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CASE STUDY EFFECTIVENESS IN A TEAM-TEACHING AND GENERAL EDUCATION ENVIRONMENT

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Introduction

At the university where the study reported here is based, the integration of core competencies for active learning or lack thereof will incur the certification or decertification of a general education course. A checklist of activities identified as capable of promoting active learning in general education courses includes exercises in self-expression that can be fulfilled with writing and speaking assignments. A general education course could also include exercises in information gathering, problem-solving, and critical thinking. The encouragement of collaborative learning and teamwork, built-in opportunities for students to be engaged in intercultural and international understanding, as well as the encouragement of their appreciation of social behavior and community responsibility are other active learning vehicles. Though there is tolerance for instructors' ability to decide the pedagogical methods for achieving subsets of the active learning mission, the faculty senate committee on general education expects that a prototypical syllabus will, at a minimum, include evidence of three of the key areas identified above.

By omission or commission, most general education courses tend to be large in size. However, and as McKeachie (1986) noted, large classes have the tendency to be less efficient settings for the actualization of active learning goals. The task of achieving such goals may further be compromised when the operative scenario includes an instructor who single-handedly faces the challenge of creating, managing, and evaluating the correlate exercises that can enhance the active learning mission of a large general education course.

Speaking of large classes in general, Erickson and Strommer (1991) identified other factors that may further reduce the ability of an instructor to initiate and realize active learning goals. The authors noted that large classes encourage anonymity as students with low motivation can hide behind the crowd and avoid responsibility for their own learning. In addition, an instructor with responsibility for hundreds of students may be forced to rethink the quality and quantity of activities designed to occur in the course. In identifying methods of evaluating students' learning, most instructors of large classes avoid essay-type questions, preferring to use multiple choice examinations that can be graded by computers. Erickson and Strommer (1991) further noted that the assignment of inexperienced and/or inadequate graduate teaching assistants to instructors of large classes has not helped the gradual disappearance of active learning methods from course syllabi.

To further compound the problem of large classes, general education or otherwise, university administrators prefer the low cost of large classes. With a high student-faculty ratio in such courses, cost savings in human and material resources are used to buy low student-faculty ratio in senior and graduate level seminars (see Erickson & Strommer, 1991). In today's atmosphere of reduced budgetary allocation to state-related universities, there is little hope that general education classes that register a large pool of undergraduate students can experience changes in administrative and instructional processes in the short term.

The COMM 100 Project

The endemic problems identified with large classes make an ongoing experiment at a university on the East Coast both an aberration and a noteworthy exercise at the same time. COMM 100, otherwise known as *Media and Society* is a capstone communication course that is available as a general education option. The course typically registers between 200 and 250 students during the spring and the fall semesters respectively. Until fall 1999 and without an exception, all of the problems of a large class noted earlier were experienced by instructors of COMM 100. Routinely, instructors assigned to the course did not have the resources to implement all of the active

learning goals that could enhance the general education classification of the course. To complicate matters, the language defining active learning criteria as passed by the faculty senate committee on general education at the university did not include a clear instruction on implementation in large classes.

COMM 100 received a resource boost in 1999 when the College of Communications at the university created a Graduate Teaching Academy. Graduate participants recruited to co-teach the course were those that had spent three credit hours in the first semester of doctoral coursework on an extensive review of pedagogical theories. Among others, a goal of the Teaching Academy is for participants to become engaged in identifying and developing their own teaching philosophies. During the second year, successful participants signed up for two credit hours of a teaching practicum in both fall and spring semesters. Participants were required to work with the instructor of record in co-teaching COMM 100.

Under this arrangement, the course instructor led two weekly sessions in a large lecture setting while the teaching associates led ten recitation classes of twenty to twenty-five students each. For an hour a week and as needed in between, the professor and teaching associates met to discuss issues ranging from instructional design to the administration of active learning exercises in the recitation classes. Though we did not directly measure the outcome, we believe that the ongoing arrangement may have mitigated some of the issues that Erickson and Strommer (1991) and others raised – the anonymity that discourages students' motivation and responsibility; the exclusive reliance on multiple choice examinations; and the use of inexperienced and inadequate teaching assistants.

