearbook of the National Society for the Study of Education*, 1–33. Chicago: University of Chicago Press. Retrieved from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1744-7984.2004.tb00029.x/abstract>
- Joerger, R. (2002). A comparison of the inservice education needs of two cohorts of beginning Minnesota agricultural education teachers. *Journal of Agricultural Education*, 43(3), 11-24. doi: 10.5032/jae.2002.03011
- Joerger, R., & Boettcher, G. (2000). A description of the nature and impact of teaching events and forms of beginning teacher assistance as experienced by Minnesota

- agricultural education teachers. *Journal of Agricultural Education*, 41(4), 104-115. doi: 10.5032/jae.2000.04104
- Kahler, A. A. (1974). Organization and instructional problems of beginning teachers of vocational agriculture. Ames: Iowa State University, Department of Agriculture Education.
- King, D. L., Rucker, J., Duncan, D. W. (2013). Classroom instruction and FFA/SAE responsibilities creating the most stress for female teachers in the Southwest. *Journal of Agricultural Education*, 54 (4), 195-205. doi: 10.5032/jae.2013.04195
- Kyriacou, C. (1987). Teacher stress and burnout: An international review. *Educational Research*, 29(2), 146-152.
- Lambert, M. D., Torres, R. M., & Tummons, J. D. (2012). The influence of time management practices on job stress level among beginning secondary agriculture teachers. *Journal of Agricultural Education*, 53(1), 45-56.
doi:10.5032/jae.2012.0104
- Layfield, K. D., & Dobbins, T. R. (2002). Inservice needs and perceived competencies of South Carolina agricultural educators. *Journal of Agricultural Education*, 43(4), 46-55. doi: 10.5032/jae.2002.04046
- McKim, B., Rayfield, J., Harlin, J., & Adams, A. (2013). Stress levels of agricultural science cooperating teachers and student teachers: A repeated measures comparative assessment. *Career and Technical Education Research*, 38(1), 3-17.
doi:10.5328/cter38.1.3
- Meister, D. G., & Melnick, S. A. (2003). National new teacher study: Beginning

- teachers' concerns. *Action in Teacher Education*. 24 (4), 87-94.
- Miller, W. W., Kahler, A.A., & Rheault, K. (1989). Profiles of the effective vocational agriculture teacher. *Journal of Agricultural Education*, 30(2), 33-40.
10.5032/jae.1989.02033
- Mundt, J. P., & Connors, J. J. (1999). Problems and challenges associated with the first years of teaching agriculture: A framework for preservice and inservice education. *Journal of Agricultural Education*, 40, 38-48. doi:
10.5032/jae.1999.01038
- Murray, K., Flowers, J., Croom, B., & Wilson, B. (2011). The agricultural teacher's struggle for balance between career and family. *Journal of Agricultural Education*, 52(2), 107-117. doi: 10.5032/jae.2011.02107
- Myers, B. E., Dyer, J. E., & Washburn, S. G. (2005). Problems facing beginning agriculture teachers. *Journal of Agricultural Education*. 46 (3), 45-55. doi:
10.5032/jae.2005.03047
- National FFA Organization. (2012a). *Introduction to SAE programs* [PowerPoint slides]. Retrieved from
<https://www.ffa.org/About/WhoWeAre/SAE/Pages/SAEResources.aspx>
- National FFA Organization. (2012b). *Mission and motto*. Retrieved from
<https://www.ffa.org/about/howeare/Pages/MissionandMotto.aspx>
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.
- Oliver, R. M., Wehby, J. H., & Reschly, D. J. (2011). *Teacher classroom management practices: Effects on disruptive or aggressive student behavior*. Evanston, IL:

Society for Research on Educational Effectiveness.

