University of Arkansas, Fayetteville

ScholarWorks@UARK

8-2012

Characteristics of Quality Agricultural Magazine Capstone Courses Based on the Five R's Model

Traci Nicole Rushing
University of Arkansas, Fayetteville

CHARACTERISTICS OF QUALITY AGRICULTURAL MAGAZINE CAPSTONE
COURSES BASED ON THE FIVE R'S MODEL

CHARACTERISTICS OF QUALITY AGRICULTURAL MAGAZINE CAPSTONE
COURSES BASED THE FIVE R'S MODEL

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Agricultural and Extension Education

By

Traci Rushing
Southern Arkansas University
Bachelor of Science in Agricultural Education, 2010

August 2012
University of Arkansas

ABSTRACT

This study sought to assess students' and instructors' perceptions regarding the value of an agricultural communications magazine capstone course at three universities that were identified as exemplary in an effort to describe the characteristics leading to the course's success. Using a qualitative survey methodology, the investigator administered an open-response survey, conducted personal interviews with purposively-selected students in each course and the instructors, and made field observations. Both the interviews and the surveys consisted of six, in-depth questions crafted after Andreasen's (2004) of a successful magazine capstone course. Based on students' and instructors' perceptions through the lens of Andreasen's (2004) model, this course met students needs for experiential learning and provided students with the opportunity to transition from college students to professionals. The investigator came to the conclusion that providing students with a real-world experience and positive reinforcement is essential to these courses. Students felt expectations for deadlines, quality of work, and attendance was similar to what they would expect in the workforce. In turn, they thought this would help them prepare to enter into a career.

Also, students also reported a strong appreciation for positive feedback. Because capstone courses often serve as a "rite of passage," students need positive reinforcement to make it through key moments in the course (Durel, 1993, p. 223). These moments of positive reinforcement helped students gain confidence in their skills as professionals. The results also lead to the recommendation of modifications to Andreasen's (2004) five R's model to better fit the agricultural communications discipline with changes focusing on the concept of noise and feedback. Following the recommendations of Rhodes, Miller, and Edgar (2012), it is

recommended that future versions of the model include noise throughout the model and feedback

outside the inner-workings of the model.

This is approved for recommendation
to the Graduate Council.

Thesis Director:

_____
Dr. Jefferson D. Miller

Thesis Committee:

_____
Dr. Leslie D. Edgar

_____
Mrs. Casandra Cox, M. S.

_____
Dr. Charles Rosenkrans

THESIS DUPLICATION RELEASE

I hereby authorize the University of Arkansas Libraries to duplicate this thesis when needed for research and/or scholarship.

Agreed   _____
Traci Rushing

Refused   _____
Traci Rushing

ACKNOWLEDGEMENTS

There are two things in life that I have undoubtedly been fond of: agriculture and talking. Growing up on a farm and being an only child I often made friends with hogs, cattle, and even an occasional board after it came off my dad's sawmill. I was always quick to tell others (and sometimes complete strangers) about my agriculture friends back on the farm. Although I have moved past making friends with agriculture products, I still have that same passion for telling others about agriculture. This same passion has led me to a degree in agricultural communications.

This thesis not only serves as a milestone in my life, but also as the closing of one chapter and the opening of another. As I end my college career and enter into the workforce, I hope that my passion for communicating with others about agriculture continues to shine. I would like to show my sincere gratitude for those who have helped me reach this point in my life, for I know without their constant support I would not have made it this far.

First and foremost, I would like to thank God for the wonderful things he has given me. He has surrounded me with loving and supportive family and friends. He has given me the knowledge and strength to make it through my college career. I have learned as long as I have Christ by my side all things are possible and life will always be beautiful.

I would like to thank my wonderful husband, Jaret Rushing, for always being by my side. Thank you for supporting me when I decided to move to north Arkansas and waiting patiently for me to return. I am forever grateful for the love you continue to show me daily and for your constant words of encouragement. I look forward to many more remarkable years with you by my side.

Thank you to my amazing parents, Dennis and Janet Rhodes, for supporting me emotionally and monetarily throughout my life. From the day I was born, you have both given me a life full of love and laughter, and I thank God daily for pairing me with you. Dad, thank you for instilling your agriculture knowledge in me as a child and sharing your passion with me. Mom, thanks for teaching me how to be so awesome and passing along your extrovert personality, procrastinating tendencies, and writing skills to me. Also, I would like to show my appreciation for my grandparents, Dean and Verna Thomason, for always placing value in my college career and awarding me with the granddaughter scholarship every year I attended school.

Thank you to my best friend, Mia. Since the day we met, you have been like a sister to me, and without your friendship I would have never made it this far. Thank you for all the late night study sessions, constant text messages, and daily mall runs. Though we may be at different sides of the state, you will always be close to my heart.

And finally, I would like to thank the agricultural communications faculty. Dr. Jeff Miller, you have been the best advisor I could have asked for! I know there were many times when you really wanted to just choke me, but thank you for never giving up on me. I sincerely appreciate your "stop procrastinating and focus" speeches, for I know these moments of constructive, yet positive, reinforcement are what have driven me to finish my graduate career. Dr. Leslie Edgar and Mrs. Casandra Cox, I have thoroughly enjoyed working with each of you and learning from your teachings. I cannot thank each of you enough for helping me grow professionally in agricultural communications and making my time as a teaching assistant in the department so much fun!

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

Need for Study

As communicating with the public about issues related to agriculture, food, and the environment becomes more and more important, so does academe's ability to provide society-ready graduates who possess advanced communications skills (Andelt et al., 1997; Graham, 2001; Klein, 1990). Demand for work-ready graduates continues to increase. According to a recent five-year study initiated by the USDA's National Institute of Food and Agriculture (NIFA), prospective demand for several communications-related occupations will continue to rise for the next five years (USDA-NIFA, 2010). Public relations specialists will increase by 24%, technical writers by 18.2%, market research analysts by 28.1%, and sales managers by 14.9%. USDA-NIFA (2010) indicated that there are more than 6,200 annual job openings available in education, communication, and government operations related to agriculture. According to the USDA-NIFA (2010) research, potential employers "have expressed a preference for graduates from colleges of agriculture and life sciences, forestry and natural resources, and veterinary medicine who tend to have relatively stronger interests and more extensive work experiences for careers in food, renewable energy, and the environment that those from allied fields of study" (p. 2). Courses have been designed for colleges of agricultural communications across the nation to assist with producing society-ready graduates, but little research has been conducted regarding these courses (Hall et al., 2011).

Overview of Literature

Experts in agricultural education and communications, identified "Build[ing] competitive societal knowledge and intellectual capabilities" as an area of focus in the academic discipline of

agricultural communications (Osborne, 2007, p. 6). Degree programs in agricultural

communications exist in dozens of Land Grant universities and other universities with colleges

of agriculture across the country (Doerfert & Cepica, 1991). Experiential learning is the

cornerstone of the Land Grant institution and agricultural education (Kerr et al., 1931; Parr &

Trexler, 2011).

One important observation to be noted is that college of agriculture graduates generally

have more extensive work experiences than students from other fields of study (Klein, 1990).

Traditionally, agricultural education at both the secondary and higher education levels has

continued its mode of experiential learning initially propagated by the father of American

education, John Dewey (Boone, 2011). "Simply stated, experiential learning is learning through

experience" (Andreasen, 2004, p. 53). Dewey (1938) observed "there is an intimate and

necessary relation between the processes of actual experience and education" (p. 7).

One experiential teaching method—capstone courses—is essential to fulfilling students'

experiential learning needs in an agricultural communications program (Edgar, Edgar, & Miller,

2011; Sitton, 2001). By definition, a successful capstone course is "a planned learning

experience requiring students to synthesize previously learned subject matter content and to

integrate new information into their knowledge base for solving simulated or real world

problems" (Crunkilton et al., 1997 retrived from Andreasen, 2004, p. 53). Durel (1993) noted

that a capstone class is a crowning experience coming at the end of a sequence of courses with

the specific objective of integrating a body of fragmented knowledge into a unified whole. As a

rite of passage, this course provides an experience through which undergraduate curriculum in an

effort to make sense of that experience and look forward to a life by building on that experience.

Sitton (2001) noted that these courses "offer the students the opportunity to enhance the

knowledge and skills they have acquired in previous classes" (p. 2). Additionally, Andreasen (2004) stated that such courses should "provide an opportunity to incorporate previously learned, often disjointed information into an interconnected contextual frame of reference from which to transition into a career or further study" (p. 52) and allow students the opportunity to "demonstrate mastery of the area's complexity" (Troyer, 1993, p. 246).

Statement of the Problem

For decades, in colleges of agriculture across the United States, building students' communications skills has been a priority (Andelt et al., 1997; Graham, 2001; Klein, 1990). Degree programs in agricultural communications exist in dozens of colleges across the country, most with a focus of providing the agriculture industry with graduates who are skilled in communications but who also have a strong knowledge and passion for issues and topics related to agriculture, food, and the environment (Weckman, Witham, & Telg, 2000). An industry demand for employees with advanced agricultural communications skills has created a demand for academe to turn out society-ready graduates (Andelt, Barrett, & Bosshamer, 1997; Klein, 1990; Graham, 2001). Capstone courses often serve as a tool for providing these practical skills to agricultural communications students (Edgar et al., 2011; Sitton, 2001); however, further studies are needed to research and evaluate these courses. There currently is no existing model to guide evaluation of magazine capstone courses or to guide the course curriculum (Hall et al., 2011). According to Hall, Rhoades, and Agunga (2011), studies are needed to "address the issue of whether publication advising and production provide an experiential learning experience…" and "research should also continue to explore and share the current curriculum being taught at the various institutes" (p. 44). Studies of magazine capstone courses in colleges of agricultural

communications are needed to further understand the capabilities these courses have and to develop a clear, pragmatic model for teaching the course (Hall et al., 2011).

Purpose of Study

The purpose of this study is to examine magazine capstone courses and describe students' perceptions of the course in an effort to describe the characteristics of a successful magazine capstone course and develop a model for instruction. To accomplish this purpose, this research was guided by the following questions.

RQ1: Based on examination of course syllabi, field observations, and instructor interviews, what were the common characteristics of magazine capstone courses at the selected institutions in terms of curriculum, course objectives, and instructional methods?

RQ2: Did the magazine capstone courses meet students' needs for experiential learning according to Andreasen's (2004) five R's model?

RQ3: Based on student perceptions, among the exemplary capstone courses, was there evidence of other components of the five R's model, including opportunities for students to participate in teamwork, communications, and critical thinking?

Key Terms

Andreasen's (2004) Five R's Model – A model designed to describe the characteristics of a successful capstone course. The model incorporates five R's- receive, relate, reflect, refine, and reconstruct.

Capstone Courses - "a crowning course or experience coming at the end of a sequence of courses with the specific objective of integrating a body of relatively fragmented knowledge into a unified whole. As a rite of passage, this course provides an experience through which undergraduate students both look back over their undergraduate curriculum in an effort to make

sense of that experience and look forward to a life by building on that experience" (Durel, 1993, p. 223).

Experiential Learning – "An experience-based approach to learning in which students experience a direct encounter with the phenomenon under study, reflect on that experience, draw general conclusions, and test their newly acquired knowledge through subsequent performance" (Phipps, Osborne, Dyer, & Ball, 2008, p. 530).

Society-ready Graduates – College graduates who possess the skills and competencies to function affectively in the workforce (Graham, 2001).

Limitations

This study was limited to the specific subjects, which consisted of established agricultural communications programs that offer a magazine capstone course; therefore not all agricultural communications programs were evaluated. Another limitation to this study is that students may not answer truthfully or express their complete feelings. Some students may also decide not to participate in the study.

The investigator visited each university towards the end of the semester, but students had not yet completed the course. Students' perceptions of the course may change upon completion of the course or after students enter into the workforce and begin to employ skills learned in the course.

This study uses a qualitative methodology in where the investigator is the primary gatherer and analyzer of data. By human nature limitations are then set on the instrument – "that is, mistakes are made, opportunities are missed, personal biases interfere… All observations and analyses are filtered through [the investigator's] worldview, values, and perspective" (Merriam, 1998, p. 22).

Assumptions

It was assumed that students who participated in this study answered truthfully and that instructors/professors followed the syllabus when instructing the course. It was also assumed that the researcher was able to properly filter and interpret the findings of this qualitative study.

Investigator Bias

The lead investigator of this study, Traci Rushing, is an agricultural communications graduate student at the University of Arkansas and has a bachelors' of science in agricultural education. Rushing spent one semester student teaching at Conway High School West in Conway, Arkansas and was a graduate teaching assistant for two academic years (fall 2010 to spring 2012) at the University of Arkansas in the Agricultural and Extension Education Department. At the university she assisted with the instruction of agricultural communications and graphic design in agriculture, food, and life sciences.

At the start of the study, Rushing had never been enrolled in an agricultural communications magazine capstone course, but was later enrolled in one at the University of Arkansas in the Spring 2012. Not ever being exposed to a course of this type allowed her to have a clear mind free of expectations for the course during the data collection process. During analysis Rushing was enrolled in a magazine capstone course and served on the leadership as manager of sales.

CHAPTER II

REVIEW OF LITERATURE

The underlying theories for this study included a long-standing precept about pragmatic teaching, and one relatively new theory explaining how to successfully integrate experiential learning into capstone courses. This chapter outlines the major theories and literature used to guide this study.

Student Perceptions

Colleges across the nation hold high regard for end of year evaluations (Stanford University, 1997). Evaluation are used to understand the effectiveness of the course and help teachers refine the course and teaching methods to insure better learning experiences in the future (Stanford University, 1997). "By highlighting instructional methods, teaching activities, and student input, evaluation[s] can have a positive impact in improving the climate of teaching and learning…" (Groccia, n.d., p. 1). Groccia (n.d.) further notes, written perceptions are often prized by instructors due to the rich insight provided by students. When reviewing these evaluations, instructors should consider that "student ratings are generally reliable and valid" (Groccia, n.d., p. 4).

Experiential Learning

Phipps et al. (2008) define experiential learning as "an experience-based approach to learning in which students experience a direct encounter with the phenomenon under study, reflect on that experience, draw general conclusions, and test their newly acquired knowledge through subsequent performance" (p. 530). In this type of learning, students should receive a concrete experience that allows them to test ideas (Lewin, 1957). Most importantly, transactions between the learner and their surrounding environment must occur for learning to take place.

Concrete experimentation gives learners the needed motivation to move forward and explore

further concepts (Dewey, 1936). "Ideas are not fixed and immutable elements of thought but are

formed and re-formed through experience" (Kolb, 1984, p. 26).

Agricultural educators across the nation have mastered the phenomenon of experiential

learning and often adopted the slogan 'Learning by Doing.' Furthermore, Kerr (1931) infers that

experiential learning is the cornerstone of the Land Grant institution and agricultural education.

For many years, agricultural educators have developed curriculum based on experiential learning

models set forth by such theorists as John Dewey, the father of American education; Lewin

(1951) and Piaget (1952) (as cited in Boone, 2011). Kolb (1984) expanded experiential learning

through the development of a four-stage cyclical model intended to further explain the hands-on

learning process. This model involves four principal stages: concrete experiences (CE),

reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE).

In this cyclical model, the learner first participates in a "concrete experience". Secondly, the

learner should step back from the project and takes a moment to reflect on what happened. Next,

the learner connects "abstract concepts" with the experience. After the learner has reflected on

the experience, they should experiment with their new way of thinking, beginning the cycle

again.

Figure 1. Kolb's (1984) Experiential Learning Model – Adapted from Andreasen & Wu (1999).

Capstone Courses

Capstone courses are commonly employed as a feasible method for meeting agricultural student's needs for experiential learning (Edgar et al., 2011). In fact, the Association of American Colleges (ACC) (1985) recommends that capstone courses should be integrated into every collegiate discipline and systematically required. Furthermore, Sitton (2001) noted that core curriculum in the agricultural communications discipline should include at least one capstone experience to allow students to synthesize previously disjointed information.

Several definitions of capstone courses exist, and most include a collection of similar elements, including a culminating experience, the opportunity for students to assemble fragmented knowledge, and the opportunity for students to employ critical thinking skills. Durel (1993) defined these courses as:

A crowning course or experience coming at the end of a sequence of courses with

the specific objective of integrating a body of relatively fragmented knowledge

into a unified whole. As a rite of passage, this course provides an experience

through which undergraduate students both look back over their undergraduate

curriculum in an effort to make sense of that experience and look forward to a life

by building on that experience (p. 223).

A study conducted by Nilsson and Fulton (2002) analyzed and compiled many different theorist

definitions of a capstone course and found them all to include student engagement in: "problem

identification, integrating accumulated knowledge and technical skills into finding a solution,

critical thinking, and communicating conclusions" (p. 8). On the next page is an adapted chart

from their study.