The Problem

At the end of the first year of the project, undergraduate students registered in the course cited their engagement in the recitation classes as one of the positive dimensions of the course. The students also drew the attention of the team of teachers to a recurring problem – their inability to perceive a strong connection between the large lecture and the recitation classes led by a diverse team of graduate teaching associates. Students suggested that the team should ensure

that their experiences in the recitation classes complement the activities in the large lecture setting.

Moving Beyond the Impasse: Electing the Case Study Method

Students' perceived disconnection between the large lecture and the recitation classes led to discussion of ways in which the teaching team could prevent a repeat of this pedagogical problem in subsequent semesters. Suggestions included the introduction of inter-recitation debates that could be hosted at the large lecture venue and used to cement the summative junctures of segments of the course. Other suggestions included assigning seats in the large lecture such that each recitation class would sit together and next to their teaching associate.

A course-wide case study project was introduced as a better way to address the students' perceptions of a lack of connection. By apportioning case study research work to the recitation classes, each section represented one of the stakeholder groups identified in a given case study. All of the foundation research is coordinated in the recitation classes. In that setting, students work together in sub-groups to identify the history of their stakeholders' engagement with the case. They also review applicable theories and work through the development of proposals and strategies for solving stakeholders' defined problems.

Each recitation section wrote a final report and presented its proposals to the collective in the large lecture setting during the third segment of the semester. By this stage of the semester, a sizeable amount of the fundamental concepts learned in the first two segments of the semester are expected to influence students' assessment of problems and inform the solutions they proposed. So far, successive classes have looked at the Napster Internet music-sharing case, the 2000 US presidential election, and the September 11, 2001, terrorist attack on the U.S. Though there are several strands to the reinvention of COMM 100, the use of cases as a way of bridging the large lecture and recitation classes is an innovation that is especially noteworthy.

Literature Review

Although there is some indication of its increasing adoption as a technique of instruction in mass communication and journalism classes, published research documenting case study use and effectiveness in the field is practically nonexistent.

The Case Study Method: History of Usage

A body of literature continues to grow on the use of the case study method as an instructional technique. The proving grounds for the method have most often been schools of business administration and, more recently, professional education. The origin of the method, however, can be traced back to C. C. Langdell, Dean of Harvard Law School, who championed its cause as early as 1870 (Merseth, 1991). In opposition to the traditional apprenticeship system and lecture-based instruction in law, Langdell's proposal was common practice in the better American law schools by 1915 (Merseth, 1991). Such success was not lost on the men responsible for founding Harvard's Graduate School of Business Administration in 1908. Although implementation was initially slow due to the lack of an appropriate case literature, the school's curriculum was shaped by the case method at its very inception. Case studies had become a core instructional technique by the 1920s (Merseth, 1991).

Outside of these professional schools, the case study method did not achieve significant success until more recently, particularly as other disciplines have become more professionally oriented. Lee Shulman's (1986) call for a case literature fell on willing ears in the field of professional education as a means of developing teacher judgment (Aston, 1991; Merseth, 1999). And in 1990, the American Association of Higher Education (AAHE) launched a project to investigate the potential of the case study method to assist college faculty in their development as teachers, as well as toward the end of improving the campus culture at universities (Hutchings, 1993). More recently, Lundeberg (1999) developed a model outlining what cases can contribute to pre-service teachers' understanding of teaching and learning. Shulman (1986) also extended his suggestions for case-based learning methods to the liberal arts more generally.

In shifting the focus of case study applicability to journalism and mass communication, it is no easy task to gauge the level of acceptance or use of this method. A panel devoted to the employment of the case study method at the 2001 Association of Educators in Journalism and Mass Communication (AEJMC) conference provided anecdotal evidence of its use in news and ethics courses. Melvin L. DeFleur reported assigning two to three case studies in his communication theory classes (Vocate, 1997). Turney (1994) reported the use of case studies in science communication courses since the mid-1980s. Hoag, Brickley, and Cawley (2001) suggested that the method is better represented in mass communication courses focused on media law and media ethics, while its usage in telecommunication management courses was more limited. While probably correct, the claim seems difficult to verify in the absence of any survey data or content analyses of commonly used instructional materials. The latter difficulty is further complicated by varying teaching practices in the programs.