- Peiter, R. (2002, February). Innovative curriculum ideas and practices in agricultural education. *The Agricultural Education Magazine*, 74(4), 5.
- Ritz, R., Burris, S., & Brashears, T. (2013). The effects of a time management professional development seminar on stress and job satisfaction of Beginning agriscience teachers in West Texas. *Journal of Agricultural Education*, 54(3), 1-14. doi: 10.5032/jae.2013.03001
- Smith, S. J., & Jones, E. (1999). Technology infusion: Preparing teachers through web-based cases. *Career Development for Exceptional Individuals*, 22, 251-266.
- Stair, K. S., & Warner, W. J. (2013). Agricultural education teachers. *Journal of Southern Agricultural Education Research*, 63, 1-15. Retrieved from <http://www.jsaer.org/pdf/Vol63/2013-63-002.pdf>
- Swan, B. G., Wolf, K.J., & Cano, J. (2011). Changes in teacher self-efficacy form the student teaching experience through the third year of teaching. *Journal of Agricultural Education*, 52(2), 128-139. doi: 10.5032/jae.2011.02128
- Talbert, B. A., Vaughn, R., Croom, D. B. (2006). *Foundations of agricultural education*. Caitlyn, IL: Professional Educators Publications.
- Talbert, B. A., Camp, W. G., & Heath-Camp, B. (1994). A year in the lives of three beginning agriculture teachers. *Journal of Agricultural Education*, 35(2), 31-36. doi: 10.5032/jae.1994.02031
- Torres, R. M., Lawver, R. G., & Lambert, M. D. (2009). Job-related stress among secondary agricultural education teachers: A comparison study. *Journal of*

Agricultural Education, 50(3), 100. doi: 10.5032/jae.2009.03100

Torres, R., Ulmer, J., & Aschenbrener, M. (2007). Distribution of time usage among agricultural education teachers: A comparison of workloads. *Proceedings from the Annual AAAE Research Conference*, 34, 571-584. Retrieved from http://aaaeonline.org/allconferences.php?sorter_conf=National&sorter_year=2007

7

Vocational Agriculture Teacher Association of Texas. (2013). *Job description of an ag teacher*. Retrieved from <http://www.vatat.org/page.aspx?ID=196>

U. S. Census Bureau, Department of Commerce. (2011). Urban area criteria for the 2010 Census. Retrieved from <http://www.census.gov/geo/www/ua/fedregv76n164.pdf>

Wolf, K. J. (2011). Agricultural education perceived teacher self-efficacy: A descriptive study of beginning agricultural education teachers. *Journal of Agricultural Education*, 52(2), 163-176. doi: 10.5032/jae.2011.02163

APPENDIX A

INSTRUMENT

1. In your **first** year of teaching what tool did you use to access curriculum the most?



Computer or Laptop



Printed Product
(textbook, packets,
magazines, etc.)



Ipad, Android Tablet, Etc.



2. **Currently**, what tool do you use to access curriculum the most?



Computer or Laptop



Printed Product
(textbook, packets,
magazines, etc.)



Ipad, Android Tablet, Etc.



3. The following is a list of Agriculture Food and Natural Resource pathways. Please check **ALL** boxes that apply to the classes you currently teach.

☐ Agribusiness Systems

☐ Natural Resource Systems

☐ Animal Systems

☐ Plant Systems

☐ Biotechnology Systems

☐ Power, Structural and Technical Systems

☐ Environmental Service Systems

☐ Comprehensive Systems (Principles of Agriculture, Food and Natural Resources)

☐ Food Products and Processing Systems

4. The following statements relate to **Planning Time** for your classroom. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I am satisfied with the amount of time I have to prepare for class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As I gain experience teaching I am able to use planning time more effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I access online curriculum to build lessons during my planning time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My planning time does not benefit from online curriculum resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My planning time has improved since I started using online curriculum resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. The following statements relate to **Time Management**. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I struggle with time management in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to manage my time in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am better able to use my time when I use online curriculum resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have improved my time management because of online curriculum resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. The following statements relate to **Classroom Management**. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I struggle with classroom management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
I am able to manage my classroom effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am prepared for class my classroom management improves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having class activities for my students decreases behavior problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am better able to serve my students during class since I have used online curriculum resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Rank the following areas in order from 1 being the **MOST** time you spend on an average school day to 6 being the **LEAST** amount of time you spend on average school day. (Drag items to change rank order.)