Andreasen's Five R's

Andreasen (2004) proposes that successful capstone courses incorporate Five R's –

receive, relate, reflect, refine, and reconstruct. Andreasen (2004) found each of these

components to be highly necessary and professionally beneficial as ranked by the students. The

five R's "are designed to spiral and funnel the required capstone components into a synthesis and

lead to an integration of the subject matter content" (Andreasen, 2004, p. 56). In order for the

course to be considered successful each of the five components must be achieved and fragmented

bits of information from the discipline must be present in the students knowledge base. Students

enrolled in the capstone course must receive an activity or experience which is either contrived

by the instructor or has occurred spontaneously. Learners must be able to relate their previously

fragmented knowledge to the reveiwed activity or experience. Students will then be able to

reflect upon what has been received and related in the experience for further understanding.

Discipline/Subject	Authors	Required course?	Learning Goals/Educational Outcomes	Recommended Format, Resources, Class Size
Agriculture	Crunkilton, Cepica, Fluker (1997)		Problem solving, decision making, critical thinking, collaborative/professional relationships, oral and written communication	Projects, case studies etc., small group work, oral communication, writing, industry involvement. "… a capstone course should be offered in the last year of the students' program and ease transition of students between their academic experiences and entry into a career of further study" (p. 4)
Agricultural Communications	Sitton (2001)	Yes	"Offer the students the opportunity to enhance the knowledge and skills they have acquired in previous classes." (p. 2)	Focus on problem solving, written and oral communication, synthesis of curriculum, decision making and critical thinking
Agricultural Economics	Erven (1987)	Yes	"Provide the students with a clear sense of advancing sophistication." (p. 1040)	Should include a term paper, drawing from different courses and experiences
Agricultural Economics	Westgren and Litzenberg (1989)		Two goals 1. Overt objectives: "… integrate the various functional agribusiness courses and present material in strategic management; 2. Covert: building interpersonal and communication skills…" (p. 362)	Groups in 3-4, oral and written reports in 2 case studies, lectures and discussions. Students report how much time they spend. Lacking prerequisites and work experience hindering elements
Agricultural Economics	Dunne and Collins (1995); Collins and Dune (1996)		"… student learning… progress from concrete experiences, through reflective observation to abstract conceptualization… Kolb's (1984) learning cycle" (p. 108)	"… three-way commercial partnership between a client agribusiness firm, a group of students and the university" (1995, p. 108)
Agriculture Economics	Fulton (1998)		Problem identification, problem solving, application of economic theory, quantitative analysis, and business strategy, industry interaction, written and oral communication.	Term project presented in both written and poster presentation format. Keys to success include having minimum standards, intermediate deadlines, and working with industry as a reality check.
Agriculture Education, Studies and other majors	Andreasen & Trede (2000)		Provide a culminating learning experience, allowing to apply knowledge from previous courses	Solve "real world" farm problems, problem solving, decision-making, critical thinking, and goal setting.

Figure 2. Adapted from Nilsson & Fulton's (2002) definition chart

Andreasen (2004) noted that "without structured and active reflection, the lessons available to the learner will not become as apparent and meaningful as otherwise possible" (p. 56). Learners should then be able to refine the knowledge received and move towards a higher expertise. Lastly, a new knowledge base or schema should be be reconstructed by the learner. "Once synthesis and integration have resulted, the spiral of the five R's can be recycled or reused and additional knowledge processed, feedback provided and evaluations made that will improve knowledge acquisition, retention, and learning" (Andreasen, 2004, p. 56).

Along with the five R's of experiential learning, Andreasen (2004) proposed that students should be employing teamwork, problem solving, decision-making, critical thinking, and communications skills to reach the five R's stage. One should also note that Crunkilton, Cepica, and Fluker (1997) identifed each of these skills as outcomes of a quality capstone course. Many authors have also noted the importance of these components to capstone courses (Durel, 1993, Edgar et al., 2011, Nilsson & Fulton, 2002, Rhodes, Miller, & Edgar 2012, Wagenaar, 1993). After completing each of the five R's, students should receive peer and facilitator feedback and begin the process again.

Figure 3. Andreasen (2004) Model for the integration of experiential learning into capstone courses (MMIELCC).

Receive

Andreasen (2004) labels *Receive* as the first of his five R's. Learners must receive and experience either occurring spontaneously or deliberately created by a facilitator. Many scholars agree that in order for a capstone course to be successful, students must receive a real-life or simulated experience (Collier, 2000; Dunlap, 2005; Durel, 1993; Edgar et al., 2011; Nilsson & Fulton, 2002; Rhodes et al., 2012; Wagenaar, 1993). However, many instructors classify courses as capstone experiences, but no real-life experience occurs or is contrived for the students (Wagenaar, 1993). In these courses students should "experience the complexity of knowledge in a discipline" (Wagenaar, 1993, p. 209).

Relate

Quality capstone courses typically come at the end of a sequence of courses. In these courses, students are able to draw together their previously fragmented knowledge for practical use in a real-life experience (Durel, 1993). Andreasen (2004) noted that "taking fragmented disciplinary knowledge and unifying it is the intent of this step" (p. 56). Capstone courses provide students the opportunity to revisit their previously learned skills and competencies developed through their undergraduate curriculum in an effort to apply them as a unified whole in a realistic project (Durel, 1993). "The capstone course provides majors with a structured opportunity to address and assess their experiences" (Wagenaar, 1993, p. 214). As an interesting side-note, because of the students' opportunities to relate their knowledge to realistic situations in capstone projects, capstone courses can be used by faculty as an instrument for assessing students' knowledge in their discipline areas before exiting their program (Wagenaar, 1993).

Reflect

In this component of the model, students should *reflect* upon the experience received. Dewey (1938) notes that successful experiential learning involves students reflecting upon concrete learning experiences. Reflection can be found in each of Dewey's (1938), Kolb's (1984), and Lewin's (1957) models of experiential learning proving the importance of this step. "Without structured and active reflection, the lessons available to the learner will not become as apparent and meaningful as otherwise possible" (Andreasen, 2004, p. 56). Students need to "identify personal strengths and weaknesses, and undertake appropriate remediation" in order to successfully grasp the concepts of a problem-based learning experience (Dunlap, 2005, p. 66).

Refine

After reflecting on the experience, student should begin to refine their experience. "This refinement process causes further contemplation concerning the applicability of this knowledge and its association to and with other knowledge" (Andreasen, 2004, p. 56). Refinement helps students gain a newfound confidence and develop skills to a higher level of expertise. Collier (2000) notes refinement of knowledge helps students reach a sense of identity causing them to step up and act to their fullest potential. This step can also help ease the transition from the classroom into the workforce.

Reconstruct

In this step of the model, students develop a new way of looking at similar experiences through a new knowledge base or schema (Andreasen, 2004). This process of reconstruction helps students fill voids in their knowledge and further define their experiences. "Kant (1929) is generally considered to be the first to talk about schemas as organizing structures that mediate how we see and interpret the world… a schema was a lens that both shaped and was shaped by

14

experience" (Johnson, 1987 retrieved from McVee, Dunsmore, & Gavelek, 2005, p. 535).

Reconstruction can be found in many theorist models for experiential learning or learning development; for example, there is evidence of this step in Piaget's (1952) Model of Learning and Cognitive Development, Lewin's (1957) experiential learning model, Dewey's (1936) model of learning, Kolb's (1984) model of experiential learning.

Modifications to Andreasen's (2004) Model

Rhodes et al. (2012) recommended further refinement of Andreasen's (2004) MIELCC model. The authors suggested the inclusion of the concept of noise and refinement of the concepts of feedback, communications, teamwork, critical thinking, problem solving, and decision-making. Figure 4 below demonstrates the changes the authors proposed.

Figure 4. Rhodes et al. (2012) Modified model for integration of experimental learning into capstone courses (MMIELCC)

In a recent study, Rhodes et al. (2012) suggested the inclusion of the concept of noise in Andreasen's (2004) model. Noise "represents situations when the system is hindered as a result of dilemmas such as differences of opinion, misunderstood concepts, students' and instructors' priority conflicts, unmet deadlines, distractions, and decisions that must be made between quality and timeliness in a project" (Rhodes et al, 2012, pp. 14-15). Researchers noted that "part of the realism that exist in capstone courses is that the project itself does not exist in a vacuum, but instead is confounded by environmental noise" (p. 14). With this observation, the authors recommended the placement of noise within the model.

This study also recommended incorporating facilitator and professional feedback outside the inner-workings of the model to allow for feedback at any time. Rhodes et al. (2012) identified feedback as an opportunity to "enhance the students' ability to further integrate and synthesize subject matter content" (Rhodes et al., 2012, p. 14). It was also suggested that instructors provide students with feedback from professionals in the communications industry.

Realizing that students cannot function as a team without effective communications, Rhodes et al. (2012) recommended making communications central in the model and before teamwork. Authors also noted "teamwork is central to an environment where decision making, problem solving, and critical thinking can occur, develop, and strengthen" (p. 14). With this observation, authors recommended the placement of teamwork before decision-making, problem solving, and critical thinking.

Summary

It is evident through the research that capstone courses epitomize experiential learning. Andreasen's (2004) Five R's can easily be backed up by the long-standing practices and beliefs of many different theorists regarding capstone courses. In a successful capstone course, students

must complete each of the five components – *receive, relate, reflect, refine, and reconstruct.*
Along with these five components students in a successful capstone course should practice oral
and written communications, problem solving, decision-making, critical thinking, and team
building skills.

CHAPTER III

METHODOLOGY

Purpose of Study

The purpose of this study was to examine magazine capstone courses and describe students' perceptions of the course in an effort to describe the characteristics of a successful magazine capstone course and develop a model for instruction. To accomplish this purpose, the research was guided by the following questions.

RQ1: Based on examination of course syllabi, field observations, and instructor interviews, what were the common characteristics of magazine capstone courses at the selected institutions in terms of curriculum, course objectives, and instructional methods?

RQ2: Did the magazine capstone courses meet students' needs for experiential learning according to Andreasen's (2004) five R's model?

RQ3: Based on student perceptions, among the exemplary capstone courses, was there evidence of other components of the five R's model, including opportunities for students to participate in teamwork, communications, and critical thinking?

Design of the Study

The study employed a descriptive questionnaire and person-to-person, semi-structured interview methodology (Merriam, 2009) and followed the qualitative paradigm of investigation as described by Merriam (2009) and Lincoln and Guba (1985). "Qualitative researchers are interested in understanding how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences" (Merriam, 2009, p. 5). This approach to investigating student and faculty experiences and perceptions was selected to help provide detailed, descriptive, research-based recommendations—well beyond what a single

questionnaire effort might provide—for faculty and administrators to use in planning for the development of new agricultural communications curriculum or for evaluating existing capstone courses.

Five data collection techniques were used to gather information about the capstone courses. An open-ended, computer-based questionnaire was administered to all students in each of the three selected courses. Also, each course instructor and 12 students (four at each location) were asked to participate in short, semi-structured interviews toward the end of each capstone course. Participant-observer field observations (in classrooms) as well as document analysis (of syllabi and curriculum materials) were also employed. The methods of analysis included frequency and percentage reporting for data resulting from the Likert-type and demographic questions in the questionnaire and thematic, constant-comparative analysis for qualitative data, employing open and axial coding techniques on open-ended questionnaire responses, interview transcripts, field notes, and course syllabi.

Subject Selection

Subjects included students and faculty in collegiate agricultural communications programs that offered an exemplary magazine capstone course. The exemplary programs were identified based on a specifically defined set of criteria. This approach to subject selection improved the likelihood that the findings of this study would be applicable to any program whose faculty seeks to emulate quality programs. In the terminology of qualitative research, this effort strengthens the study's transferability, or the ability of the findings to be applied to other similar situations (Lincoln & Guba, 1985).

Advisors from every college and university across the nation with an active Agricultural Communicators of Tomorrow (ACT) chapter were emailed in September 2011 and were asked if

a magazine capstone course was offered in his or her curricula. If such a course was offered at

their university, advisors were asked to identify specific characteristics of their course or direct

the investigator to the instructor of the course who could identify the characteristics. Specific

characteristics that became the criteria for selection included the following: (1) number of times

the course has been offered; (2) the number of times per year the course is offered; and (3) the

awards instructors or students had received in association with the course. Email addresses for

advisors were gathered from the National ACT advisor. Twenty-five universities were identified

as having active ACT chapters.

As a result of these efforts, agricultural communications programs offering an exemplary

magazine capstone course were identified as having the following characteristics: (1) having an

active ACT chapter on campus; (2) having offered a magazine capstone course more than

twenty-five semesters in a row; and (3) having received national ACT and/or other national

awards associated with the course. Following these criteria, three universities were identified as

having exemplary magazine capstone courses: Kansas State University, Oklahoma State

University, and Texas Tech University. After the three schools were identified, instructors of

each course were contacted via email. The email introduced the instructors to the study and

asked if they were willing to participate (see Appendix B for instructor email). All three

instructors agreed to participate. The investigator then emailed the instructors of each exemplary

course and asked for a current copy of the course syllabus. Arrangements for the investigator to

visit were also set up via email. Instructors were asked to identify specific dates in November

when the investigator could visit the class.

During each classroom visit, all students enrolled in the fall 2011 magazine capstone

courses were asked to complete a six-question, open-ended questionnaire. Also during the visits,

person-to-person, semi-structured, informal interviews were conducted with the instructors of each of the courses and graduate teaching assistants (if applicable), two student leaders in each course, and two other undergraduate students in each course. Using the snowballing technique (Patton, 1990), instructors were asked via email to identify two students who played an editorial leadership role. The two students who served in an editorial leadership role were contacted via email to set up interviews and also were asked to identify two undergraduate students who received a "typical experience" in the course. The two students serving as editors were also asked to meet with the instructor of the course when selecting the two students who received a "typical experience" to ensure non-biased selection. The two identified students from each course were then contacted via email and were asked to schedule interview times during the scheduled visit.

Exemplary Courses

Kansas State University

Located in Manhattan, Kansas, the agricultural communications program at Kansas State University prides itself on offering its first magazine capstone course in 1921 and winning its first national award for its *Agriculturalist* magazine in 1953 from "Successful Farming." Over the past 20 years, Kansas State University had offered a magazine capstone course every semester and has won numerous awards in connection with the course.

The three-credit-hour course was taught at 1:05 p.m. every Tuesday and Thursday by one faculty member, who was a part-time, non-tenure-track instructor. Students in the course were required to purchase an *AP Stylebook.* The course at Kansas State University was taught in a lecture-style classroom, but students also had access to a computer lab that was used only by magazine staff. Students holding editorial leadership positions controlled access to the lab and

were responsible for setting up work times for the rest of the students to enter the lab to work on the computers. In a magazine rack inside the lab were several examples of other student-produced publications and professionally produced agricultural publications that students could use as examples for their own work.

Oklahoma State University

Oklahoma State University, located in Stillwater, Oklahoma, had offered a magazine capstone course 26 times at the time this study was conducted. The course was offered every semester and had won numerous national awards for their *Cowboy Journal*, which is produced by students in the capstone course. The course at Oklahoma State University in Stillwater, Oklahoma, was taught by a tenured professor. It met for a lecture session on Mondays at 9:30 a.m. and for two two-hour lab sessions on Wednesdays and Fridays at 8:30 a.m. Students in the course were required to purchase an *AP Stylebook*. They were also required to pay membership dues to the Agricultural Communicators of Tomorrow student organization. The course met in a dedicated computer lab that was used primarily by students in the capstone course. The lab had an open layout, with computer stations around the walls, with a conference table set up in the center of the room for staff meetings.

Texas Tech University

Texas Tech University, located in Lubbock, Texas, at the time of this research had offered a magazine capstone course more than fifty times since 1981. The program had won numerous awards for its *Agriculturalist* magazine, recently winning a second-place National Agricultural Communicators of Tomorrow (ACT) award and first place in the 2010 National Agricultural Alumni and Development Association Publication and Project Competition. The course was offered every semester.

The course at Texas Tech University was taught by a tenured professor who was assisted by a master's level graduate assistant. The lecture session met Monday, Wednesday and Friday for fifty minutes starting at 10 a.m. The lab session was held on Mondays from 2 p.m. to 3:50 p.m. Students were required to purchase an *AP Stylebook* and were required to own a personal laptop loaded with the latest version of the Adobe Creative Suite Design Premium 5.5.

Both lecture and lab sessions met in a computer lab, where there were 12 computers available. Though students were required to have their own laptops, upper-division students who were closest to their graduation dates had priority use of the lab computers. Extra credit was offered to students who entered products created in the course into National ACT Critique and Contest.