However, the potential for adoption and continued use of case studies in news writing and journalism courses received a considerable boost with the November 2000 online publication of the Project for Excellence in Journalism (PEJ) case curriculum. Nine case studies of some length (5000 words on average) are now readily and freely available, complete with abundant teaching notes, to guide instructors in their usage. As of September 2001, there were 786 registered users including 350 students and 250 professors, at least four of whom had designed entire courses around the cases (Mitchell, 2001). Based on events such as Watergate, McCarthyism, and the Columbine shootings, these cases have been used for an average of approximately 1.5 to 2.5 hours of classroom time (Mitchell, 2001).

Theoretical Basis for Case Study Instruction

The truism has been bandied about recently that active and engaged pedagogies are more effective than traditional practices of passive instruction. Evaluating the issue becomes more difficult, however, as we attempt to determine precisely what counts as an instance of 'active learning,' and how these instances are adjudged as effective. These are important questions that have an impact on the potential

adoption of the case study method, as existing literature on cases often appears more anecdotal than theoretically grounded.

Passive learning usually means lectures. Proponents of active learning, on the other hand, often mean little more than discussion in place of lectures. For example, Pamela J. Shoemaker takes precisely this latter approach to theory classes in emphasizing discussion to the detriment of lectures (Vocate, 1997). However, this tends to result in the belief that the two methods are mutually exclusive and anathematic to one another (see Millar, 1996). Such an assumption may obscure the potential to productively intertwine the two techniques, or the ability to effectively distinguish the different ends that one method might better serve than the other. In fact, more discerning analysis has suggested that the effectiveness of the respective methods should not be judged by a single set of standards. For instance, clear and well-organized lectures are found to contribute favorably to the accumulation of facts, whereas active involvement in discussion fosters creativity (Tom & Cushman, 1975; Smart & Ethington, 1995).

Therefore, it would go some distance to improving the debate on the use of the case study method if the purposes to be achieved through its implementation were made explicit. Boehrer and Linsky (1990) suggest a set of purposes that might be fulfilled through case-based discussion. These include:

- Fostering critical thinking
- Encouraging student responsibility for learning
- Transferring information, concepts, and techniques
- Developing command of a body of material
- Blending affective and cognitive learning
- Enlivening the classroom dynamic
- Developing collaboration skills
- Teaching questioning and self-directed learning

Others (Moje et al., 1999; Naumes & Naumes, 1999) have also begun to explicitly articulate similar goals for the use of case studies in relation to specified objectives. Miller and Kantrov (1998) suggest that cases can provide evidence of theory in use. The overlap between some of the purposes of the case study method and the

goals of active learning set by the senate committee on general education at the East Coast university is particularly noteworthy.

Hoag, Brickley, and Cawley (2001) also set an admirable example here in seeking to demonstrate the effectiveness of the method for a single aspect of experiential learning in media management courses: problem-solving. Others (Good, Halpin & Halpin, 2001) have also specified this as a key objective. Although Hoag, Brickley, and Cawley (2001) do not hesitate to recommend the adoption of case studies for advertising, news writing, and media theory courses at the undergraduate and graduate levels, it may be useful to more fully elaborate other aspects of an experiential or constructivist teaching philosophy to support this claim. This would observe the suggestion of Moje et al. (1999) that concerns with the goals of case studies not obscure reflection on the pedagogical assumptions that guide their usage.

Constructivism Defined

Savery and Duffy (1995) defined constructivism as "a philosophical view on how we come to understand or know" (p. 31). Another way in which constructivism has been defined is in opposition to the traditional learning method, as if the two are mutually exclusive. In the case in focus, however, the administration and instructional processes in the large lecture, the recitation classes, and the introduction of the case study method serve to bridge the traditional and the constructivist approaches. For instance, the large lecture context in its format and atmosphere—more than 200 students, fixed seats, anonymous students, and podium-bound instructor—does not ordinarily lend itself to much more than the transmission of information typically associated with the traditional learning method. The recitation classes are designed to be more active and discussion based. However, the adoption of the case study method as a bridge between the large lecture and the recitation classes allowed the augmentation of the traditional method with the constructivist. Specifically, the adoption of the case study design led students to construct segments of the knowledge base that brought communication concepts learned in the large lecture to life (for documentation of other instances of this kind of learning, see Brown, Collins, & Duguid, 1989; Duffy & Cunningham, 1996; Pai-Lin Chen et.al., 2001; Savery & Duffy, 1995).