- **1** Classroom Instruction
- **2** Supervised Agricultural Experiences
- **3** FFA Advisor
- **4** Parent Interactions
- **5** Administration Interactions
- **6** Non-Career Related Activities

8. The following statements relate to **Home and Work life balance**. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I am satisfied with my home and work life balance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I struggle with balancing my home and work life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am at work more than I am at home during an average week.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am better prepared for class it helps me maintain a healthy home and work life balance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My home and work life balance has improved because I have online curriculum resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. The following statements relate to **Stress** in the classroom component. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I am able to manage my stress in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classroom preparation stresses me out on a daily basis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maintaining a balance of my job responsibilities stresses me out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not cope well with instructional stress in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am less stressed when I am prepared for class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My stress level has decreased in the classroom because I use online curriculum resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Rank the following areas in order from 1 being the **MOST** stressful to 6 being the **LEAST** stressful. (Drag items to change rank order.)

- **1** Classroom Instruction
- **2** Supervising Agricultural Experiences
- **3** Being an FFA Advisor
- **4** Interacting with Parents
- **5** Interacting with Administration
- **6** Non-Career Related Activities

11. The following statements relate to **Content Knowledge** in the classroom. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I sometimes struggle with my content knowledge in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am currently teaching courses where some of the content is unfamiliar to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish I was more knowledgeable about the content I teach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
I am continuously learning new content information for my classes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always seeking new resources for content knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more knowledgeable about the content I teach since I have used online curriculum resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I serve my students better when I use online curriculum resources to prepare for class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Please indicate which methods you use to prepare for class and how much time each method takes you daily.

	1 hour or less	2 hours	3 hours	4 or more hours	Not Used/Not Familiar
When I use a web search to prepare for class it takes me...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I use IMS Online to prepare for class it takes me...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I use self-developed items to prepare for class it takes me...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I use iCEV to prepare for class it takes me...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I use printed products to prepare for class it takes me...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I use Educational Excellence to prepare for class it takes me...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I use peer developed curriculum to prepare for class it takes me...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I use CASE Curriculum to prepare for class it takes me...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Rank these pathways by 1 being the pathway you feel the **MOST** knowledgeable about to 9 being the pathway you feel the **LEAST** knowledgeable about. (Drag items to change rank order.)

- **1**Agribusiness Systems
- **2**Animal Systems
- **3**Biotechnology Systems

- ☐ 4 Environmental Service Systems

- ☐ 5 Food Products and Processing Systems

- ☐ 6 Natural Resource Systems

- ☐ 7 Plant Systems

- ☐ 8 Power, Structural, and Technical Systems

- ☐ 9 Comprehensive Systems (Principles of Agriculture, Food and Natural Resources)

14. Which of the following describes the community your school is in?

- ☐ Rural (< 2,500 people)
- ☐ Suburban (2,501-50,000 people)
- ☐ Urban (> 50,000 people)

15. What is your gender?

- ☐ Female
- ☐ Male

16. What is the highest degree you have obtained?

- ☐ Technical/ Trade
- ☐ Associate's
- ☐ Bachelor's
- ☐ Master's
- ☐ Doctoral

17. How were you certified to teach?

- ☐ Traditional Program (University teacher prep program)
- ☐ Alternative Program (Teach Texas)

18a. What university certified you to teach?

18b. What program certified you to teach?