Instrumentation

Development of Questionnaire

Agricultural communications faculty at the University of Arkansas developed the open-ended questionnaire following Dillman's Total Tailored Design method (2007). Questions for the instrument were modeled after Andreasen's (2004) Five R's of successful capstone courses (receive, relate, reflect, refine and reconstruct) of successful capstone courses. The researchers developed five open-ended survey questions with the goal of determining the extent to which the course adhered to the five R's model, as perceived by the students. One additional question was added to gain further clarification and determine how the course helped students prepare for a professional setting. Specific questions asked are identified in Appendix D. Furthermore, teaching experts in agricultural communications at the University of Arkansas reviewed the questionnaire to verify the instrument's face and content validity.

Open-ended questions were purposefully chosen for this study. This approach "give(s) respondents freedom in answering questions and an opportunity to provide in-depth responses… [and] allow[s] for answers that researchers did not foresee in designing the questionnaire" (Wimmer, 2003, p. 170).

Development of Interview Questioning Route

Interview questioning routes were developed to guide the 16 interviews (five at two sites and six at one). Routes were semi structured, allowing respondents the freedom to define the phenomenon from their unique point of view (Merriam, 2009). This type of interview allows for flexibility of questions, but gathers specific data from respondents (Merriam, 2009).

Four students, instructors, and teaching assistants (if applicable) from each course were asked to participate in personal interviews. Questioning routes for students consisted of seven questions – five modeled after Andreasen's (2004) five R's, one to gain further clarification and identify professional skills developed in the course, and one developed after Rhodes' et al. (2012) concept of noise. Specific questions asked can be found in Appendix D. Instructor and teaching assistant questioning routes consisted of five questions modeled after each Andreasen's (2004) five R's and one additional question to identify professional skills students gained in the course. Specific questions asked in instructor and teaching assistant questioning routes can be found in Appendix E. To establish face validity, a panel of experts in the agricultural communications discipline reviewed questioning routes.

Pilot Test

The instrument was piloted to students enrolled in the spring 2010 magazine capstone course in agricultural communications at the University of Arkansas. The target population for this study was all eleven students enrolled in the spring 2010 course. There were eight

undergraduate students enrolled in the course, and the students were predominately female upper-classmen. There were also three graduate students who earned graduate credit for the course and who served as managers of the capstone course magazine staff.

The instrument was then administered electronically through Survey Monkey, a web-based survey tool, after completion of the semester. A preliminary email message was sent to students informing them of the purpose of and need for the study. Three rounds of email reminders were sent to the students in an effort to increase response rates (Dillman, 2007). Seven of the 11 students enrolled in the course completed the questionnaire, constituting a 63.6% response rate.

Students who responded to the questionnaire were able to clearly answer the instruments questions. The instrument also effectively met the objectives of the study establishing instrument reliability (see Appendix C for an example of the questionnaire used in the pilot test). However, question four on the open-ended questionnaire was changed to fit the context of the study. In the pilot test, students were asked to describe times they had used their magazine production skills after the course was over. Since students in this study were still enrolled in their course, it was decided that the question should be changed to ask students to describe times in the course when they were able to use skills in outside projects or jobs. It was also determined that six Likert-type questions should be added to triangulate students' responses. Five Likert-type questions relating to each of Andreasen's (2004) five R's and one relating to the development and/or improvement of professional development skills were added to the questionnaire (see Appendix D for an example of the questionnaire used in the final study). It was also determined that the investigator should travel to each university and administer the questionnaire during a class period to insure proper administration and higher response rates.

Interview questioning routes were also tested on two students previously enrolled in the course and one instructor. Both students and the instructor were able to understand and effectively answer all questions establishing instrument reliability. Students were interviewed in a conference room at the university and the instructor was interviewed in his or her personal office.

Data Collection Procedures

Data were collected onsite at the three universities possessing exemplary magazine capstone courses – Kansas State University, Oklahoma State University, and Texas Tech University – in November 2011 over a three-week period. The investigator collected a syllabus for each course via email at the beginning of the semester from each of the instructors and set up a specific date for an on-site observational visit of each course. The investigator then traveled to each site to ensure proper administration of the questionnaire, increase response rate, and to conduct short participant interviews. The response rate for this study was 100%. The investigator traveled to the first university during the first week in November, the second university during the second week in November, and the third university during the third week in November. During this time, students' at all three exemplary courses were placing the final touches on their packaged stories and were working towards putting the final product together. With the exception of guest speakers, students were using these final weeks in the semester to work on pulling the magazine together.

The investigator attended one full class period at each university and one lab period (if applicable). At each university, leadership staff members began the class with a staff meeting. After the staff meeting, the instructor of the course introduced the investigator. One of the courses had a guest speaker, and the investigator was introduced to students after the guest

speaker finished. The investigator began by introducing students in the course to the study and asking them to complete the questionnaire. Students were asked to access the questionnaire via Survey Monkey and were given as much time as needed to complete the questions. Students completed the questionnaire in their normal classrooms on either the university's or their personal computers.

Two different questioning routes were established for the person-to-person interviews – one for interviewing each instructor and one for interviewing students (see Appendix E). Students and instructors were asked five questions relating to their specific experiences with the course and each of Andreasen's five R's and one question relating to the professional skills they had developed or improved upon in the course. Students were also asked one question relating to the concept of noise based on Rhodes et al. (2012) suggestion for the inclusion of noise in Andreasen's model. Additional questions were asked, if needed, for further clarification. Participants were also asked to provide any additional information they would like to add about their experience with the course.

Instructor interviews were conducted before class in the instructor's office. At one university the instructor had a teaching assistant that helped with the course. The teaching assistant was interviewed using the instructor's questioning route in his/her office after class. Interviews with students were conducted after class in conference rooms at two universities and in the instructor's office at one university. At one university, one student was unable to stay after class, but offered to meet before class at his/her place of employment in a conference room. Interviews lasted anywhere from five to 20 minutes. All interviews were recorded and transcribed for data analysis.

Data Analysis Methods

The analysis was predominantly thematic in nature, employing open and axial coding techniques (Strauss & Corbin, 1998). Data were analyzed using open and axial coding to develop a clear description of student perceptions. This type of textual analysis consists of "breaking down, examining, comparing, conceptualizing, and categorizing data" (Strauss & Corbin, 1990, p. 61; 1998). Results and conclusion were drawn from the transcripts of the students' responses.

The open-ended portion of the questionnaires and personal interviews were used to answer research questions 2 and 3. Open and axial coding, based on Strauss and Corbin (1998) theories, was used to analyze the data. Open coding "deals with labeling and categorizing phenomenon in the data" and is commonly paired with axial coding, which is "designed to put data back together that were broken apart in open coding" (Ary, Jacobs, & Sorensen, 2010, p. 465). Students' responses from questionnaires and personal interviews were input into NVivo 9, qualitative visual data analysis software, to allow for electronic coding. Through this software, students' responses were then scanned for thematic words, phrases, or sentences and categorized accordingly. Likert-type questions were analyzed in a quantitative, descriptive manor. Percentages for each question were reported. These data were used to triangulate previous qualitative data related to research questions two and three.

One-on-one personal interviews with students and instructors were recorded, transcribed, and coded using NVivo 9 software. As the researchers employed open and axial coding (Strauss & Corbin, 1998), data were categorized and organized into free nodes and finally tree nodes (Bazeley, 2007) and to create a taxonomy of reoccurring patterns related to research questions two and three (see Appendix F for taxonomy chart and node summary).

Syllabi were collected from instructor(s) of each course and field notes were taken during a one-day, in-class observation. Using the constant comparative technique as defined by Wimmer and Dominick (2003), a codebook was developed to answer research question 1 and add further triangulation to research questions two and three. The codebook was developed based on emergent themes in interviews and surveys with regard to Andreason's model components of "receive" and "relate". The constant comparative method was used to perform a content analysis. The following elements were looked at as units of analysis: objectives of the course, course assignments, and explanations of course procedures. Open coding, via hand memos, was the method for this small, but important, collection of data.

Credibility, Transferability, Dependability, and Conformability

The investigator utilized techniques identified by Lincoln and Guba (1985) as "activities in the field that increase the probability of high credibility" (p. 328). These techniques include prolonged engagement, persistent observation, triangulation, peer debriefing referential adequacy, and member checks.

"Prolonged engagement is the investment of sufficient time to achieve certain purposes: learning the 'culture,' testing for misinformation introduced by distortions either of the self or the respondents, and building trust" (Lincoln & Guba, 1985, p. 301). To establish a firm understanding of the course, the investigator met with the instructors of each course for 20 minutes prior to the class period. The investigator then spent one full class period observing at each of the three universities to become familiar with the environment of the classroom and build trust with the students. After the class period, the investigator met with four purposively selected students from each course for five to 10 minutes and conducted one-on-one, personal interviews.

It is also important to note that the investigator spent a month becoming familiar with the data analysis software, NVivo 9, and an additional three months analyzing the data.

Persistence in an effort to select subjects can be found throughout this study. Specific criteria were used when selecting all subjects that participated in this study. Courses selected to participate in this study were identified due to being exemplary and had been offered every semester, over 25 times, and received awards associated with the course publication or teaching methods used in the course. Purposive sampling was also used when selecting these exemplary programs. Agricultural communications faculty across the nation generally acknowledges the programs selected in this study as offering leading agricultural communications programs.

To add triangulation to the study, the investigator used different data collection modes: personal interviews, questionnaire, field observations, and Likert-type questions. Data resulting from the field observations were used to triangulate findings that emerged from other data collection methods, allowing the investigator to record actual behaviors and link them to accounts previously recalled by the students enrolled in and the instructors of the courses. Open-ended and Likert-type questions and interviewing routes were also designed to triangulate findings and insure internal validity. Results for Likert-type questions proved to be very similar to students' questionnaire and interview responses. Instructors' responses in interviews also proved to be similar to students' responses. This triangulation in methods adds dependability to the study.

Syllabi from each university were collected and analyzed, along with field notes. These documents served as indirect references to subjects and the culture of the classroom. Keeping in mind emergent themes from questionnaire and interview responses, the investigator developed a codebook. Course syllabi and field notes were analyzed using the codebook.

Realities of the phenomenon were measured based on multiple sources to help grasp reality and insure credibility. The investigator gathered experiences from each student in the course (electronic questionnaire), observed the phenomenon for herself during one full class period, conducted personal interviews with each primary instructor, and conducted personal interviews with four purposively selected students from each course.

As recommended by Lincoln and Guba (1985), the investigator participated in periodic peer debriefings with a subject that was both knowledgeable "about both the substantive area of the inquiry and the methodological issues" (pp. 308-309). In these periodic meetings, the investigator discussed the progress made on the study and tested ideas on the debriefer. These meetings also insured the honesty of the inquirer and pushed the inquirer to think deeper about the study.

Informal member checks were conducted with instructors of each course and students who participated in personal interviews. Informal checking "gives the respondent an immediate opportunity to correct errors of fact and challenge what are perceived to be wrong interpretations" (Lincoln & Guba, 1985, p. 314). Copies of the results from the study were sent to instructors via email. Instructors were asked to send the findings on to interview participants. With no objections from interview participants, the investigator believed the interpretation of the course analyses were accurate perceptions of the participants studied.

To insure transferability, it is the responsibility of the inquirer to provide a "thick description" of data and note bias (Lincoln & Guba, 1985, p. 359). In this thesis, the investigator provides readers with a deep description that specified "everything the reader needs to know in order to understand the findings" (Lincoln & Guba, 1985, p. 125). Though observer bias can never be completely removed the inquirer acknowledged such bias during all phases of the study.

NVivo 9 was used to analyze data and create an audit trail. Following Halpern's audit trail categories (Lincoln & Guba, 1985), raw data and personal notes were synthesized and recorded in NVivo 9. To add dependability and conformability to the study, documented evidence supporting the logic of every emerging theme was also recorded and reported. A taxonomy chart with emerging themes can be found in Appendix F.

A committee of interested research colleagues approved all methods of this study. The same committee was involved with the review of the instrument, methodology of the study, and interpretation of findings. Committee members were provided access to raw data, field notes, and the taxonomy chart through NVivo 9.

Summary

This study is qualitative in nature and employs the use of an open-ended and Likert-type questionnaire following Dillman and Taylors's (2007) *Total Tailored Design* and a semi-structured interview route following the practices of Merriam (2009). Analysis for the three subjects predominantly followed open and axial coding techniques. Following the constant comparative method as defined by Wimmer and Dominick (2003), a codebook was developed to analyze syllabus and field notes. The analysis of all these documents lead to the results and conclusions of this study.

CHAPTER IV

RESULTS

Chapter four presents the findings related to the three research questions that guided the study. Findings for each research question are reported in the form of emergent themes that developed during analysis of qualitative data, which was in the form of interview transcripts, questionnaire responses, syllabi, and observational field notes. Where relevant, excerpts from interviews and questionnaire responses are representative of the emergent themes to provide support and further explain the themes.

To best contextualize the findings of this study, it is important to depict the demographics of the collection of subjects. The subjects consisted of 45 students from magazine capstone courses in undergraduate agricultural communications programs at three prominent institutions – Kansas State University, Oklahoma State University, and Texas Tech University – and the instructors of these courses. At each institution, four subjects from the survey population were purposively selected to participate in individual interviews for further clarification. Table 1 displays the demographics of the questionnaire participants in terms of gender, age, student classification, and number of communications courses taken.

Table 1

Demographics of Survey Participants

Participants	Gender	Age (in years)	Classification	Number of Communications Courses Taken
1	Female	22	Senior	8
2	Male	22	Senior	12
3	Female	21	Senior	25
4	Female	21	Senior	10
5	Female	21	Senior	14
6	Female	22	Senior	12
7	Refused	Refused	Refused	Refused
8	Male	21	Senior	7

9	Female	21	Senior	9
10	Male	26	Senior	A lot
11	Female	22	Senior	12
12	Female	22	Senior	10
13	Female	22	Senior	11
14	Female	22	Senior	25
15	Female	21	Senior	16
16	Female	21	Senior	15
17	Female	22	Senior	12
18	Female	20	Senior	Refused
19	Female	21	Senior	6
20	Female	21	Senior	15
21	Female	21	Senior	14
22	Female	21	Senior	6
23	Female	21	Senior	11
24	Female	21	Senior	15
25	Female	24	Senior	10
26	Female	22	Senior	8
27	Female	21	Senior	6
28	Female	21	Senior	6
29	Female	21	Junior	7
30	Female	21	Senior	10
31	Female	22	Senior	10
32	Female	22	Senior	10
33	Male	22	Senior	10
34	Female	22	Senior	10
35	Female	21	Senior	14
36	Female	21	Senior	10
37	Female	21	Senior	10
38	Female	21	Senior	10
39	Female	22	Senior	10
40	Female	21	Senior	8
41	Female	23	Graduate	12
42	Female	22	Senior	10
43	Female	21	Senior	10
44	Female	23	Senior	10
45	Female	21	Senior	10

Forty-five students were enrolled in the three magazine capstone courses, with a breakdown of 17 students from the course at [University 1], 11 students from the course offered at [University 2], and 16 students from the course at [University 3]. (One student refused to answer all demographic questions.) Of the students enrolled in these courses, 90.9% of the

students were female and 95.5% were seniors. The average age for students in the course was

21.6 years. On average, students were previously and/or currently enrolled in 10

communications-related courses before taking the magazine capstone course.

Instructors and assistants were asked to participate in personal interviews. Each course

visited had one instructor, and one of the courses had a teaching assistant. Table 2 displays the

demographics of instructors and a teaching assistant in terms of rank/title and the number of

times to teach or assist with a magazine capstone course.

Table 2

Demographics of Instructors

Participants	Rank/Title	Number of Times to Teach or assist with a Magazine Capstone Course
1	Professor	28
2	Instructor	16
3	Professor	9
4	Teaching Assistant	3

All three instructors were veteran faculty members, having taught a total of 53 magazine

capstone courses. The graduate teaching assistant had assisted with three magazine courses.

Two of the faulty members held the academic rank of professor, while the other was a part-time

instructor whose primary professional position was marketing and communications coordinator

for a service unit associated with the university.

RQ1: Based on examination of course syllabi, field observations, and instructor interviews,

what were the common characteristics of magazine capstone courses at the selected

institutions in terms of curriculum, course objectives, and instructional methods?

To aid in the analysis of course syllabi and field notes taken during observational visits to

the three capstone classes, a codebook was developed based on the themes that emerged in

interviews and surveys with regard to the first two components of Andreasen's five R's model –

"receive" and "relate." The codebook was stored electronically in the NVivo 9 project file.

Using the constant comparative method to perform a thematic content analysis, the following

course elements were analyzed:

- Objectives of the courses

- Course assignments

- Explanations of course procedures

Several thematic characteristics were readily apparent in all three course syllabi. Though

the individual impact of these characteristics could not be accounted for in any kind of

quantitative sense, the fact that the characteristics were evident in all three exemplary courses is

undoubtedly meaningful in a qualitative sense. The categories of characteristics set forth in

research question 1 included (1) curriculum, (2) course objectives, and (3) instructional methods.

Table 3 demonstrates the common characteristics observed in each category.