Building a Constructivist Environment

Collaborative work, students' ownership of the learning process, and authenticity of the problem selected are three notions that have been suggested as particularly helpful in building constructive environments. The first, collaborative work (e.g., Boehrer & Linsky, 1990; Christensen, 1991; Jonassen, 1999; PEJ website), entails all of the social-dialogical processes and reflections involved in learning.

The second notion is students' ownership of the learning process and dilemmas as they work toward the resolution of the problems. Crucial here is the instructor's shift from the "content authority" role in the traditional learning setting to the "problem-solving expert" (e.g., Dewey, 1938; Pai Lin Chen et al., 2001). Others see this and students' interest in participating in the process as the height of partnership (e.g., Benvenuto, 1999; Christensen, 1991).

A third member of the constructivist triad is authenticity—the ability to find connections between the classroom and the real world. There are two ways to introduce the dimension of authenticity. One, the factual approach, is when the environmental particulars of the phenomenon are made similar to those of the real world. Another is the procedural brand of authenticity that allows students to practice in a scenario similar to that in which they would be engaged when they graduate (see Boehrer & Linsky, 1990; Christensen, 1991; Christensen, 1993; PEJ website).

All three attributes of constructivism—collaboration, ownership, and authenticity—became prominent in the process involved in moving the capstone, general education fulfilling communications course from the predominantly large lecture base to a format that integrates more intimate learning environments. The use of the case study method as a way of connecting the recitation classes with the large lecture also benefited from the constructivist environment in which all three attributes described earlier were at play.

Empirical Research

Evidence or support offered for the effectiveness of case studies is generally of three kinds. *Anecdotal* evidence concerns the realm of summarized or narrative experiences, *indirect* support provides

aspects of learning relevant or common to case studies, generally through theoretical elaboration, and *direct* evidence involves the assessment of specific case study implementations and statistical hypothesis testing (Masoner, 1988). Perhaps due to the philosophical dispositions of those adopting the method, support for its effectiveness tends to take the form of anecdote or theoretical argument rather than demonstrative experiment or survey. Merseth (1999) suggested that the support for cases is shifting toward an empirical basis despite the significant difficulties in controlling variables in play or accounting for interactions. In any case, research documenting the effectiveness of the method is meager (Masoner, 1988; Shulman, 1990; Svinicki, Hagen, & Meyer, 1996) and, with the exception of Hoag, Brickley, and Cawly (2001), such studies are few and far between in the field of communication.

Research Questions

We considered the constructivist approach to case studies as a suitable course structure given the built-in tolerance for teaching associates' pedagogical styles and the simultaneous overlap between the large lecture and recitation sessions. With the preparation for the case study assignment underway, instructors became curious as to the undergraduate students' preconceived expectations about the case study. Do they perceive inter-connections between the recitation classes and the large lecture? We also wanted to know more about their levels of learning from the case study experiences. At a general level, this study explored some of the factors that influence how student learn from case study experiences. We were especially interested in finding out whether or not our efforts toward increasing the connection between the large lecture and recitation classes helped improve case study learning.

Method

A survey design that focused exclusively on the capstone communications and general education course, COMM 100 (*Mass Media and*

Society), was employed in this study. Paper-and-pencil question-naires were administered at two points during the semester. The first questionnaire was administered just before the introduction of the case study and the second was administered right after the completion of the case study assignment. There was a three-week interval between the two questionnaires. A total of one hundred and eleven students participated in both the pre-case study and post-case study questionnaires. The first questionnaire included measures of learning expectations and demographics, while the second encompassed measures of perceived case study learning, connection amongst recitation sections/large lecture/case study, the authenticity of the selected case, students' expected grades in the course, and their overall satisfaction with the case study experience.

Participants

The respondents were undergraduate students enrolled in COMM 100 in the spring semester of 2001. In general, students' motivations for taking the course vary from using it to fulfill requirements of a major to its use to satisfy general education credits. The class drew students with semester standing ranging from freshmen to seniors.