19. Please select the range that represents your age.

- ☐ 20-25 years of age

- ☐ 26-30 years of age
- ☐ 31-35 years of age
- ☐ 36-40 years of age
- ☐ 41-45 years of age
- ☐ 46-50 years of age
- ☐ More than 50 years of age

20. How many years have you been an agriculture teacher?

- ☐ 0-5 years
- ☐ 6-10 years
- ☐ 11-15 years
- ☐ 16-20 years
- ☐ More than 20 years

APPENDIX B
PRENOTICE EMAIL

From: Roger Hanagriff [rhanagriff@tamu.edu]
Sent: Friday, May 2, 2014 7:00 AM
To: [First Name, Last Name]
Subject: Student Research Project- IMS Online

May 2, 2014

Dear IMS Online user,

You are invited to take part in a research study by Vanessa Rutherford, a Master student in the Department of Agricultural Leadership, Education, and Communication at Texas A&M University. This research project is supervised by me, Dr. Kirk Edney, Dr. Tim Murphy and Dr. John Rayfield.

The purpose of the study is to document the use of IMS Online users and determine attitudes and opinions toward online curriculum. You are being asked to be in this study because you are an IMS Online subscriber. The online questionnaire will last 5-7 minutes. There is nothing to complete at this time, you will receive the link for this survey on Monday morning!

We appreciate your time in helping us with this study. If you have a concern or a complaint about this research, please contact me at 979- 458-3391 or rhanagriff@tamu.edu or Vanessa Rutherford at 979-845-2250 or vanessa.rutherford@ag.tamu.edu.

Thank you,

Roger Hanagriff & Vanessa Rutherford

Roger D. Hanagriff, Continuing Education
Department of Agricultural Leadership, Education and Communications
242 Agriculture and Life Sciences Building - AGLS
Department of Agricultural Leadership, Education, and Communications
Texas A&M University
College Station, TX 77843-2116
Phone: (979) 458-3391
Fax: (979) 845-6296
cell: (936) 661-4163

APPENDIX C

FOLLOW UP EMAIL 1

From: Vanessa Rutherford [Vanessa.rutherford@ag.tamu.edu]
Sent: Monday, May 5, 2013 7:00 AM
To: [First Name, Last Name]
Subject: Graduate Student Research Project Regarding Online Curriculum

Howdy \${m://FirstName}!

You have been invited to take part in a research study being conducted by Vanessa Rutherford, Master of Science student, from the Department of Agricultural Leadership, Education, and Communications at Texas A&M University.

The purpose of this study is to document the use of IMS Online users and determine your attitude and opinion toward online curriculum. You have been selected to be in the study because you are a paid IMS Online subscriber. This questionnaire will last approximately five to seven minutes.

We appreciate your time in helping us with this study. You may contact the Principal Investigator, Dr. Kirk Edney, to voice your concerns or complaints about this research at 979-458-2306 or kc-edney@tamu.edu or Vanessa Rutherford at 979-845-2250 or vanessa.rutherford@ag.tamu.edu.

The survey link is located directly below:

Follow this link to the Survey:

\${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:

\${l://SurveyURL}

Once again, thank you so much for your time,

Vanessa Rutherford, Graduate Assistant
Texas A&M University
Department of Agricultural Leadership, Education and Communications
Agriculture and Life Sciences Building
600 John Kimbrough Blvd.
2116 TAMU, Room 233
College Station, Texas 77843
979-845-2250 office

Follow the link to opt out of future emails:
\${1://OptOutLink?d=Click here to unsubscribe}

APPENDIX D
FOLLOW UP EMAIL 2

From: Vanessa Rutherford [Vanessa.rutherford@ag.tamu.edu]
Sent: Monday, May 12, 2013 7:00 AM
To: [First Name, Last Name]
Subject: Reminder: Graduate Student Research Project Regarding Online Curriculum

Howdy \${m://FirstName}!

I know with the school year coming to end that you are very busy, but I would really appreciate your input by completing our survey. It is people like you that make it possible for graduate students, like me, to conduct such research. You have been selected to take part in this research study being conducted by Vanessa Rutherford, Master of Science student, from the Department of Agricultural Leadership, Education, and Communications at Texas A&M University.