Table 3

Characteristics of Exemplary Magazine Capstone Courses

Course Elements	Characteristics
Curriculum	- Publication management - Leadership positions were offered to students via an application and interview process - Sponsorship sales - All students were required to make sales - All students were required to design sponsorship layouts - Journalistic interviewing and feature story writing - Students covered a beat - Students coordinated and conducted interviews with feature story subjects - Students wrote one to three feature stories of varying lengths - Editing - Students were required to edit the work of their peers - Students received editorial feedback from instructors - Final stories had to be perfect in terms of AP style and grammar

	• Layout and design
	  o All students were responsible for turning in at least one to three packaged feature story layouts
	• Photography
	  o Students were required to use original photography in their feature story layouts
	  o Students were required to turn in a prospective cover photo

Course Objectives	• Learn the magazine production process • Employ previously learned writing, photography, and design skills • Gain experience working as a team

Instructional methods and techniques	• Guest speakers
	  o Printers
	  o Graphic Designers
	  o Editors
	• Field trips and practical observations
	  o Students visited a print shop
	• Collaborative learning assignments
	  o Staff meetings were held at the beginning of classes as needed
	• Problem-based approaches
	  o Deadlines were given and enforced
	  o All decisions regarding development of the magazine were made by the students
	  o Expectations for attendance were treated like a job
	• Refresher lessons (lecture and discussion)
	  o AP Style
	  o Feature writing
	  o Layout and Design
	  o Photography
	  o Sponsorship Sales

Curriculum

Each publication, produced in the three exemplary courses, was completely managed by the students. Leadership positions were offered to students in each course, and in all three courses, students participated in an application and interview process to determine who would serve in which leadership position. Top editorial leadership positions were offered in each of the

exemplary courses. Though the position titles varied, there were also managerial positions associated with sales and graphic design in each of the courses. Responsibilities of the leadership staff included, but was not limited to, planning staff meetings, deciding layout of the magazine, and preparing the final product for print. Through field observations, the investigator noticed that the leadership staff was in charge of setting and leading staff meetings that were held at the beginning of class as needed. At these meetings, members of the leadership staff reminded staff members of upcoming deadlines and made important announcements regarding decisions made on the layout of the magazine and sales quotas. The leadership staff was also expected to package and prepare the final magazine for print even if the semester was over. They were also responsible for setting meetings with the printers and sending the final product.

All students enrolled in the courses were responsible for attaining a sales quota. Sales responsibilities were clearly outlined in each of the syllabi. Students were responsible for contacting businesspersons, collecting contracts and revenues, and designing sponsorship layouts. Businesses were given the opportunity to use their own designs and art in the actual sponsorship design, but in the cases where ready-made designs were available, students were still responsible for designing an original sponsorship layout to be graded.

In all three courses, at the beginning of the semester, every student was assigned a beat to cover. Students then researched the beat and came up with story lines. Students were responsible for coordinating and conducting interviews with feature story subjects. It was also their responsibility to write at least one feature story. However, the number of feature story assignments varied among the three courses from one to three.

Stories and layouts created by the students were edited heavily throughout the courses. Each student's work was edited at least once by his or her peers as well as by the course

instructors. Two of the exemplary courses required every student to peer edit, while one course only required the leadership staff to peer edit. Instructors edited every student's work and provided feedback to students in all three of the courses. After stories went through this rigorous editing process, students were expected to make the appropriate corrections. All three course syllabi indicated the importance of students turning in final copies of their stories that were free of grammatical and AP style errors.

Students were required to design layouts for all of their stories. The number of feature story writing assignments varied from one to three among the three courses. Layouts were designed in InDesign, and students were required to include original photography in their layouts. Students were also required to turn in a prospective cover shot. Guidelines and expectations for layouts and cover shots were clearly outlined in the syllabi of each course.

Course Objectives

Each of these exemplary magazine capstone courses shared three course objectives in common: learn the magazine production process; employ previously learned writing, photography, and design skills; and gain experience working as a team. Objectives for each course were on the first page of each syllabus. Students were solely responsible for creating a magazine from cover to back. Given this task, students were able to experience the complete magazine production process from idea to printing. Throughout this process, students were able to put previously fragmented knowledge to practice. Students were given the opportunity to use writing, photography, and design skills, which they had learned in previous courses. Effective teamwork was also an important component of these courses. Students gained experience making decisions as a team and relying on others to complete task.

Instructional methods and techniques

To give students a real-world perspective of the magazine production process, instructors from two of the courses invited professionals who worked for magazines to come speak to their class. These professionals included but were not limited to printers, graphic designers, and editors. Guest speakers provided students with advice and insight to their area of expertise with the magazine production process. At the beginning of the semester, one instructor also brought in the editors from the previous publication to talk with students about their experience in the course. The instructor also stepped out of the classroom and allowed the previous editors to answer any questions the students had. In personal interviews, one student noted the value of these guest speakers. For her, these guest speakers gave the students insight into what the course was all about and helped them prepare for what was to come. When the instructor stepped out, it allowed students time to ask the previous editors questions about the course they did not feel comfortable asking their instructor.

Instructors for each course scheduled a field trip for students to visit a local print shop. As outlined by the syllabus, two universities scheduled this trip to occur during the second half of the semester, while at one university students made this visit during the first half of the semester. At the print shop, the printing process was thoroughly explained to students by a staff member of the print shop. Students learned the importance of bleeds, packaging files, converting images to print compatibility, and much more. For some students, this opportunity allowed students to further understand the printing process.

Students were given the opportunity to collaborate with their peers throughout the course. Staff meetings were held at the beginning of classes as needed. In these meetings students

serving on the leadership team would update staff members of overall progress and announce upcoming dates. Group decisions regarding the magazine were also made during this time.

Instructors used problem-based learning approaches. Students were encouraged by faculty to work through problems as a team, and instructors only interfered if needed. Deadlines were given and enforced by faculty and student leaders. Each syllabus clearly outlined that students were awarded little to no points for assignments that were turned in late. Students were also expected to make all decisions regarding development of the magazine with little to no help from the instructor. In personal interviews, one instructor noted when students come to him or her with a problem, he or she reinforces students in their abilities to solve the problem their self. Expectations for attendance were similar to a job setting. Students were expected to communicate with the instructor prior to missing class or group meetings and were held accountable for missing. Students were excused for school-related reasons or if they were sick; however, they were required to provide documentation. Regardless of the reason for missing, students were still held accountable for completing "his/her share of work needed to produce a top-quality publication" as noted by one of the syllabi.

Realizing that students may have forgotten or lost touch with previously learned skills, instructors of each course taught refresher lessons at the beginning of the semester. Refresher lessons reconnected students with skills in feature writing, AP Style, layout and design, and photography. Along with these refresher lessons, students were taught how each of the skills are applied to the magazine production process.

RQ2: Did the magazine capstone courses meet students' needs for experiential learning according to Andreasen's (2004) five R's model?

Andreasen (2004) proposed five R's that should be incorporated into a capstone course for it to be successful: receive, relate, reflect, refine, and reconstruct. In order for a capstone course to be successful, students must achieve each of the five R's. Once each of the components has been achieved, students should view the content of the course through a new knowledge base.

Figure 5. Model for the integration of experiential learning into capstone courses (MMIELCC).

Survey participants were asked five open-response and interview participants were also asked five questions relating to each of Andreasen's five R's. Questionnaire and Interview responses were analyzed together using NVivo 9 (see Appendix F for a node summary and taxonomy chart). For further triangulation of the study, participants were also asked to complete five Likert-type questions relating to each of Andreasen's five R's. Questions were rated on a 5-point scale with 1 being strongly disagree and 5 being strongly agree. Figure 6 displays students' responses to each of these questions.

Based on your experience in the magazine course, please rate the following statements on a 5-point scale with 1 being strongly disagree and 5 being strongly agree.

Figure 6. Likert-type responses of the capstone courses relating to Andreasen's (2004) five R's

On average, students agreed to each of the Likert-type questions. Overall, 72.7% of students agreed they had received a real life experience. Of the respondents, 86.4% agreed their magazine capstone course allowed them to relate previously fragmented knowledge. Majority of students enrolled in the magazine capstone courses, 86.3%, agreed they were given the opportunity to reflect back and understand the magazine production process as a whole. Students, 77.3%, also agreed they were given the opportunity to refine their skills through their magazine capstone course. Of the respondents, 65.9% agreed they were able to reconstruct their knowledge base about the magazine production process through their magazine capstone course.

43

Students' perceptions of their capstone course experience

Receive

Students who participated in the study were first asked to briefly describe the capstone

experience received and to discuss how realistic the experience was in relation to a similar

project in the industry. This question related to the first of Andreasen's five R's, receive. In the

capstone course, students should receive a simulated or real life experience in order for the

course to be successful. Three themes emerged relating to the concept of receive. Students

reported that the following course characteristics made the course more realistic:

- Contacting outside sources

- Having deadlines

- Producing a university publication

Contacting outside sources to sell sponsorship space and to get interviews for stories

appeared to add realism to the course. Students seemed to place a high priority on experiences in

which they interacted face-to-face with the students and professionals they interviewed for

stories as well as businessmen and women to whom they sold sponsorship spaces.

> Student: *Talking to people and getting their story is applicable to the 'real world' as we are talking to people and passing their story on whether it is ads, marketing, or publications.*

> Student: *When we had to sell advertising, it was stressful working with our clients to make deadlines, but I think that is what made the whole class seem like a real job.*

> Student: *I think the most realistic part of this course is just working with sources outside of our team and our class… In this class you are kind of reaching out and working with others and interviewing with outside sources.*

Deadlines associated with tasks in the course were also perceived as a "real world"

element of these courses. Students considered having set deadlines for writing feature stories,

taking photos, and designing layouts and sponsorship spaces to be realistic characteristics of the course.

> Student: *The stress of meeting deadlines is comparable to what I would think the 'real world' is like.*

> Student: *[This course] relates to the real world because we are on deadlines for every task we complete.*

Students in these courses took a tremendous amount of pride in their magazine because it is a publication has a purpose and is displayed across campus. The fact that the publications have a targeted audience and is actually distributed has contributed to the real world aspect of the course.

> Student: *We take a lot of pride in this magazine just because it gets sent out to perspective student and you pass it out at new student orientation. We know that it is a recruitment tool as well as it showcases the quality of work that our students produce as seniors. So, I think we all know that we need to do our best and get it done but for those reasons because it is all over campus and [the agriculture building] too.*

> Student: *I would say the element that makes this course most realistic is defiantly the fact that we are using real people, our own ideas, there is a finished product, and it is going out… The fact that this is going out to over 4000 people makes me work that much harder and it is the real deal.*

Relate

Next, participants were asked to discuss whether or not the course allowed them to use a variety of skills that had never been used together on the same project. This question focused on the second component of Andreasen's model, relate. The relate component involves students taking previously fragmented knowledge and applying it to the simulated or real-life experience provided in the course. In the three magazine capstone courses that were observed, most of students interviewed reported putting together skills they developed previously in coursework focused on the following subjects:

- layout and design

- photography

- writing and AP style

  Student: *This is the first time I have had the opportunity to combine such a wide range of skills on one project. I have taken courses both specific to writing and to design, but never have combined the two as extensively before. This was a valuable experience because it allowed myself to become a more, well-rounded individual and to hone my skills in all aspects of communication. It also showed how important it is for all the different aspects to have balance and flow; whereas when you are working on different aspects separately, you do not get the appreciation of their relationship.*

  Student: *This course allows us to use a variety of skills including design, writing, photography, interviewing, ad sales, and everything in between. For example, we each took pictures or created graphics for each story we wrote and will be creating a full editorial design for one of those stories. I think that this has been an excellent experience because even if you won't be doing all of these parts later on in life, it can help you think about how they all work together.*

  Student: *This class brings together all aspects of agricultural communications. Editing, design, writing, interviewing, and photography are all necessary skills to have during this course. It definitely brings it all together. This is positive because it really shows you how applicable your classes throughout the past years really are.*

  Student: *I have used every piece of my agricultural communications education so far in this class. Putting them all together in the production of the [magazine] is something that I had not had the opportunity to do. Positive values include the ability to span your skills across a wide spectrum of projects. From writing, to the design, to the photography pushes us to continually develop our education at a deeper level. It also teaches us to switch skill focus from week to week, giving us diversity. Negative values include the fact that not all of us are proficient in each skill and therefore find ourselves behind the curve on occasion.*

Reflect

In the third questions, students were asked to discuss times throughout the semester that the magazine production process became clearer. This question related to reflect, the third of Andreasen's five R's. In this component, students should be able to think back on what has been learned and how the process came together. Students noted reflecting about the magazine production process at two major times during the course:

- After major deadlines

- After the final project was put together

Specifically, some students recognized that significant reflection occurred after completion of major deadlines associated with story layouts. In each of the courses, students were required to turn in at least one packaged story layouts. Students reported that during these major deadlines the magazine production process became more real to them.

Student: *After I first turned in the first layout draft and received feedback was when I began to understand the magazine process more clearly.*

Student: *After creating layouts, I have a better understanding of how a magazine is produced and how critical it is to manage my time effectively.*

The courses were still underway at the time of the interviews and surveys, and some students felt that the magazine production process would become clear after the magazine was finally put together as a final product. Students felt that the process would become clear and that they would really be able to visualize everything that went into making the magazine after completing the course and having the final project in hand.

Student: *The process of producing a magazine, I feel, comes more and more clear as the semester comes to an end. I do not think it will be fully clear until the class is completely over, because I know I have so much more to learn about the process up to this point.*

Student: *We (the staff) are getting ready to lay out the book. Finally seeing everything coming together is making it real.*

Student: *Throughout this whole semester, I have learned about the magazine production process. However, as we begin to put the magazine together and choose which stories get in the magazine, I will be enlightened and see the part of production that I have never personally experienced. Putting the magazine together will be one of the most challenging aspects to this class because it calls for tough decisions, but it will also be the most like an industry-type environment.*

Refine

Relating to the fourth of Andreasen's five R's, refine, students were next asked to discuss if and when they had used any of the skills developed in the course in outside projects or jobs. In

47

the refinement process, students take knowledge learned from the course and move to a higher level of expertise and contemplate on the applicability of this new knowledge. Students reported using skills outside of their magazine capstone course in …

- school-related projects

- outside jobs

- internships

Students reported using skills gained in the magazine capstone course for projects in other classes and for promoting clubs and events on campus. Important skills used to complete these projects include design software skills using Adobe Photoshop, Illustrator, InDesign, and writing and interview skills acquired in the course.

> Student: *We put out a publication for [our university's] homecoming, and I was in charge of putting the publication together. I got to apply everything I have been working on in this class and brush up on all my skills.*

> Student: *I have used my layout and design skills to make random fliers for clubs and sales on campus.*

Many of the students held outside jobs or internships related to communications and were able to use skills developed in their magazine capstone course in these employment opportunities. Students reported using writing, design, and layout skills in their jobs and internships.

> Student: *I currently work with an ag organization as their communications intern, where I regularly use my writing and design skills. This class has really honed my skills with focus, flow, and balance in design, as well as focused my writing style. The skills I use with my internship and with this class are interchangeable.*

> Student: *I used my skills extensively in an internship with the [Museum] and at my current job as a communications assistant with the [university's department].*

> Student: *I had an internship with the [State] FFA Association where I was expected to have a working knowledge of many programs I learned in this course. For example, I designed banners and posters using Adobe Illustrator.*

It is also important to note that some students had not yet had the opportunity to uses skills developed in their magazine capstone course, but they were still able to identify skills that applicable to future career paths.

> Student: *I hope to use the skills I have gained in this course in a future stock show magazine internship I am applying for.*

> Student: *I have not currently used any of the skills I have developed outside of class. When I graduate, I plan to use these skills on a daily basis.*

> Student: *I have yet had to use something I have learned in this class for anything outside of the classroom, but I'm sure I will have to and it will be very helpful to know these skills.*

> Student: *I am applying for an internship in magazine design, and if I had not taken this class I wouldn't have had a chance at an internship like that.*

Reconstruct

In the fifth questions students were asked to discuss if and how their perceptions of the magazine production process changed from the beginning of the course to the end. In this portion of the model, students should develop a new way of looking at similar experiences through a new knowledge base or schema (Andreasen, 2004). Students reported perception changes dealing with the following:

- concrete understanding of the process as a whole and realization of workload

- understanding of the printing process

- realization that the magazine production process is a group effort

- realization of *not* wanting to work for a magazine.

Students felt that their perceptions of the magazine production process as a whole would change more toward the completion of the course. Students were better able to understand the

detail and planning that went into creating a magazine and realized the amount of work it took to

finish the publication.