Procedure

The pre-case study and post-case study questionnaires were handed out in the large lecture classroom and then collected in the recitation sections by graduate teaching associates. Students were told that the course professor and teaching associates would use their participation in the study as feedback on case study methodology. All participants signed an informed consent form prior to their participation in the study. No reward was offered as compensation to students who completed the survey.

Dependent Variable

Our primary objective was to uncover some of the factors that might affect case study effectiveness. Case study effectiveness was defined

using constructivist and such other learner-centered approaches as the students' assessment of how much and what type of learning they experienced through the case study component of the course. Thus, the dependent variable in this study will henceforth be referred to as "perceived case study learning."

Perceived case study learning was measured in the post-case study questionnaire using seven items. The items measured the extent to which the case study assignment helped students in gaining knowledge about the course material, in developing critical thinking skills, in collaborative learning skills, in research, and in presentation skills. Measurement items also investigated the extent to which the case was useful to the students and to the community in general. The inter-item reliability of this composite index was Cronbach $\alpha = 0.89$. A five point semantic differential scale was used to measure these items.

Primary Independent Variables

The independent variables of interest were: Learning Expectations, Connection, Authenticity, Satisfaction, and Expected Grade.

Learning expectations: The items related to this variable were measured in the pre–case study questionnaire. We sought to understand what students expected to learn from the case study aspect of the course. Prior research indicated that awareness about case study methods in general influences the expectations that students bring to the case study experience and that these experiences could further influence how effective the case study will be. Students' learning expectations were measured on a five point semantic differential scale using seven items that include expectations about developing research skills, critical thinking skills, collaborative learning skills, presentation skills, gaining knowledge about the course material, and the expected usefulness of the case study to themselves and the community. The inter-item reliability was high, indicated by a Cronbach's alpha of 0.84.

Connection measures: One of the primary research questions revolved around the connection between recitation classes, the large lecture, and the case study. Based on the constructivist perspective, the COMM 100 teaching team employed the case study as a bridge

between the large class and the recitation classes. Thus, we were interested in knowing how much of an overlap was perceived between the materials taught in each of the different aspects of the course, and how much overlap was seen as beneficial to learning. Four different predictor variables exploring the different dimensions of connection were used in the study. They were operationalized using the following questions:

- How relevant was the large lecture material to your case study preparation? (Large lecture/case study overlap)
- How relevant were the recitation section activities to your case study preparation? (Recitation/case study overlap)
- In general, to what extent did the large lecture prepare you for the recitation section? (Large lecture/recitation overlap)
- In general, to what extent did the recitation section material relate to the large lecture? (Recitation/large lecture overlap)

Authenticity: Given that one of the pivotal elements of the constructivist approach is how closely the classroom experiences resemble the real world, we included "authenticity" as another independent variable. This concept was measured using responses to two items: "In your opinion how realistic (similar to real life) was the case study?" and "Do you feel that the case study component assisted you in connecting the course material to the real world?"

Overall satisfaction: We expected that the case study learning would be influenced by how happy the students were with the case study experience as a whole. Thus, "case study satisfaction" was included as a predictor into the regression model. This variable was measured using a five point semantic differential response to the question, "Overall, how satisfied were you with the case study experience?"

Expected grade: We also expected that the students' perceived academic performance in the course might have an impact on how much they learned from the case study, such that students anticipating better grades might also be the ones who thought they learned from the case study. The "expected grade" variable was measured on a scale with letter grades ranging from A to F, where A represented the best grade. This factor was later dummy-coded into two categories: 1 = "B or higher grade" and 0 = "C or lower grade."

Control variables

The study included several demographic variables as control variables that might influence case study learning, such as age, race, gender, major, parents' income, and parents' education. All of the control variables were dummy-coded and treated as qualitative variables. Gender was coded such that males = 0 and females = 1. Race was categorized such that non-Caucasians = 0 and Caucasians = 1. Age was dummy-coded into two categories: 0 = under 20 years and 1 = 20 and older. Parental income groups were categorized into two groups: 0 = less than $59,000 annually and 1 = more than $60,000. Education level of parents was dummy-coded such that 0 = low education (high school graduate or lesser) and 1 = high education (some college or more). Majors were categorized according to those that frequently use case study methodology (business, law, and education) and those less familiar with case study methodology (arts, liberal arts, communications, sciences, engineering, and agriculture).