The purpose of this study is to document how agriculture teachers use online curriculum resources and to determine your attitude and opinion toward online curriculum. You have been selected to be in the study because you are a paid IMS Online subscriber. This questionnaire will last approximately five to seven minutes.

We appreciate your time in helping us with this study. You may contact the Principal Investigator, Dr. Kirk Edney, to voice your concerns or complaints about this research at 979-458-2306 or kc-edney@tamu.edu or Vanessa Rutherford at 979-845-2250 or vanessa.rutherford@ag.tamu.edu.

The survey link is located directly below:

Follow this link to the Survey:

[\\${l://SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL below into your internet browser:

[\\${l://SurveyURL}](#)

Once again, thank you so much for your time,

Vanessa Rutherford, Graduate Assistant
Texas A&M University
Department of Agricultural Leadership, Education and Communications
Agriculture and Life Sciences Building

600 John Kimbrough Blvd.
2116 TAMU, Room 233
College Station, Texas 77843
979-845-2250 office

Follow the link to opt out of future emails:
[Click here to unsubscribe](#)

APPENDIX E

FOLLOW UP EMAIL 3

From: Vanessa Rutherford [Vanessa.rutherford@ag.tamu.edu]
Sent: Monday, May 19, 2013 7:00 AM
To: [First Name, Last Name]
Subject: Reminder: Graduate Student Research Project Regarding Online Curriculum

Howdy \${m://FirstName}!

I know with the school year coming to end that you are very busy, but I would really appreciate your input by completing our survey. It is people like you that make it possible for graduate students, like me, to conduct such research. You have been selected to take part in this research study being conducted by Vanessa Rutherford, Master of Science student, from the Department of Agricultural Leadership, Education, and Communications at Texas A&M University.

The purpose of this study is to document how agriculture teachers use online curriculum resources and to determine your attitude and opinion toward online curriculum. You have been selected to be in the study because you are a paid IMS Online subscriber. This questionnaire will last approximately five to seven minutes.

We appreciate your time in helping us with this study. You may contact the Principal Investigator, Dr. Kirk Edney, to voice your concerns or complaints about this research at 979-458-2306 or kc-edney@tamu.edu or Vanessa Rutherford at 979-845-2250 or vanessa.rutherford@ag.tamu.edu.

The survey link is located directly below:

Follow this link to the Survey:

\${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:

\${l://SurveyURL}

Once again, thank you so much for your time,

Vanessa Rutherford, Graduate Assistant
Texas A&M University
Department of Agricultural Leadership, Education and Communications
Agriculture and Life Sciences Building
600 John Kimbrough Blvd.

2116 TAMU, Room 233
College Station, Texas 77843
979-845-2250 office

Follow the link to opt out of future emails:
[Click here to unsubscribe](#)

APPENDIX F

FOLLOW UP EMAIL 4

From: Vanessa Rutherford [Vanessa.rutherford@ag.tamu.edu]
Sent: Tuesday, May 27, 2013 7:00 AM
To: [First Name, Last Name]
Subject: Please Don't Forget to Take Our Survey

Howdy!

If you have completed our survey we thank you for your time and cooperation, and if you have not I just wanted to remind you that you have been selected to take part in this research study being conducted by Vanessa Rutherford, Master of Science student, from the Department of Agricultural Leadership, Education, and Communications at Texas A&M University. I know with the school year coming to end that you are very busy, but I would really appreciate your input by completing our survey. It is people like you that make it possible for graduate students, like me, to conduct such research.

The purpose of this study is to document how agriculture teachers use online curriculum resources and to determine your attitude and opinion toward online curriculum. You have been selected to be in the study because you are a paid IMS Online subscriber. This questionnaire will last approximately five to seven minutes.