> Student: *I did not realize how much goes into producing a magazine. When writing a story, we have to rely on someone else to be available for interview for us to produce a good story and find the time to take pictures and create the layout. All of these steps take awhile to finish.*

> Student: *I have never produced a magazine before. This class made it clear to me that it is not just about designing your page and that is it. We were required to obtain ads and develop them. We are required to shoot cover shots for the magazine. There are just lots of different things that go into a magazine that you never think of.*

> Student: *My perception of the magazine production process was changed, because I had no idea how much work actually goes into publishing a magazine. From writing stories to selling ads and creating layouts, there are so many small details that have such an impact on the publication as a whole. Learning this made me appreciate the industry and gain respect towards those who work in it, especially in the smaller publications where there is not a separate department for each section.*

> Student: *Before this course, I did not realize how heavy a workload it would be to focus on one story. Now that I have learned more about the process, I have a better sense of time management in communications for the future.*

Through these courses, students were better able to understand the printing process as a

whole. Some students attributed reconstructing their understanding of the printing process to

visits made to local printers.

> Student: *I guess I didn't realize how much goes into printing… There is so much more to it, whether it's cutting the paper to getting it all binded. It was a kind of mind-blowing thing for me because I never imagined the process being anything like this.*

> Student: *[The instructor] has been great in helping us understand how the magazine process works from planning to printing. Our class took a tour of the [printing company] for us to understand what goes into the printing process. This experience was particularly helpful to me and helped me have a better understanding of the magazine process.*

> Student: *I think that the best way to understand producing a magazine happened when we toured the printing plant. We saw why we needed bleeds, how CMYK looks in print, and how the pages were ordered.*

Student: *I always knew the motive was to produce a full, professional magazine. We took a tour of a local copying/printing facility. That made everything very clear about how important it is to make the layout perfect and all the links correct in all the right files, etc.*

Some students reported coming to the realization of the importance of teamwork in the magazine production process. These students may have entered the course with the perception that creating a magazine was a group effort, but they did not understand the importance of everyone working together and moving at the same pace. Students also realized the impact of group dynamics as problems with the magazine project were faced as a group.

Student: *I always knew it was a group effort, but this course really made me realize just how important it is that everyone is on the same page. It's really important to have a good group of people that work well together so we are all moving in the same direction. If one piece isn't as good or efficient it just doesn't work.*

Student: *From the beginning I figured this would be a group effort, and that viewpoint has been strongly reinforced. If everyone is not on the same page, it is hard to work together and get anything done.*

Student: *Because I have worked at a paper before and have gone through the process, my perception hasn't really changed except in the area of team management. I like that in [school publication], if there is a problem with something then it can be talked through and fixed with the help of everyone.*

Another important impact the course had on individual students is that a few of them realized that they did not want to work for a magazine when entering the workforce.

Student: *My perceptions have changed a lot. I thought before I started the class that working for a magazine would be a good job in the future for me. After making my way through the class, I have learned that building a magazine is not what I want to do at all. None of my skills are worthy of being published in any magazine.*

Student: *Honestly, I had no idea how much work was involved. At this point in time, I do not want to put out a magazine, because it is too fast paced and stressful for my liking. I was a lot more excited about this class before it started, and now I am just trying to get through while still passing my other classes.*

Student: *I don't like how we have to send our stories to our sources for approval. I was not taught that in my lower level courses or at the newspaper I worked at. I also don't like 'tightening' of quotes. At first, I was really excited to work for a magazine, but since taking this course I don't think I want to be in this field if this is how all magazines run. I*

also don't like all the "fluff" that goes into writing for a magazine. I feel like some of this is cheesy and not how I was taught to write.

Instructor's perceptions of how they delivered the five R's

Receive

Instructors reported that the most realistic element of their course was that students had to create a real-life magazine for an audience from start to finish. Students were responsible for conducting interviews, writing feature stories, taking photographs for their stories and the cover, creating story layouts, selling sponsorship spaces, preparing the final product for print, and making decisions as a team. The students were solely responsible for working as a team and making decisions on which stories would ultimately go in the magazine, the placement of the stories and sponsorship spaces, and which cover design would be used. Two prominent themes that emerged from the instructor interviews were (1) the importance of the comprehensiveness of the magazine production project and (2) the importance of placing project responsibilities squarely on the students.

> Instructor: *In our class, the students do everything from start of finish, and I think that is a really great piece that we can offer students. Students are responsible for every piece of the magazine. They touch a lot of different parts of it: they plan the editorial, create and sell all the adverting, and design it all.*

 Instructors reported that another important element of delivering these courses is that students experience real-world problems. In their courses, students face problems such as computers crashing, files being corrupt, interviews and photography shoots having to be rescheduled, and outside sources not honoring deadlines.

> Instructor: *The most realistic element of this course is that students have real-world challenges. Anything that can go wrong does.*

Relate

Instructors for all three courses reported that their students used feature writing, design, and photography skills developed in previous courses – writing being the most important of these. Across all three courses, students were expected to enter into the course with a strong understanding of feature writing.

> Instructor: *The most important skills for students to bring into a magazine course are good writing skills. By the time they reach the magazine course they should already know how to write a feature story and should be working to make their writing skills stronger.*

Realizing that some students may have forgotten important concepts or may not yet have picked up skills needed in the magazine course, each instructor taught refresher lessons focused on magazine production skills. These lessons included refreshers on layout and design, feature writing, AP Style, photography, and advertising sales. In personal interviews, one instructor reported encouraging students to ask for assistance from the leadership staff and the instructor if they felt they needed further help with these skills.

Reflect

Instructors reported noticing students thinking back on what has been learned and how the magazine came together toward the end of the course or even after the course is completed. Toward the end of the course, students begin to lay out the final magazine. During this activity, the magazine process as a whole "comes alive" for students, and students are able to think back on lessons about the magazine production process that were taught in the first half of the course or that were taught in previous courses.

> Instructor: *During the first half of the semester, students we lecture on everything from writing to design principles to advertising sales. The students are listening to these lectures and learning about the magazine industry as a whole. The second half of the semester is really when they take all of that knowledge and put it into practice. This is when the students are writing their stories, editing, creating layouts, and taking pictures,*

all of those sorts of things. That is when they really bring in everything together to create their spreads for the magazine. Not every story goes into the magazine and from then and there it is very competitive. The best stories are the ones that make the book, and the students that have excelled in writing, layout design, and photography really see the big picture when it is decided if they made the book or not.

Instructor: *Students honestly do not reflect upon the magazine production process until they are finished with the course. Right now they are just so immersed, and I don't think there is any time for reflection. I don't think that they really reflect upon the process until six months or maybe even a couple of years down the road. That is usually when I hear back from former students. At that point they say 'Oh gosh. We so appreciate you and everything we've learned.'*

One instructor reported using techniques from service learning courses and celebrating at the end of the semester. During this celebration students were given a hard copy of their magazine. Seeing the hard copy of the magazine allows students to think back on what they have created and pulls together the magazine production process.

Instructor: *We always come back and put everything together during finals week. We go out to eat as a class and celebrate the fact that we survived and finished. We reflect back on the fact that we did make it and usually I am able to give students their magazine printed back from the printers. At our celebration during finals, when that happens is really pulls everything together like 'oh gosh we did this.'*

Refine

Instructors have noticed many of the graduates who have come through their magazine capstone course working for the magazine industry. There are also several students who have gone on to work for various commodity groups or start their own communications firm.

Instructor: *We see our students in a number of different trade publications. We also see them work for a number of different commodity groups where they are taking their basic principles and sometimes creating a monthly newsletter.*

Reconstruct

When students come into the magazine capstone course, it is the perception of instructors that students know little about the magazine production process. In these courses students learn

all the little details that go into creating a magazine and learn to appreciate the process from idea to print.

> Instructor: *I do think or at least I hope the student's perceptions change, otherwise I am probably not doing my job. I don't think the students realize all the steps that go into that final product. This is not just a course in writing. We touch on all these different topics and how that all fits together to see it come off the printing press. My perception is that they don't really hear that at other places, and so I think that is how this course helps students have an appreciation for the magazine production process.*

RQ3: Based on student perceptions, among the exemplary capstone courses, was there evidence of other components of the five R's model, including opportunities for students to participate in teamwork, communications, and critical thinking?

Along with the five R's, Andreasen (2004) proposed in this model that students should be employing teamwork, problem solving, decision-making, critical thinking, and communications skills to complement the five R's. Facilitator and student feedback should also occur as the student's experience each of the five R's for further refinement of their understanding of the magazine production process.

For further triangulation of the study, students were asked one Likert-type question relating to the development or improvement of their professional skills in their course. The question was rated on a 5-point scale with 1 being strongly disagree and 5 being strongly agree. Overall, 81.8 % of students agreed they were able to develop or improve their professional skills through their magazine capstone course. Figure 7 displays students' responses to this question.
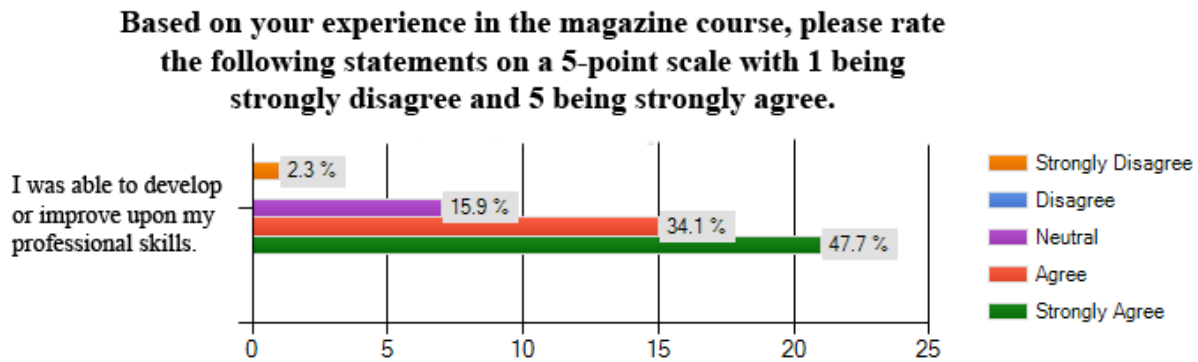
Based on your experience in the magazine course, please rate the following statements on a 5-point scale with 1 being strongly disagree and 5 being strongly agree.

Figure 7. Likert-type response to professional skills question

Teamwork

Working together as a team is an extremely important skill in the magazine production process. In these three courses, students reported an acute awareness of the importance of working as a team to overcome problems, brainstorm, and to create the magazine.

> Student: *When more than one of us has difficulties, we usually come together as a team and discuss how to fix current and future problems with the production of the paper. During this time, it's obvious how much teamwork goes into the production of the process.*

> Student: *I feel that having to work with peers to create one project has bettered my team skills. We must contribute to discussion and take other's ideas into consideration.*

> Student: *The part of the course that was most beneficial to me was the team environment, which leads to a better understanding of how a magazine would be put together in a professional setting.*

> Student: *We all have diverse backgrounds, but where one of us is weak one of us is strong, which helps. We have really built a team motivation.*

Critical Thinking

As defined by Rudd, Baker, and Hoover (2000), critical thinking is "a reasoned, purposive, and introspective approach to solving problems" (p. 5). Students enrolled in these courses were exposed to opportunities that allowed them to develop critical thinking skills through solving problems and making decisions.

Student: *I have used these skills in other classes, but this is the only course that has combined writing, technical design, and problem solving into one course.*

Student: *As an editor, my professional skills were improved because there were various instances where I had to rely on critical thinking, teamwork, and compromise to solve issues.*

Student: *I have learned to make tough decisions when dealing with frustrated people in discussing their proposed short and long feature stories.*

Student: *As the Associate Editor, I have been able to experience all the 'behind the scenes' processes of the publication. Every time my fellow staff members and I have met, it has been a reality check on the actual production of the magazine. Not only has that allowed me to better understand and appreciate the process overall, but to also get my own hands in deep by making decisions and working on projects. Being exposed to and a part of the decision making process has really intrigued my interest in the magazine industry.*

Student: *I definitely improved my decision-making skills (to make deadlines), communication skills (to contribute to class discussions), and writing and design skills (to complete my magazine layout). Overall, this class is crucial to the professional and creative development of agricultural communications seniors.*

Communications

Communications among co-workers and outside sources is crucial to the production of a magazine. In these courses, students reported realizing the importance of communicating with outside sources and peers to pull a project together. Students were responsible for contacting leading businesspeople in their sponsorship sales efforts. They also were required to communicate clearly with their feature story subjects in order to arrange interviews and photo opportunities. Some also reported bridging the gap between being a student to becoming a businessperson as a result of improving their ability communicating affectively with others.

Student: *As an editor, my professional skills were improved, because there were various instances where I had to rely on critical thinking, teamwork, and compromise to solve issues. If anything, this course has taught me the importance of communication among classmates or "coworkers" in the profession. There have been instances where I have had to intervene and help someone change their story or layout, and these experiences have taught me to be patient and more open-minded.*

Student: *Dealing with outside sources, we all have to contact sponsors and work with them and then conduct interviews for our stories. So, we learned how to communicate professionally with other people.*

Student: *I think in most classes that we've taken in the past few years you are really just working with people inside your course and the professor. In this course, we are reaching out and working with others and interviewing outside sources. When we were selling ads, we were working with different businesses and owners; you kind of learn that deadlines are really important, but that you also have to rely on outside sources as well. You have to make sure they understand that you are on a deadline. I know it was kind of an eye opener for all of us when we were selling ads. Communication was so important to making deadlines.*

Student: *We had to learn how to speak to people in a very professional setting and speak to them as an equal and not necessarily like a little student. I've had to be very assertive, put away the student card, and get in the mindset that I'm a businessperson in this setting.*

Noise

Throughout each of these courses, environmental noise—disruptions in the learning environment—seemed to be an unavoidable occurrence. Rhodes et al. (2012) suggested that noise should be included throughout Andreasen's (2004) five R's model and accounted for in actual instruction to overcome the disruptions. Interview participants were asked if noise was occurring in their courses. Students reported that situations which could have disrupted noise did occur in the capstone courses, but rather than obstructing the learning process, the apparent distractions often became learning opportunities for students were able to gain valuable lessons from these experiences. For some students, experiencing these problems contributed to the realism of the course.

Student: *[The instructor] definitely has been flexible, which is nice. Last week, one of the girls was trying to upload a file and turn it in. We have to upload it through [techs system], and the computers froze. It said low memory on the computer, which that was bad. And luckily [instructor] was like 'This isn't your fault. Come into my office. You can put it on my computer and that's ok.' It's good that he is flexible. It's defiantly a disadvantage, but he [instructor] has been helpful on it. But also they have told us from the get go; don't come in the day you need to turn it in without it ready. Come to class*

with it ready. I learned that. I came to class, the first layout was due, and I thought I was ready to turn it in. Then 30 minutes later I realized my pictures weren't in the right format. If I would have come in not even close to ready, I couldn't have gotten it turned in on time. So, they have encouraged us to be ahead of schedule for sure, but they have also been flexible in case it's out of your control.

Student: *I do know that for instance during one of the lab days when we're learning how to use the template, I was having problems with InDesign on my lab computer. I guess that would be an example of hindering the learning process. It really didn't hinder it, because I was able to look on with someone else. Some of these things are going to happen in the real world though, and it's better to be exposed to them now and to be able to think critically and think on your feet… I think more of it turns into a learning experience, because it is going to happen in the real world and technology isn't always dependable.*

Student: *There are also times though when things have been communicated, and people haven't completely understood it. I think most of the times when that happens [instructor] was like 'oh this is what we need to do.' I think [instructor] tries to be very understanding in those cases. For example, we were suppose[d] to design an original advertisement, but when we do the advertisement contracts we just have notes from what that advertiser wants. So a lot of students thought we were suppose to use the same ad from last year, but just make these changes. What [instructor] really wanted was a completely original and completely new designing. Many people didn't quite understand that. So the first round of ads came in and there was a little bit of problem there, but I think that [instructor] gave them a couple more days to redo those ads and so that is how that one was resolved.*

Facilitator and Student Feedback

Andreasen (2004) noted that facilitator and student feedback are important components of any capstone course. Feedback "should enhance the students' ability to further integrate and synthesize subject matter content" (p. 14). Rhodes et al. (2012) added that opportunities for feedback occur throughout a good capstone course and proposed that the element of feedback be represented in the outside and inner-workings of Andreasen's model.

Students placed more value in feedback from instructors and professionals in the magazine industry; however, one student did note that feedback from peers added a sense of realism to the course. The student compared this experience to coworkers in the workforce editing each other's work. Two courses required all students to peer edit, while one course only

required students on the leadership staff to edit the work of their peers. Students in all three

courses received feedback from facilitators and professionals in the communications industry.

Students in the three model capstone courses placed a high value on receiving feedback

from credible instructors as well as from other publication production experts. Some students

noted feeling as if their instructors were "obvious experts" when it came to the magazine

production process, which appeared to give the students confidence in their own efforts. This

presence of feedback also contributed to the students' sense that they were receiving a realistic

experience through the course.