Data Analysis

Only responses of students who answered both pre–case study and post–case study questionnaires were included in the study. A multiple regression analysis was conducted to understand the primary factors that influenced case study learning. All of the primary independent variables and control variables were included in the initial model. Due to a lack of sufficient prior research on case study effectiveness, the regression analysis was primarily exploratory in nature. The objective was to identify predictor variables that would be useful in our understanding of the case study learning process rather than on the absolute values of the correlations.

Table 1 displays the bivariate correlations, unstandardized coefficients (b-values), and part correlations for each of the independent variables in relation to the dependent variable. Since the number of independent variables was small, a backward elimination regression procedure was used. At each step, variables with p-values less than 0.1 were dropped from the model until we arrived at a final reduced model. Table 1 shows the results of the initial model (that included

Table 1: Regression-Correlation Analysis for the Relationships of Perceived Case Study Learning with the Primary Independent Variables and Control Variables (N = 111)

Independent variables	Bivariate Correlations	Initial Model		Final (Reduced) Model	
		b-value[a]	Part Correlation	b-value[a]	Part Correlation
Primary independent variables					
Learning Expectations	0.40***	0.24*	0.17*	0.48***	0.22***
Overall Satisfaction	0.62***	0.32*	0.20*	0.29***	0.28***
Authenticity	0.56***	0.11	0.08	0.16[†]	0.12[†]
Lecture-case overlap	0.41***	0.13[†]	0.14[†]	0.15**	0.17**
Recitation-case overlap	0.32***	0.18*	0.19*	0.18**	0.19**
Lecture-recitation overlap	0.046	−0.16[†]	−0.14[†]	−0.13*	−0.13**
Recitation-lecture overlap	0.02	−0.003	−0.004		
Expected Grade (0 = C or less)	−0.54***	−0.018	0.005		

Independent variables	Bivariate Correlations	Initial Model		Final (Reduced) Model	
		b-value[a]	Part Correlation	b-value[a]	Part Correlation
Control Variables					
Gender (0=male)	-0.20**	-0.26^	-0.13^	-0.17^	-0.09^
Race (0=non-Caucasian)	0.145†	-0.02	-0.01		
Age (0=19 or less)	0.70†	-0.05	-0.03		
Major (0=case study less frequently used)	-0.105	-0.09	-0.05		
Income (0=low)	0.07	-0.05	-0.02		
Mother's education (0=low)	-0.16	0.15	0.07		
Father's education (0=low)	0.03	-0.21	-0.08		
Constant		0.86		0.48†	
Total R^2		0.56***		0.60***	

^ $p \leqslant 0.2$, † $p \leqslant 0.1$, * $p \leqslant 0.05$, ** $p \leqslant 0.01$, *** $p \leqslant 0.001$
[a] Unstandardized coefficients

all independent and control variables) and the final reduced model (that included only those variables that had a significant effect on the dependent variable). The factors included in the final reduced regression model were able to explain a moderately high proportion (about 60%) of the variation associated with the dependent variable—perceived case study learning.

Results

The results of this survey show that students' learning from the case study is increased by two main factors. One is expectations of learning from the case study. The other is overall satisfaction with the case study process. Other variables that also have an impact on perceived case study learning, although to a much lesser extent, are the level of perceived authenticity of the case study and connections amongst the case study material, large lectures, and recitation classes. Surprisingly, students' expected grades did not influence learning. Also, none of the control variables (gender, age, major, race, parents' income, and parents' education) played a significant role in case study learning. In the following paragraphs we discuss these results in greater detail.

Learning expectations: The positive correlation between learning expectations and learning outcomes suggests that students who approach an innovative teaching method such as the use of case studies with a positive, optimistic attitude, and an eagerness and willingness to learn, are more likely to learn more from the experience. On the other hand, their counterparts who are wary of getting involved in an unfamiliar, new teaching/learning method might not learn much from the experience. The variations in expectations could be explained by differences in learning styles amongst students and overall attitudes towards teaching innovations. This finding has important implications for instructors because it suggests that when teachers initiate a teaching innovation, they should be aware that not all students would be enthusiastic about adopting it. Several students might doubt the usefulness of the technique and even resist such changes, and as a result, might not learn much from the experience. Thus, it may be crucial for instructors, prior to

introducing a case, to talk to students about the case study method, its potential benefits, and also devote time to addressing students' concerns and expectations.