We appreciate your time in helping us with this study. You may contact the Principal Investigator, Dr. Kirk Edney, to voice your concerns or complaints about this research at 979-458-2306 or kc-edney@tamu.edu or Vanessa Rutherford at 979-845-2250 or vanessa.rutherford@ag.tamu.edu.

The survey link is located directly below:

http://survey.az1.qualtrics.com/SE/?SID=SV_b3Hi3liEc4UH8ih

Once again, thank you so much for your time,

Vanessa Rutherford, Graduate Assistant
Texas A&M University
Department of Agricultural Leadership, Education and Communications
Agriculture and Life Sciences Building
600 John Kimbrough Blvd.
2116 TAMU, Room 233

College Station, Texas 77843
979-845-2250 office

APPENDIX G

FINAL REMINDER EMAIL

From: Kirk Edney [kc-edney@tamu.edu]
Sent: Friday, May 30, 2013 7:00 AM
To: [First Name, Last Name]
Subject: Online AFNR Curriculum- another Chance to tell IMS What You Think

Howdy!

If you have already completed our online curriculum resources survey, thanks for your time and cooperation! However, if you have not responded to the survey yet, I want to remind you that we would appreciate your participation in this study, conducted by Vanessa Rutherford, Master of Science student, in the Department of Agricultural Leadership, Education, and Communications at Texas A&M University. We realize that you are very busy closing out the school year. We would certainly appreciate your input by completing our survey. Teachers like you make it possible for our graduate students to conduct such research.

The purpose of this study is to document how agriculture teachers use online curriculum resources, and to determine your attitude and opinion toward online curriculum. You were selected to participate in the study because you are a paid IMS Online subscriber. This questionnaire will take approximately five to seven minutes to complete.

We appreciate your time in helping us with this study. You may contact the Principal Investigator, Dr. Kirk Edney, to voice your concerns or complaints about this research at 979-458-2306 or kc-edney@tamu.edu or Vanessa Rutherford at 979-845-2250 or vanessa.rutherford@ag.tamu.edu.

The survey link is located directly below:

http://survey.az1.qualtrics.com/SE/?SID=SV_b3Hi3liEc4UH8ih

Once again, thank you so much for your time,

Kirk Edney & Vanessa Rutherford

APPENDIX H

IRB APPROVAL LETTER

DIVISION OF RESEARCH
Research Compliance and Biosafety



DATE: 04/10/2014

MEMORANDUM

TO: Kirk Clowe Edney, Ph.D.
ALRSRCH - Agrilife Research - Ag Leadership, Education & Communication

FROM: Dr. James Fluckey
Chair
Institutional Review Board

SUBJECT: Amendment

Study Number: IRB2010-0517M

Title: Trends and Perceptions of Agricultural Science Teachers Regarding the Adoption of Career pathways, Curriculum Standards, and STEM Concepts

Review Type: Process Administratively

Approval Period: 07/23/2010 To 07/15/2016

Documents Reviewed and Approved: Cover or recruitment letter (Version 1.1)
Instrument (Version 1.0)
New Information Sheet (English) (Version 1.0)

Description of Submission: Submission Response for IRB Amendment

This research project has been approved. As principal investigator, you assume the following responsibilities:

1. **Continuing Review:** The protocol must be renewed by the expiration date in order to continue with the research project. A Continuing Review application along with required documents must be submitted by the continuing review deadline. Failure to do so may result in processing delays, study termination, and/or loss of funding.
2. **Completion Report:** Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted to the IRB.
3. **Unanticipated Problems and Adverse Events:** Unanticipated problems and adverse events must be reported to the IRB immediately.
4. **Reports of Potential Non-compliance:** Potential non-compliance, including deviations from protocol and violations, must be reported to the IRB office immediately.
5. **Amendments:** Changes to the protocol must be requested by submitting an Amendment to the IRB for

750 Agronomy Road, Suite 2701
1186 TAMU
College Station, TX 77843-1186

Tel. 979.458.1467 Fax. 979.862.3176
<http://rcb.tamu.edu>