> Student: *Another thing is just having all of our work critiqued by professionals. The designs are critiqued both by [instructor] and also by a designer within the department, so we are getting real feedback from people that we might not get in some of our classes.*

Students reported an appreciation for positive reinforcement from instructors. This form

of feedback gave students the confidence to make it through key moments in the process.

> Student: *On my last article I submitted to [the instructor], [the instructor] wrote back saying "it was really nice seeing you grow and change." So it was nice to know that [the instructor] kind of has your back. It's nice that [the instructor] notices you're getting stressed and to pat your shoulder and be like "it's okay, it's almost done. It's okay." You're like, "Ok."*

While instructors clearly made an effort to provide students with feedback, they stopped

short of solving problems for the students. Using problem-based learning approaches, instructors

gave students the freedom to make their own decisions.

> Student: *[The instructor] is very relational during class, but if I was to come to [the instructor] with a problem, I don't think [the instructor] would do anything, which can be frustrating. But, I can also see how it helps cause then you are on your own and you have to figure it out. I think [the instructor] does it on purpose.*

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This study examined three purposively selected magazine capstone courses in an effort to describe characteristics of a successful magazine capstone course and develop a model for instruction. Chapter five notes conclusions drawn from the findings in chapter four and recommendations for practice and research.

RQ1: Based on examination of course syllabi, field observations, and instructor interviews, what were the common characteristics of magazine capstone courses at the selected institution in terms of curriculum, course objectives, and instructional methods?

Important characteristics of the three exemplary magazine capstone courses include the following: (1) student responsibility for the entire magazine production process, (2) high quality standards that were comparable to those expected in industry, (3) interaction with professionals in the publication and printing industry, and (4) the revisiting of previously fragmented knowledge through refresher lessons. Among the many characteristics that the courses had in common, these four emerged as the most prominent in discussions with faculty and students as well as during syllabi analysis and field observations.

Students Having Sole Responsibility

In the three exemplary courses examined, students were solely responsible for the entire publication process from initial conceptualization to printing and distribution. These responsibilities included sales, editing, design & layout, photography, and writing feature stories. These responsibilities allowed students to experience the publication production process from the most realistic perspective. These kinds of concrete experiences are necessary in undergraduate curriculum to allow students to test their perceptions and ideas (Lewin, 1957).

High Standards of Quality

The students in all three exemplary courses were responsible for maintaining high standards of quality – much like in the publication industry. Students were expected to make deadlines and attend class regularly as outlined by each syllabus. Little to no points were awarded for missing deadlines. Students were required to give notice or provide documentation if they were unable to attend class or staff meetings. Requiring students to have real-world responsibilities helps the students achieve a sense of identity and step up their actions to their full potential (Collier, 2000). Additionally, Andreasen (2000) noted that quality capstone courses "should ease the transition between a student's academic experience and career entry" (p. 52). Giving students the opportunity to have real world responsibilities helps students transition into professionals and gain confidence. When students have self-belief they are more apt to perform to their highest level and put their newfound knowledge to practice (Manz & Manz, 1991).

Opportunities for Students to Interact with Professionals

Students were given the opportunity to meet with veteran professionals in the publication production and printing industry. Guest speakers provided discussion based their experiences with students. Students also had the opportunity to meet with staff at local print shops, where they could see the printing process firsthand. Most of the students had little or no exposure to the printing industry. Therefore, their schemas related to this process had not yet been set, these encounters with professionals allowed students to form accurate, concrete perceptions of the publication production and printing processes. This concept of establishing accurate initial schemas through experiential learning is in line with Kolb's (1984) model of experiential learning.

In these magazine capstone courses, students frequently revisited previously fragmented knowledge through refresher lessons. At the beginning of the semester, instructors taught lessons in feature writing, AP Style, layout and design, and photography, allowing students to reconnect with their previously learned skills. In the second half of the courses, students were provided the opportunity to interconnect these skills with the magazine production process. This allowed students better understand how the skills developed in the process of earning their undergraduate degree could be applied to the workforce. Wagenaar (2000) noted that capstone courses should revisit the basics learned in all of the students' courses collectively and give students the opportunity to interconnect them.

RQ2: Did the magazine capstone courses meet students' needs for experiential learning according to Andreasen's (2004) five R's model?

Andreasen (2004) proposed that successful capstone courses embody the characteristics of five R's: receive, relate, reflect, refine, and reconstruct. Students unanimously agreed that they were able experience each of the five R's through their magazine capstone course. According to their comments, the students viewed the courses as a valuable experiential learning experience. In all three courses, students reported that they were able experience each of Andreasen's (2004) five R's, integrate previously fragmented knowledge into a single semester-long project, and move toward achieving expertise in their field of study—agricultural communications.

Receive

Andreason (2004) noted that in order for a capstone course to be successful, "an activity or experience [must be] received by the learner… Regardless of the origin of the experience, the

learner must experience some stimulus or be placed in some learning environment." (p. 56). In these courses, students were given the opportunity create a real publication for their university and were responsible for the magazine from idea to print. Students took a large amount of pride in the fact that their work would be displayed across their campus, distributed to an audience of people who are connected with their university, and posted on the Internet. Knowing their work would be displayed professionally and that the experience they received was "real world" improved students' self-efficacy, supporting Colier's (2000) assertion that a transformation should occur among students in successful magazine capstone courses.

In particular, students perceived deadlines as very realistic, real-world elements of these courses. The fact that students are awarded little to no points for assignments that completed beyond deadlines is much like the magazine industry. This strict policy set forth by instructors of the three exemplary courses allowed students to develop into young professionals, which might ease the transition from college student to professional.

Relate

The second "R" of Andreasen's (2004) model, relate, is intended to allow students to take fragmented disciplinary knowledge and unify it. Being involved with each part of the magazine production allowed students to integrate layout and design, photography, writing, and AP Style skills. This further supports Durel's (1993) belief that capstone courses should occur at the end of a student's college career "with the specific objective of integrating a body of relatively fragmented knowledge into a unified whole" (p. 223).

Reflect

In order to better grasp the concepts learned as a result of problem-based learning experiences, students need active reflection periods (Dunlap, 2005). Students in these exemplary

courses reported reflecting on the magazine production process as a whole at certain times during

the process. One common time of reflection, according to student responses, was after major

deadlines. Also, some believed this reflection period would come after they were able to see the

final product. Instructors reported seeing previous students reflect on the magazine production

process after the course was over and they were able to see the final product. One instructor

reported using theories from service learning courses and held a celebration for students in the

magazine capstone course during finals week. Each semester the instructor takes the staff out to

eat and is usually able to give students a final copy of the magazine they created. At this time

students are able to reflect back on the magazine production process together.

Refine

The purpose of the refinement process is to "cause further contemplation concerning the

applicability of this knowledge and its association to and with other knowledge" (Andreasen,

2004, p. 56). Students in these courses reported using skills gained in outside jobs, internships,

and school related projects. In these experiences, students were able to test their skills and further

understand the lessons taught in class. Some students did not have the opportunity to apply their

skills to outside jobs or projects, but were able to identify skills that were applicable to future

career paths. This capability of understanding the applicability of knowledge is congruent with

Collier's (2000) belief that capstone courses give students the opportunity to move to a higher

level of expertise.

Reconstruct

In the final step of Andreasen's (2004) five R's, reconstruct, students develop a new way

of looking at similar experiences through a new knowledge base or schema. Through these

exemplary courses, students gained a concrete understanding of the magazine production and

printing process. There was evidence that some students developed a clearer realization of the workload and the amount of group effort that goes into the process. As a result, some students came to the realization that they did not want to work for a magazine. Through this reconstruct step, students were able to think back on the magazine production process and use critical thinking to come to their own conclusions about the production process and the magazine industry. As a result, student looked at the magazine production process through a new knowledge base or schema. Lewin (1957) believed it was necessary for students to apply their newly acquired and knowledge and new way of thinking to a new situation, and many of the students indicated that they would soon go on to test their new schemas as professional agricultural communicators.

RQ3: Based on student perceptions, among the exemplary capstone courses, was there evidence of other components of the five R's model, including opportunities for students to participate in teamwork, communications, and critical thinking?

For a capstone course to be successful, students need to be engaged, and the course should employ Andreasen's (2004) capstone components that are in addition to the five R's. Those components include teamwork, communications, and critical thinking. Crunkilton et al. (1997) identified six educational outcomes that are also products of capstone courses – improved problem solving skills, stronger decision-making skills, stronger critical thinking skills, better collaborative/professional relationships, and improved oral and written communications. According to Andreason's model, students also need regular feedback throughout the course to allow for active reflection. Rhodes et al. (2012) noted "part of the realism that exists in capstone courses is that the project itself does not exist in a vacuum, but instead is confounded by

environmental noise" (p. 14). With this observation, authors suggested the inclusion of noise in Andreasen's (2004) model.

In the exemplary magazine capstone courses, students were presented with the opportunity to collaborate to overcome real-world problems and create a professional agricultural magazine. Students developed their critical thinking skills to overcome these real world problems. All decisions regarding the magazine were the sole responsibility of the students. Throughout the course, students were forced to make tough decisions. At two courses, leadership staff members were even faced with the decision of which stories would make it in the final magazine. Allowing students to face real-world decisions gives students the opportunity to improve their critical thinking skills (Telg & Irani, 2005). Students were also responsible for communicating with magazine staff members and professionals to express ideas, gather story information, and sell sponsorship spaces. Students placed high value in developing their oral communications with outside sources when gathering stories and selling sponsorship spaces. Speaking with professionals made students feel more prepared for the workforce. One student noted feeling as if he/she had transitioned from being a college student to a professional on account of the communications opportunities in the magazine capstone course. This further proves the value of communications skills as noted by Crunkilton et al. (1997).

Andreasen (2004) notes that feedback "should enhance the students' ability to further integrate and synthesize subject matter content" (p. 14). Students need feedback from credible instructors and professionals in the industry to help realize strengths and weaknesses. They also need positive reinforcement to build confidence. In personal interviews, one student noted positive reinforcement from the instructor gave him/her the self-belief to make it through difficult moments in the course.

The occurrence of environmental noise in these courses is unavoidable. "Much like the noise that exist in models of human communications, noise can be ubiquitous in the environment of a capstone course" (Rhodes et al., 2012, p. 14). However, students in the exemplary magazine capstone courses were able to gain valuable lessons from problems that occurred throughout the semester. Instructors in the courses used a problem-based approach to handling these situations, but did step in as needed to help guide students in the right direction. The problems that occurred in these courses could have been classified as noise, but the skilled instructors did not allow the noise to hinder the learning process. In fact, the instructors were, in most cases, able to covert would-be noise into teachable moments. The disruptions became valuable lesson for students and added a sense of realism to the course because they were real-world problems.

Recommendations for Practice

The conclusions provide an overall depiction of the characteristics of a quality magazine capstone course. Based on these conclusions, recommendations for practice for agricultural communications instructors can be made. These recommendations can help instructors develop new magazine capstone courses or improve their existing courses. Table 4 highlights the recommendations for practice.

Table 4

Recommendations for practice

Research Question	Recommendation
RQ1: Based on examination of course syllabi, field observations, and instructor interviews, what were the common characteristics of magazine capstone courses at the selected institution in terms of curriculum, course objectives, and instructional methods?	• Students should be given real-world responsibilities. • Guest speakers should be brought in to talk with students • Students should revisit previously fragmented knowledge through refresher lessons.

RQ2: Did the magazine capstone courses meet students' needs for experiential learning according to Andreasen's (2004) five R's model?	• Feature writing and layout and design should be prerequisites of magazine capstone courses. • Instructors should promote and publicize the final product. • Students should be given a final copy of the magazine. • Instructors should provoke students to think about the applicability of skills developed in the course
RQ3: Based on student perceptions, among the exemplary capstone courses, was there evidence of other components of the five R's model, including opportunities for students to participate in teamwork, communications, and critical thinking?	• Instructors should ensure students are working as a team. • Instructors should provide students with positive reinforcements and feedback throughout the course. • Instructors should pay attention to problems as they arise to insure students gain a valuable learning experience.

Research Question One

Instructors should allow students to be responsible for all parts of the magazine production process and use a problem-based approach to instructing the course. "In problem-centered learning environments, students have opportunities to practice applying their content knowledge and workplace skills while working on authentic, contextualized problems and projects" (Dunlap, 2005, p. 65). Holding students accountable for all parts of the process helps students develop a sense of identity as well as prepare for the workforce (Collier, 2000). Regular deadlines should also be worked into the course. These deadlines, as well as students' attendance, should be treated much like they are in the workforce. This kind of exposure to real world pressures gives students the confidence to perform better under those pressures in the

workforce. Manz and Manz (1991) noted that this sense of self-belief in order to perform to their highest ability in the workplace.

Durel (1993) considered a series of guest speakers one of the "rites" of capstone courses. Guest speakers and print shop visits should be scheduled into magazine capstone courses. Allowing students to meet with outside professionals' gives them the opportunity to see the magazine production through a different perspective other than the instructors.

Refresher lessons should be taught at the beginning of the semester in magazine capstone courses. The refreshers represent the previously fragmented knowledge in Andreasen's (2004) model. It simply makes sense to offer these refresher lessons as both (1) reviews of what has already been taught in previous semester and (2) as previews of how the skills will be put into use in the capstone project. Because students are four or five years into their undergraduate experiences, some of their knowledge may be forgotten. Wagenaar (1993) noted that capstone courses should revisit the basics of the discipline. The basics most agricultural communications undergraduate programs include writing and design courses, as well as units or courses in AP Style, layout and design, and photography. Because interviewing and sales are a large part of this course, instructors should also teach lessons on these subjects as well, which may or may not have been taught in previous curriculum.

Research Question Two

Durel (1993) described capstone courses as "a crowning course or experience coming at the end of a sequence of courses with the specific objective of integrating a body of relatively fragmented knowledge into a unified whole" (p. 223). In order for students to meet this specific objective, they must first be exposed to the basics of the discipline. Because writing and design are the largest portions of these courses, students should be required, at a minimum, to take one

course in feature writing and one course in layout and design as a prerequisite to the magazine capstone course. Once students reach the magazine capstone course, they should be presented with the responsibility of integrating their layout and design, photography, writing, and AP Style skills.

Across all three exemplary courses, reported having a sense of pride in the professionalism of their class's work. This pride seemed to be a motivating factor leading to quality work. To foster this pride, instructors should work diligently to publicize and promote the final product to as large an audience as possible through as many dissemination methods as possible, including mail, hand-delivery, and Internet. It is likely that the more popular the publication, the more pride students will take in its production. This recommendation is supported by Manz and Manz's (1991) assertion that students are better prepared for the workforce if they have self-belief.

Dunlap (2005) notes that reflection is needed for students to understand how everything came together. Instructors should ensure that all students are provided a copy of the final magazine. Seeing the final product gives students the opportunity to think back and think about everything that went into the creating the magazine. Two instructor in the study noted having a celebration at the end of the semester giving students the opportunity to reflect back on the process as a group. This type of reflective celebration is recommended and might also help promote the aforementioned pride and self-belief.

Collier (2000) notes the refinement process is necessary to helping students move towards a higher level of expertise. Realizing that not every student has the opportunity to practice skills gained in the magazine capstone course, instructors should provoke students to think about the applicability of these skills. While revisiting skills, the instructor should note

different career paths that these skills can be used in, specific task that students will encounter in that career path, and how these skills can be used to complete the specific task. Once students have refined their knowledge, they are able to move on and reconstruct their knowledge.

Research Question Three

Instructors should ensure that students are collaborating together throughout the magazine production process. "Teamwork is central to an environment where decision making problem solving, and critical thinking can occur, develop, and strengthen" (Rhodes et al., 2012, p. 14). Without proper teamwork, students may not be able to produce a high quality publication and will not be engaged in critical thinking components of the course.

Because students placed high value on facilitator feedback and reinforcement, it is recommended that instructors periodically provide feedback. Reinforcement during key moments should also be given to help students gain self-belief to make it through difficult times. Kolb (1984) notes during the reflection process teachers should assume the role of experts and provide feedback to students. Instructors should also ask other professional in the magazine industry to provide feedback to students on major projects, such as, packaged layouts and feature stories.

Instructors should pay attention as problems arise to insure that students gain a valuable lesson rather than the lesson being obstructed by noise. However, instructors should only interfere in severe situations and assist students with a problem-based approach to insure students gain a valuable lesson. These severe situations can include times when students misinterpret the meaning of a lesson, there is a break in communications with the staff, or productivity towards production of the magazine is in danger or broken. Instructors should also prepare students for problems that might arise during the course. As reported by a student in

personal interviews, one instructor constantly reminded students to have all task, no matter how small, completed well before deadlines. The student soon learned this valuable lesson when he/she tried to finish the assignment just a few minutes before class and the computer froze.