Connection measures: An interesting finding of this study is the presence of a moderately positive correlation between case study learning, the case study material, and other class materials. As expected, when students were able to integrate the case study information with the rest of the information taught in the large lecture and in the recitation class, they were able to learn more from the case study. This finding suggests that instructors should make the connections between the case study and other course materials such as textbooks, class notes, guest lectures, and exams abundantly clear. Integration of the case study with the rest of the course can be done at several stages using different methods that are suitable for the particular case and course being taught. For instance, instructors can include a list of terms or chapters from the textbook that would be useful while working on the case study. Alternatively, material relevant to the case could be integrated with the rest of the course. The importance of such inclusion could be enhanced with the addition of case related questions to course examinations. When relevant, reference could be made to the case while illustrating a concept.

Surprisingly, connection measures between the large lecture and recitation sections did not affect case study learning to the extent that we anticipated. We expected to find that an increase in overlap between the large lecture and recitation materials would enhance case study learning. To the contrary, our survey results indicate that there was not much correspondence between the two teaching formats and case study learning. If at all, our findings suggest that an increase in the extent to which the large lecture prepared the student for the recitation section might in fact slightly lower case study learning.

Also related and intriguing is our finding that the extent to which the recitation section material related to the large lecture material did not seem to influence perceived case study learning. These findings seem confusing at first because students indicated that they would like increased overlap amongst the case study, lectures, and recitation classes in order to learn better, but on the other hand, they do not seem to want an overall increase in connections amongst large lecture and recitation classes. It appears that students perceived the

case study as a means of bridging the differences between the large lecture and the recitation class formats. However, at the same time, they might be indicating that the recitation class and the large lecture serve different functions such that one cannot be seen as a substitute for the other and that too much overlap might make the material repetitive and overtly redundant.

Authenticity: The positive relationship between perceived authenticity of the case study and perceived learning highlights the importance of the choice of case study topics. According to our expectations, a case study that is similar to real world experiences and helps students make connections between the classroom and the outside world is more likely to be more productive than one that uses hypothetical, unfamiliar, unrealistic scenarios. However, this relationship was not as strong as we had hoped. Moreover, it is not very clear what the definition of "authentic" is and which types of case studies might be seen as more realistic than others. Several more questions can be raised at this point. For example, is a contemporary case study seen as more realistic than an archival, historic one? Will a case study about local issues be perceived as more real than one set in a faraway place? Apart from unbundling the meaning of authenticity, future endeavors exploring case study effectiveness could probe further to find out if other aspects of constructivism, such as collaboration and ownership, might also have an effect on case study learning.

Overall satisfaction: Findings indicate that those students who have an overall positive, satisfactory experience with the case study experience have a greater likelihood to report increased learning from the case study. Perhaps students who are dissatisfied and discontented with the way in which the case study is implemented are put off by the experience and understandably, this negative experience becomes an impediment to learning. Given the correlational nature of the study, we cannot be sure of the direction of the cause-effect relationship between satisfaction and learning. It is quite conceivable that when students feel they have learned from the case study, they will then evaluate the entire experience positively and, therefore, report higher levels of satisfaction. However, it appears that case study satisfaction might be a complex construct and it is not clear from this study what factors might predict overall satisfaction. We can speculate that the perceived relevance of the

topic of the case study, the level of difficulty of the case study assignment, the nature of group collaboration, and the quality of instruction with respect to the case study could be worth exploring in future studies dealing with case study satisfaction.

Expected grade: We had also anticipated that there would be a relationship between expected grades and learning such that those students who were more involved and motivated would have a greater likelihood of reporting increased learning. However, this relationship was not statistically significant in the analysis.