Recommendations for Andreasen's (2004) Model

It is recommended that changes be made to Andreasen's (2004) model to better-fit magazine capstone courses. Changes should be made in the areas of teamwork and communications and the concept of noise should be added to the model.

a. As a team, students will develop and improve critical thinking skills through problem solving and decision making as a team. Because teamwork is central to critical thinking, it is recommended to follow the recommendations of Rhodes et al. (2012) that noted teamwork is central to critical thinking, decision making, and problem solving in the model.

b. "Opportunities for feedback will vary among situations, but any feedback should enhance the students' ability to further integrate and synthesize subject matter content" (Rhodes et al., 2012, p. 14). Because there are many opportunities for feedback throughout the course, it is recommended that feedback be present outside the inner-workings in Andreasen's (2004) model, as suggested by Rhodes et al. (2012) indicating feedback can occur throughout the process.

c. Because a team cannot function without proper communication, the researcher recommends that communications occur throughout the model and occur before teamwork, as suggested by Rhodes et al. (2012).

Recommendations for Further Research

Based on the conclusions and recommendations for practice, the investigator has made the following recommendations for research. Further investigation is needed in the following areas:

1. Capstone courses have served as a tool for providing students with the necessary skills to enter into the workforce (Edgar et al., 2011; Graham, 2001). However, little research has been conducted to see if these courses help students after they have entered into the workforce. It is recommended that a study be conducted to determine if these courses have helped former students who enter into the communications industry. The study should focus on components of the course that helped former students once they entered into the workforce.

2. Students in the exemplary magazine capstone courses reported gaining self-belief after having real world responsibilities. Several authors have concluded that capstone courses give students a sense of self-belief, which prepares students for the workforce (Collier, 2000; Manz & Manz, 1991; Hauhart & Grahe, 2010), but none have been conducted in agricultural communications and focused on the specific attributes to this boost in confidence. It is recommended that a study be conducted to see if there is a relationship between having real world responsibilities in magazine capstone courses and students gaining self-belief. This study should seek to identify specific activities that contribute to students gaining self-confidence.

3. It is recommended that a study be conducted to identify what types of guest speakers and field trips are most beneficial to students in magazine capstone courses. In this study, students noted the importance of meeting with professionals in the magazine production

industry, but did not identify the specific guest speakers and their contribution to the course. Durel (1993) considers guest speakers an important part of capstone courses and believes they should discuss "research studies, policy and program topics, and graduate school and career options" (p. 225). While his recommendation for speakers discussing graduate school and career paths is a valuable note, his other recommendations are focused towards the field of sociology. Therefore, guest speakers specific to magazine capstone courses competencies should be identified.

4. Some students enrolled in the exemplary magazine capstone courses noted they were able to refine and understand the applicability of their skills through outside jobs or internships. However, some students did not have the same opportunity, but were able to see the applicability of their skills to future career paths. It is recommended that a study be conducted to determine if students enrolled in magazine capstone courses that have the opportunity to refine their skills through an outside internship or job gain a better experience than those who do not get a similar opportunity.

5. Some students noted that receiving feedback with positive reinforcement helped them get through difficult times during the course. A study should be conducted identify these key points to insure that students have the confidence needed to make it through the course.

6. This study identified that problems were occurring in the capstone course environments, but they were not hindering students' learning process. A nationwide study focused on noise occurring in capstone courses should be conducted. This study should focus on specific problems that arise in these courses and identify how the problems are overcome or dealt with in a way that converts them to teachable moments.

7. Following the recommendations of Rhodes et al. (2012), it was recommended that changes be made to Andreasen's (2004) model. A nationwide study testing the changes recommended to Andreasen's (2004) model should be conducted. The study should test the model on magazine capstone courses across the nation to determine its value to those who are developing or instructing a magazine capstone course.

REFERENCES

Ary, D., Jacobs, L., & Sorensen, C. (2010). *Introduction to research in education.* Belmont, CA: Wadsworth, Cengage Learning.

Andelt, L. L., Barrett, L. A., & Bosshamer, B.K. (1997). Employer assessment of the skill preparation of students from the college of agricultural sciences and natural resources. *NACTA Journal, 41*(4), 47-48.

Andreasen, R. J., & Wu, C. H. (1999, Summer). Study abroad programs as an experiential, capstone course: A proposed model. *Journal of International Agricultural and Extension Education, 6*(2), 69-78.

Andreasen, R. J. (2004, March). Integrating experiential learning into college of agriculture capstone courses: Implications for practitioners. *NACTA Journal, 48*(1), 52-57.

Association of American Colleges. (1985). *Integrity in the college curriculum: A report to the academic community.* Washington, DC: Association of American Colleges.

Bazely, P. (2007). *Qualitative Data Analysis with NVivo* (2nd ed.). Los Angeles, CA: Sage.

Boone, H. N. (2011, February). Defining experiential learning. *The Agricultural Education Magazine, 83*(4), 2.

Collins, R. J., & Dunne, A. J. (1996, January/February). Utilizing multilevel capstone courses in an integrated agribusiness curriculum. *Agribusiness: An International Journal*, *12*, 105-112.

Collier, P. J. (2000, October). The effects of completing a capstone course on student identity. *Sociology of Education, 73*(4), 285-299.

Crunkilton, J. R., Cepica, M. J., & Fluker, E. L. (1997). Portfolio of capstone courses in colleges of agriculture. (USDA award # 94-38411-016). Washington, DC: U.S. Department of Agriculture.

Dewey, J. (1936). *Experience and Education*. New York, NY: Collier.

Doerfert, D., & Cepica, M. (1991). *The current status of agricultural communications/ journalism programs in the United States universities. Unpublished master's thesis.* University of Wisconsin-River Falls, River Falls.

Dillman, D. (2007). *Mail and Internet Surveys the Tailored Design Method* (2nd ed.). John Wiley & Sons Inc.: Hoboken, NJ.

Dunlap, J. C. (2005). Problem-based learning and self-efficacy: How a capstone course prepares students for a profession. *Education, technology, research, and development, 53*(1), 65-85.

Dunne, A. J., & Collins, R. J. (April 1995). Quality and links with industry: The agribusiness education experience. *Assessment & Evaluation in Higher Education, 20,* 105-14.

Durel, R. J. (1993, July). The capstone course: A rite of passage. *Teaching Sociology, 21*, 223-25.

Edgar, D. W., Edgar, L.D., & Miller, J. D. (2011). Putting it all together! Capstone experiences and projects. *The Agricultural Education Magazine, 83*(4), 21-22.

Evern, B. (1987, December). Reforming curricula – Challenges and changes for agricultural economists. *American Journal of Agricultural Economics, 69*, 1037-1042.

Fulton, J. (1998). Bringing industry into an undergraduate agribusiness course. *The International Food and Agribusiness Management Review*, *1*(4), 465-475.

Graham, D. L. (2001). Are we preparing society ready graduates. *28th Annual National Agricultural Education Research Conference,* 269-281. Retrieved from American Association for Agricultural Education website: http://aaae.okstate.edu/proceedings/2001/grahamd.pdf

Groccia, J. E. (n.d.). Understanding and using student evaluations to improve your teaching. Retrieved from Biggo center for the Enhancement of Teaching and Learning website: http://www.auburn.edu/academic/other/biggio/resources_2/studentevaluations.pdf

Hall, K., Rhoades, E., & Agunga, R. (2009). Student publications' place in agricultural communication curriculum. *Journal of Applied Communications, 93*(1&2), 35-44.

Hauhart, R. C., & Grahe, J. E. (2010). The undergraduate capstone course in the social sciences: Results from a regional survey. *Teaching Sociology, 38*(1), 4-17.

Johnson, M. (1987). *The body in the mind: The bodily basis of meaning, imagination, and reason.* Chicago: University of Chicago Press.

Kant, I. (1929). *Comprehension: A paradigm for cognition.* New York: St. Martin's Press. (Original work published in 1781)

Kerr, W. J., Davenport, E., Bryan, E. A., & Thompson, W. O. (1931). The spirit of the land grant institution. Retrieved from the Asociation of Public and Land Grant Institutions website: http://www.aplu.org/NetCommunity/Documents.Doc?id=2395

Klein, M. L. (1990). Southern California food and agricultural firms. *NACTA Journal*, *34*(2), 30-34.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development.* Upper Saddle River, NJ: Prentice Hall.

Lewin, K. (1957). Action research and minority problems. Lewin, G. W. & Allport, G. (eds). *Resolving social conflicts.* New York: Harper & Brothers, 201-216.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Newbury Park, CA: Sage Publications, Inc.

Manz, C., & Manz, K. (1991). Strategies for facilitating self-directed learning: A process for enhancing human resource development. *Human Resource Development Quarterly, 2*(1), 3-12.

McVee, M. B., Dunsmore, K., & Gavelek, J. R. (2005). *Schema theory revisited.* Review of Educational Research. *75*(4), 531-565.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Francisco, CA: Jossey-Bass.

Nilsson, T., & Fulton, J. (2002, May). *The capstone experience course in agricultural curriculum.* Paper presented at the annual meeting of the American Agricultural Economics Association (now the Agricultural and Applied Economics Association), Long Beach, CA. Retrieved from http://ageconsearch.umn.edu/bitstream/19582/1/sp02ni01.pdf

Osborne, E. W. (Ed.) (2007). *National research agenda: Agricultural education and communication, 2007-2010.* Gainesville: University of Florida, Department of Agricultural Education and Communication.

Parr, D. M., & Trexler, C. J. (2011). Students' experiential learning and use of student farms in sustainable agriculture education. *Journal of Natural Resources and Life Sciences Education, 40*, 175-180.

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage Publications.

Piaget, J. (1952). *The origins of intelligence in children.* New York: Basic Books.

Phipps, L. J., Osborne, E. W., Dyer, J. E., & Ball, A. (2008). *Handbook on agricultural education in public schools* (6th ed.). Clifton Park, NY: Thomason Delmar Learning.

Rhodes, T. N., Miller, J. D., & Edgar, L. D. (2012). Evaluating capstone courses: Employing the five R's model to analyze an agricultural communications magazine class. *NACTA Journal, 56*(1), 8-16.

Rudd, R., Baker, M., & Hoover, T. (2000). Undergraduate agriculture student learning styles and critical thinking abilities: Is there a relationship? *Journal of Agricultural Education, 36*(4), 54-63.

Sitton, P.S. (2001). "Capstone Experience: The key to a successful agricultural communications program." *Journal of Southern Agricultural Education Research*, *51*,1-3. Retrieved from the Journal of Southern Agricultural Education Research website: http://pubs.aged.tamu.edu/jsaer/pdf/Vol51/P17.PDF

Stanford University Center for Teaching and Learning. (1997). Using student evaluations to improve teaching. *Speaking of Teaching, 9*(1), 1-4.

Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research: Grounded Theory, Procedures and Techniques*. Newbury Park, CA: Sage.

Telg, R., & Irani, T. (2005). Integrating critical thinking into agricultural communications curricula. *Journal of Applied Communications, 89*(3), 13-21.

Troyer, R. L. (1993). Comments on the capstone course. *Teaching Sociology, 21*(3), 246-49.

United States Department of Agriculture National Institute of Food and Agriculture. (2010). *Employment opportunities for college graduates in food, renewable energy, and the environment.* (USDA award #2007-38837-18626). Retrieved from USDA website: http://www.abe.psu.edu/USDA_Employ_Op_2010_8_LREZ.pdf

Wagenaar, T. C. (1993). The capstone course. *Teaching Sociology, 21*(3), 209-214.

Weckman, R., Witham, D., & Telg, R. (2000). Southern agricultural communications undergraduate programs: a survey. *Journal of Applied Communications, 84*(4), 41-50.

Westgren, R. E., & Litzenberg, K. K. (July 1989). Designing agribusiness capstone courses: Overt and covert teaching strategies. *Agribusiness*, *5*(4), 361-366.

Wimmer, R. D., & Dominick, J. R. (2003). *Mass media research: An introduction.* (7th ed.). Belmont, CA: Wadsworth/Thomason Learning.

Zigler, R. L. (2001). John Dewey, eros, ideals, and collateral learning: Toward a descriptive model of the exemplary teacher. *Philosophy of Education,* 276-284.

APPENDIX A

IRB APPROVAL LETTER

UNIVERSITY OF
ARKANSAS

Office of Research Compliance
Institutional Review Board

November 3, 2011

MEMORANDUM

TO: Traci Rhodes
                         Jefferson Miller
                         Leslie Edgar

FROM: Ro Windwalker
                         IRB Coordinator

RE: New Protocol Approval

IRB Protocol #:   11-10-202

Protocol Title: *Characteristics of Quality Magazine Capstone Courses in*
                         Selected Agricultural Communications Programs Based on
                         Instructors' and Students' Perceptions and the Five R's Model

Review Type: ☑ EXEMPT   ☐ EXPEDITED   ☐ FULL IRB

Approved Project Period: Start Date: 11/02/2011 Expiration Date: 11/01/2012

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of
one year. If you wish to continue the project past the approved project period (see above), you
must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the
expiration date. This form is available from the IRB Coordinator or on the Research Compliance
website (http://vpred.uark.edu/210.php). As a courtesy, you will be sent a reminder two months
in advance of that date. However, failure to receive a reminder does not negate your obligation
to make the request in sufficient time for review and approval. Federal regulations prohibit
retroactive approval of continuation. Failure to receive approval to continue the project prior to
the expiration date will result in Termination of the protocol approval. The IRB Coordinator can
give you guidance on submission times.

This protocol has been approved for 73 participants. If you wish to make any modifications
in the approved protocol, including enrolling more than this number, you must seek approval
prior to implementing those changes. All modifications should be requested in writing (email is
acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210
Administration Building, 5-2208, or irb@uark.edu.

210 Administration Building • 1 University of Arkansas • Fayetteville, AR 72701
Voice (479) 575-2208 • Fax (479) 575-3846 • Email irb@uark.edu

81

EMAIL TO INSTRUCTORS OF EXEMPLARY COURSES

Dear Ag Communications Faculty,

My name is Traci Rhodes, and I am an agricultural communications graduate student at the University of Arkansas. I am making plans to conduct a nation-wide qualitative/mixed methods thesis study on exemplary magazine capstone courses with the assistance of Dr. Jeff Miller, and I would like to evaluate each of your courses if you are willing to participate.

The purpose of this study is to examine exemplary courses and describe students' perceptions of the courses in an effort to determine the characteristics of a successful magazine capstone course and develop a model for instruction. Subjects were selected in the spring 2011 semester based on the following criteria: programs have an active ACT chapter; magazine courses were offered more than 25 times every fall/spring semester; students and/or faculty have received national awards associated with the course or publications created in the course.

Dr. Miller and I would like to visit your class for one or two days and collect data. Our target for data collection is the first week in November. Data collection will consist of each student filling out a descriptive questionnaire with 6 open ended and 6 Likert-type questions. We will ask each of the instructors of the course as well as four purposively selected students to participate in a brief personal interview.

Please let us know if you can participate in this study. We will contact you individually to schedule a specific day that fits your schedule. I look forward to hearing back from each of you.

Sincerely,
Traci Rhodes
Graduate Teaching Assistant
University of Arkansas

APPENDIX C

PILOT QUESTIONNAIRE

1. Introduction

The purpose of this study is to examine magazine capstone courses and describe students' and instructors' perceptions of the course. Researchers intend to describe the characteristics of a successful magazine capstone course and develop a model for instruction. You will be involved in a descriptive survey, which consist of 6 open-response questions, 6 scaled opinion questions, and 5 demographic questions. Thank you in advance for completing this survey!

1. Briefly describe the capstone experience you received and discuss in detail how realistic you think the experience was in relation to a similar project in industry (i.e., "the real world").

2. Discuss whether or not the course allowed you to use a variety of skills that you had never used together on the same project. If it did, discuss the positive and/or negative value of the experience.

3. Discuss if and when there were times near the end of the class (or after the class was over) when the overall process of producing a magazine became more clear to you? Describe the situation(s) that led to a better overall understanding of the magazine production process.

4. Discuss if and when you have used any of your magazine production skills since the course was over.

5. Discuss if and how your perceptions of the magazine production process changed from the beginning of the course to the end.

6. Discuss whether you developed or improved upon your professional skills in this course and describe the activities that most contributed to your development or improvement.

APPENDIX D

QUESTIONNAIRE

1. Informed Consent

Title: Characteristics of Quality Magazine Capstone Courses in Selected Agricultural Communications Programs Based on Students' and Instructors' Perceptions and the Five R's Model

Description: The purpose of this study is to examine magazine capstone courses and describe students' and instructors' perceptions of the course in an effort to describe the characteristics of a successful magazine capstone course and develop a model for instruction. You will be involved in a descriptive survey, which will consist of 6 open-response, 6 scaled, and 5 descriptive questions . You may also be asked to conduct a personal interview to gain a more indepth understanding of the course.

Risk and Benefits: The benefits of this study include a better understanding of magazine capstone courses and development of a framework for instructors/professors to follow when teaching these courses. There are no anticipated risks associated with this study. Only investigators of the study will have access to the data, and they will protect the confidentiality of your responses. Additionally, your course instructors will not have access to the data, and therefore, there is no connection between your responses and your grade in the course.

Statement of Confidentially: Surveys will be administered electronically through Survey Monkey to insure complete confidentiality. Survey Monkey will automatically assign you a code number and names will never be referenced. Investigators will be the only ones to know the names of those ask to participate in personal interviews. Names will be held in the strictest of confidence. Results from the study will not be disclosed until May 2012 and will be reported anonymously.

Voluntary Participation: Participation in this study is completely voluntary and there are no payments for participating.

Right to Withdraw: You reserve the right to refuse participation in the study and to withdraw at any time. Your decision to refuse participation or withdraw from the study will bring no negative consequences toward you or your grade in the associated course.

Questions Regarding the Study: If you have any questions about this study, you may ask the researchers, whose e-mail addresses are at the top. If you have any questions about your rights as a participant in this research or the way this study has been conducted, you may contact Ro Windwalker in the University of Arkansas Office of Research and Sponsored Programs at 479.575.3845 or via e-mail at irb@uark.edu.

Investigators:

Traci N. Rhodes, Graduate Student
University of Arkansas
College of Agriculture
Department of Agricultural and Extension
Education
205 Agriculture Building
Fayetteville, AR 72701
tnrhodes@uark.edu

Jefferson D. Miller, Advisor
University of Arkansas
College of Agriculture
Department of Agricultural and Extension
Education
205 Agriculture Building
Fayetteville, AR 72701
jdmiller@uark.edu

Informed consent: I have read all components of this letter, and the investigator has explained each of these items to me and clarified any questions I had about the study. Clicking yes below indicates that I freely agree to participate in this study.
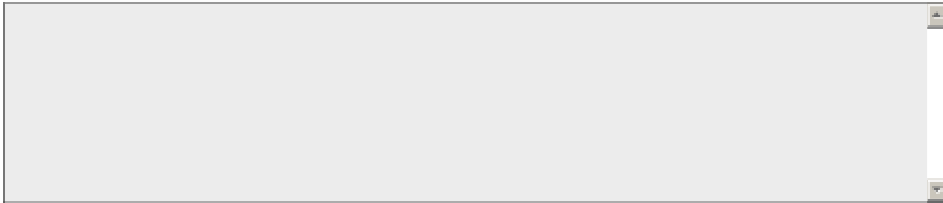
1. Are you willing to participate in this study?
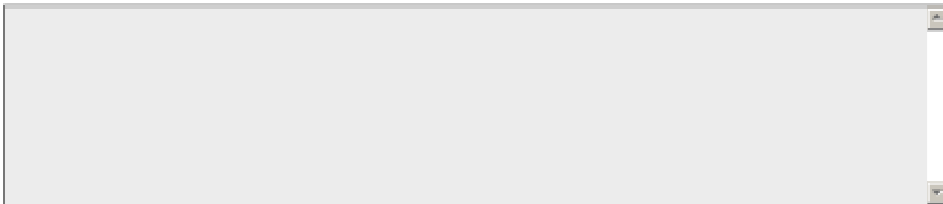
○ Yes

○ No

2. Open-response Questions

The purpose of this study is to examine magazine capstone courses and describe students' and instructors' perceptions of the course. Researchers intend to describe the characteristics of a successful magazine capstone course and develop a model for instruction. You will be involved in a descriptive survey, which consist of 6 open-response questions, 6 scaled opinion questions, and 5 demographic questions. Thank you in advance for completing this survey!
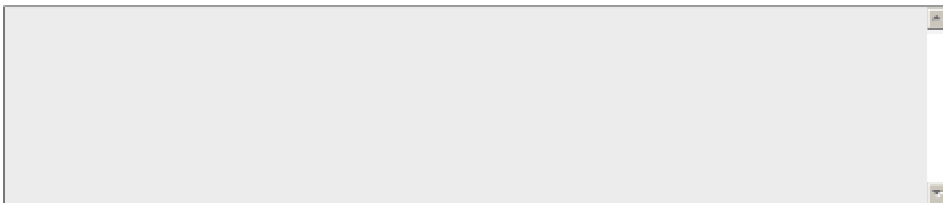
1. Briefly describe the capstone experience you received and discuss in detail how realistic you think the experience was in relation to a similar project in industry (i.e., "the real world").
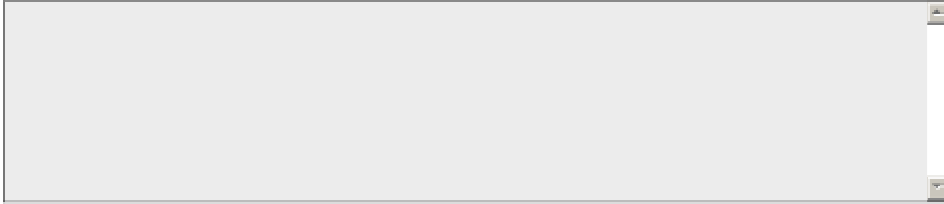
2. Discuss whether or not the course allowed you to use a variety of skills that you had never used together on the same project. If it did, discuss the positive and/or negative value of the experience.
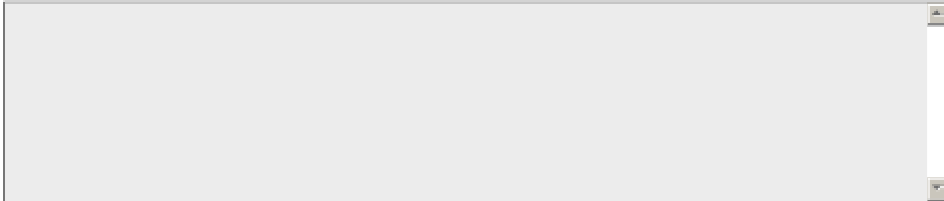
3. Discuss if and when there were times near the end of the class (or after the class was over) when the overall process of producing a magazine became more clear to you? Describe the situation(s) that led to a better overall understanding of the magazine production process.

4. Discuss if and when you have used any of your magazine production skills developed in the course on outside projects or jobs.

5. Discuss if and how your perceptions of the magazine production process changed from the beginning of the course to the end.

6. Discuss whether you developed or improved upon your professional skills in this course and describe the activities that most contributed to your development or improvement.

3. Scaled Opinion Questions

1. Based on your experience in the magazine course, please rate the following statements on a 5-point scale with 1 being strongly disagree and 5 being strongly agree.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I received an experience that was similar to a real-life experience or that actually was real-life.	○	○	○	○	○
I was able to understand and process the problem through previously learned knowledge.	○	○	○	○	○
I understood what was learned and how it "all came together."	○	○	○	○	○
I was able to refine what was learned and move to a higher level of expertise.	○	○	○	○	○
I have acquired a new way of looking at similar problems through a new knowledge base or schema.	○	○	○	○	○
I was able to develop or improve upon my professional skills.	○	○	○	○	○

4. Demographic Questions

1. What university do you attend?

- ○ Kansas State University
- ○ Oklahoma State University
- ○ Texas Tech University

2. Gender

- ○ Female
- ○ Male

3. What is your age?

[   ]

4. What is your classification?

- ○ Freshman
- ○ Sophmore
- ○ Junior
- ○ Senior
- ○ Graduate Student

5. How many agricultural communications, communications, and/or journalism courses have you completed (include courses in which you are currently enrolled)?

[   ]

5.

Thank you for your participation in this survey!

APPENDIX E

INTERVIEW ROUTES

Student Interview Route
1. Tell me about one element of this course that made it most realistic for you?
2. What previously learned skills did you apply to this course?
3. When, in the course, were you able to reflect back and understand what was learned and how it came together?
4. Discuss a couple of instances when you were able to use your magazine production skills developed in the course in outside projects or jobs.
5. Did this course make you look at the magazine production process in a new light? If so, how did your perceptions change from beginning to end?
6. Did this course allow you to develop or improve upon your professional skills? If so, describe one activity that contributed to your development or improvement the most.
7. Where there ever any problems that occurred in the course that hindered the learning experience? If so, describe these situations.

Instructor Interview Route
1. Tell me about some of the elements in your course that made it most realistic for the students?
2. What previously learned skills were your students able to apply to your course?
3. When, your course, were the students able to reflect back and understand what was learned and how it came together?
4. Discuss instances when your students were able to use their magazine production skills developed in your course in outside projects or jobs.
5. Did this course make your students look at the magazine production process in a new light? If so, what perception changes did you notice from your students from beginning to end?
6. Did this course allow your students to develop or improve upon their professional skills? If so, describe activities you felt helped contribute most to the development or improvement of these skills.

APPENDIX F

NODE SUMMARY AND TAXONOMY CHART

Node Summary
Capstone Course Project--Traci Rhodes
7/12/2012 11:52 AM

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded
Node					
Nodes\\Instructors' Five R's					
Nickname:					
Classification:					
Aggregated: No					
	0	0			
Nodes\\Instructors' Five R's\Receive - Instructors					
Nickname:					
Classification:					
Aggregated: No					
Document	1	5	1029	5	
Nodes\\Instructors' Five R's\Reconstruct - Instructor					
Nickname:					
Classification:					
Aggregated: No					
Document	1	5	685	5	
Nodes\\Instructors' Five R's\Refine - Instructors					
Nickname:					
Classification:					
Aggregated: No					
Document	1	4	617	4	

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded
Nodes\\Instructors' Five R's\Reflect - Instructors					
Nickname:					
Classification:					
Aggregated: No					
Document	1	4	799	4	
Nodes\\Instructors' Five R's\Relate - Instructors					
Nickname:					
Classification:					
Aggregated: No					
Document	1	6	1,164	6	
Nodes\\Other Capstone Model Components (RQ3)					
Nickname:					
Classification:					
Aggregated: No					
	0	0			
Nodes\\Other Capstone Model Components (RQ3)\Facilitator Feedback					
Nickname:					
Classification:					
Aggregated: No					
Dataset	1	1	41	1	
Document	4	8	952	9	
Nodes\\Other Capstone Model Components (RQ3)\Facilitator Feedback\Instructor credibility and experience					
Nickname:					
Classification:					
Aggregated: No					
Dataset	1	1	41	1	
Document	2	3	95	3	

93

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded

Nodes\\Other Capstone Model Components (RQ3)\Noise

Nickname:

Classification:

Aggregated: No

| Document | 6 | 20 | 2,419 | 50 | |

Nodes\\Other Capstone Model Components (RQ3)\Noise\Overcoming Noise

Nickname:

Classification:

Aggregated: No

| Document | 10 | 15 | 1,895 | 22 | |

Nodes\\Other Capstone Model Components (RQ3)\Noteworthy characteristics

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 3 | 775 | 6 | |
| Document | 6 | 7 | 1,057 | 6 | |

Nodes\\Other Capstone Model Components (RQ3)\Noteworthy characteristics\Leadership Positions Offered in the Course

Nickname:

Classification:

Aggregated: No

| Document | 6 | 9 | 801 | 9 | |

Nodes\\Other Capstone Model Components (RQ3)\Noteworthy characteristics\Refresher course

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 3 | 176 | 3 | |
| Document | 2 | 3 | 44 | 2 | |

94

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded

Nodes\\Other Capstone Model Components (RQ3)\Required Capstone Components (Professional Development)

Nickname:

Classification:

Aggregated: No

Document	10	19	929	17	

Nodes\\Other Capstone Model Components (RQ3)\Required Capstone Components (Professional Development)\Communication

Nickname:

Classification:

Aggregated: No

Dataset	1	4	194	6	
Document	7	8	537	8	

Nodes\\Other Capstone Model Components (RQ3)\Required Capstone Components (Professional Development)\critical thinking

Nickname:

Classification:

Aggregated: No

Document	1	2	264	2	

Nodes\\Other Capstone Model Components (RQ3)\Required Capstone Components (Professional Development)\critical thinking\decision-making skills

Nickname:

Classification:

Aggregated: No

Dataset	1	4	295	4	
Document	2	2	116	2	

95

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded

Nodes\\Other Capstone Model Components (RQ3)\Required Capstone Components (Professional Development)\critical thinking\Problem Solving

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 2 | 122 | 2 | |

Nodes\\Other Capstone Model Components (RQ3)\Required Capstone Components (Professional Development)\Teamwork

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 9 | 447 | 9 | |
| Document | 4 | 7 | 567 | 6 | |

Nodes\\Students' Five R's

Nickname:

Classification:

Aggregated: No

| | 0 | 0 | | | |

Nodes\\Students' Five R's\Receive

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 2 | 122 | 2 | |
| Document | 9 | 16 | 640 | 18 | |

Nodes\\Students' Five R's\Receive\Contacting Clients & Interviewing

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 11 | 926 | 11 | |
| Document | 5 | 7 | 437 | 7 | |

96

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded

Nodes\\Students' Five R's\Receive\Deadlines

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 14 | 557 | 14 | |
| Document | 4 | 4 | 119 | 4 | |

Nodes\\Students' Five R's\Receive\Pride in school publication

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 5 | 299 | 5 | |
| Document | 5 | 6 | 428 | 5 | |

Nodes\\Students' Five R's\Reconstruct

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 4 | 147 | 4 | |
| Document | 16 | 16 | 1,407 | 17 | |

Nodes\\Students' Five R's\Reconstruct\don't want to work for a magazine

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 7 | 249 | 7 | |

Nodes\\Students' Five R's\Reconstruct\group effort

Nickname:

Classification:

Aggregated: No

| Dataset | 1 | 5 | 223 | 5 | |
| Document | 2 | 4 | 94 | 4 | |

97

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded
Nodes\\Students' Five R's\Reconstruct\lot of work involved					

Nickname:

Classification:

Aggregated: No

Dataset	1	5	592	9	
Document	1	1	166	1	

Nodes\\Students' Five R's\Reconstruct\lot of work involved\detail and planning

Nickname:

Classification:

Aggregated: No

Dataset	1	3	197	3	
Document	2	4	413	4	

Nodes\\Students' Five R's\Reconstruct\printing

Nickname:

Classification:

Aggregated: No

Dataset	1	5	241	5	
Document	2	4	494	4	

Nodes\\Students' Five R's\Refine

Nickname:

Classification:

Aggregated: No

Dataset	1	1	19	1	
Document	9	13	1,446	14	

Nodes\\Students' Five R's\Refine\Outside Jobs

Nickname:

Classification:

Aggregated: No

Dataset	1	7	203	7	
Document	5	6	355	5	

98

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded

Nodes\\Students' Five R's\Refine\Plans to use skills in the future

Nickname:

Classification:

Aggregated: **No**

Dataset	1	6	190	6	
Document	2	5	751	5	

Nodes\\Students' Five R's\Refine\School Projects

Nickname:

Classification:

Aggregated: **No**

Dataset	1	7	115	7	
Document	1	1	71	1	

Nodes\\Students' Five R's\Refine\Using skills in current internship

Nickname:

Classification:

Aggregated: **No**

Dataset	1	5	190	5	
Document	2	2	496	2	

Nodes\\Students' Five R's\Reflect

Nickname:

Classification:

Aggregated: **No**

Dataset	1	4	174	4	
Document	9	14	895	15	

Nodes\\Students' Five R's\Reflect\Putting final project together

Nickname:

Classification:

Aggregated: **No**

Dataset	1	9	496	9	
Document	6	6	451	6	

99

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded

Nodes\\Students' Five R's\Reflect\Reflect at deadlines

Nickname:

Classification:

Aggregated: **No**

Dataset	1	7	590	7	
Document	2	3	115	3	

Nodes\\Students' Five R's\Reflect\Reflect at deadlines\producing layout

Nickname:

Classification:

Aggregated: **No**

Dataset	1	6	417	6	

Nodes\\Students' Five R's\Relate

Nickname:

Classification:

Aggregated: **No**

Dataset	1	4	226	4	
Document	16	22	894	22	

Nodes\\Students' Five R's\Relate\AP Style course

Nickname:

Classification:

Aggregated: **No**

Dataset	1	4	225	4	
Document	2	2	131	2	

Nodes\\Students' Five R's\Relate\Design Course

Nickname:

Classification:

Aggregated: **No**

Dataset	1	23	1,335	23	
Document	9	9	547	9	

100

Source Type	Number of Sources	Number of Coding References	Number of Words Coded	Number of Paragraphs Coded	Duration Coded
Nodes\\Students' Five R's\Relate\Photography					
Nickname:					
Classification:					
Aggregated: No					
Dataset	1	12	565	12	
Document	5	6	197	6	
Nodes\\Students' Five R's\Relate\Writing course					
Nickname:					
Classification:					
Aggregated: No					
Dataset	1	19	1,109	19	
Document	11	11	520	11	

101

Nodes compared by number of coding references