Control variables: Amongst the control variables employed in this study, only the gender of respondents was marginally associated with perceived case study learning. Females reported slightly lower scores on perceptions of case study learning when compared to males. However, the correlation did not reach statistical significance at the 0.05 level. It was encouraging to see that perceived learning from the case study used in the course did not seem to be influenced by demographic factors such as age, race, parents' income, and parents' education. However, given the homogeneous nature of the student sample, we cannot confidently say that learning amongst other populations would show similar results. Also, we had expected that those students from majors such as business and law with greater familiarity with case study methodology would be more likely to learn more from the course than students in disciplines that do not employ case studies often. However, we did not find any such differences in our analysis.

Limitations

In spite of the interesting findings produced by this study, its sampling procedure and instrumentation, among possible others, throw up a few limitations. First, the relatively small and localized sample limits direct generalizability to larger populations in general education courses. However, it is unlikely that the problems identified in the selected setting are unique to this particular university.

Second, our study focused, in part, on one notion of constructivism – the authenticity of the case study. Available literature on constructivism pinpointed students' ownership of the learning process and collaboration as equally instrumental to the building of

constructive environments. Future research could explore the influence of these factors on students' ability to learn when the case method is employed.

Yet another potential flaw is this study's use of the survey method to gauge students' learning. On the one hand is our realization that the results produced could be different had the surveys been administered at a different time during the semester, for instance, after course grading was completed. On the other hand, we are also aware that the limitation of self-report presented by the survey method could be rectified with the use of the experimental method. There is the possibility that a controlled experiment could confirm the indications that we found that case methods helped students integrate the course material. While on the subject of methodology, varying instrumentation strategies such as comparison of student participants working on different cases could yield different results and certainly increase our knowledge of the interaction between all of the variables employed in the current study.

Careful attention should be paid to the fact that our study could not resolve the gap existent in the way connections among recitation, lecture, and case study material influence case study learning. Subsequent studies should throw a search light on the contradictory evidence that we found.

Summary

Overall, the COMM 100 project shows that the decision to enhance a general education course may have enabled the fulfillment of crucial active learning goals. However, students' inability to perceive a strong connection between the parts created a new pedagogical challenge. Our survey results affirmed that we created a positive connection between the large lecture and the recitation classes with the use of the case study method. In addition, our use of the case study method enhanced students' learning of course material.

Our employment of the case study method in coordinating the activities of COMM 100, and the assessment thereof, allowed us to safely draw a few useful conclusions. In the first instance, team-teaching can doubly aid the achievement of active learning goals in

a large general education course when students are able to establish connections between the parts. In this instance, our employment of the case study method proved to be one useful way to establish such a connection. Beyond the establishment of a connection, Boehrer and Linsky's (1990) suggestion of the purposes that might be fulfilled through case-based instruction shows that the case method and the pedagogical principles behind active learning and constructivism do not conflict.

Secondly, when students are able to perceive a connection, the diversity of instruction styles used in the large lecture and recitation classes may be less problematic. The undergraduate students in COMM 100 had been exposed to a hybrid of lecture and discussion—two teaching methods that are pigeonholed into the traditional and the constructivist categories and as such are not often considered compatible. Given the structural arrangement of COMM 100, we used the recitation classes as discussion arms of the lecture-based large class. Apparently, the solo use of the lecture method would have worked against the active learning mission of the course. As such, we benefited from the varying but complementary strengths of the lectures and the discussion enabled by the recitation classes.

Thirdly, our adoption of the case study method provided continuity in course structure, connecting the large lecture and recitation sections and connecting the various components of the course to the case. At the same time, and given the paucity of literature on the effectiveness of the case study method in the field of communications, our experience could be the starting point for a discussion of ways in which the use of the case method may be systematically measured.

Fourthly, our experience led us to suggest that general education courses that register a large pool of students be endowed with the human and material resources that can intensify instructors' ability to achieve active learning goals. This is particularly important given that most students take general education courses within the first two years of college. We assume that instructors' ability to inculcate active learning skills earlier in the process can increase the quality of undergraduate students' learning in subsequent years.

In addition to exposing the undergraduate students in the COMM 100 project to an active learning experience, our study

underscores an equally positive exposure for the graduate teaching associates involved in the process. Leading graduate students to team-teach a general education course in this way can only bode well for the future of the professoriate.

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