

Finding the Five R's in Exemplary Agricultural Publication Capstone Courses

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Keywords

Agricultural communications, capstone courses, curriculum development, experiential learning

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Finding the Five R's in Exemplary Agricultural Publication Capstone Courses

Traci Rushing, Jefferson D. Miller, Leslie D. Edgar, and Casandra Cox

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This study sought to characterize three exemplary agricultural communications magazine capstone courses at three different universities. The purpose of the research was to describe the characteristics leading to the courses' success. Following a qualitative research approach, the investigator conducted personal interviews with students and instructors in each course, made field observations, and examined syllabi. The interviews were crafted after Andreassen's (2004) Five R's model for quality capstone courses. Important characteristics of the three exemplary magazine capstone courses included (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. Further, because capstone courses often serve as a rigorous "rite of passage" for agricultural communications students as they transition to their professional careers, students need positive reinforcement to make it through key moments in the course. These moments of positive reinforcement helped students gain confidence in their skills as professionals. The researchers concluded that providing students with a real-world experience and positive reinforcement was essential to the success of 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 their careers. Recommendations for practice include integrating these characteristics into new and existing magazine capstone courses. In addition to these practical recommendations, the results also lead to the recommendation of modifications to Andreassen's (2004) Five R's model with changes focusing on noise and feedback.

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Introduction

As communicating with the public about issues related to agriculture, food, and the environment becomes more important for the agricultural industry, so does academe's ability to provide society-ready graduates who have advanced communications skills (Andelt, Barrett, & Bosshammer, 1997; Graham, 2001; Klein, 1990). Between 2011 and 2015 in the U.S. agriculture industry, the number of public relations specialists is predicted increase by 24.0%, technical writers by 18.2%, market research analysts by 28.1%, and sales managers by 14.9%. In 2010, more than 6,200 job openings were available in education, communications, and government operations related to agriculture (USDA-NIFA, 2010). In addressing this nationwide need, curriculum experts in agricultural education and

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communications have identified build[ing] a “sufficient scientific and professional workforce that addresses the challenges of the 21st Century” and developing “meaningful, engaged learning in all environments” (Doefert, 2011, p. 9) as priority areas for the discipline. With these priorities in mind, faculty members across the United States continue to develop and refine their courses that take an experiential approach to learning.

Historically, agricultural communications faculty have embraced the experiential learning approach, which is the cornerstone of the land-grant institution and agricultural education (Kerr, Davenport, Bryant, & Thompson, 1931; Kolb, 1984; Parr & Trexler, 2011). Over the past two decades, several very successful courses at institutions across the country have been developed to provide agricultural communications students with the skills they need to compete for jobs in their field (Hall, Rhoades, & Agunga, 2009; Sitton, 2001).

One experiential teaching method — the capstone course — is essential to fulfilling students’ experiential learning needs in an agricultural communications program (Edgar, Edgar, & Miller, 2011; Hall, Rhoades, & Agunga, 2009; Sitton, 2001). By definition, a successful capstone course is “a planned learning experience requiring students to synthesize previously learned subject matter and to integrate new information into their knowledge base for solving simulated or real world problems” (Crunkilton, Cepica, & Fluker, 1997, as cited in Andreasen, 2004, p. 53). “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). Requiring students to have real-world experiences and responsibilities like this helps the students achieve a sense of identity and step up their actions to their full potential (Collier, 2000). Such experiences help them transition into their roles as 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). Noting these types of benefits, Sitton (2001) recommended core curriculum in agricultural communications should include at least one capstone experience.

Andreasen’s Five R’s of Capstone Courses

Andreasen (2004) proposed that successful capstone courses should incorporate the Five R’s — receive, relate, reflect, refine, and reconstruct. Andreasen’s research found each of these components to be necessary for a capstone course to be professionally beneficial. The corresponding model was called the Model for the Integration of Experiential Learning into Capstone Courses (MMIELCC), also known as the Five R’s model. 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). According to the model, students must **receive** an activity or experience that is either contrived by the instructor or has occurred spontaneously. The contrived experience is concrete in nature, allowing students to easily test their own ideas (Lewin, 1957), while the spontaneous experience may involve a less well-defined problem, which would encourage students’ use of problem-solving and critical thinking skills (Ball & Knobloch, 2004). Learners must be able to **relate** their previously fragmented knowledge to the received activity or experience. Students should then be able to **reflect** upon what has been received and related in the experience for further understanding. Learners should then be able to **refine** the knowledge received and move toward a higher level of expertise. Lastly, a new knowledge base, or schema, should be **reconstructed** by the learner. Rhodes, Miller, and Edgar (2012) recommended further refinement of the Five R’s model, suggesting the inclusion of the concept of noise and refinement of the concepts of feedback, communications, team-

work, critical thinking, problem solving, and decision-making (see Figure 1).

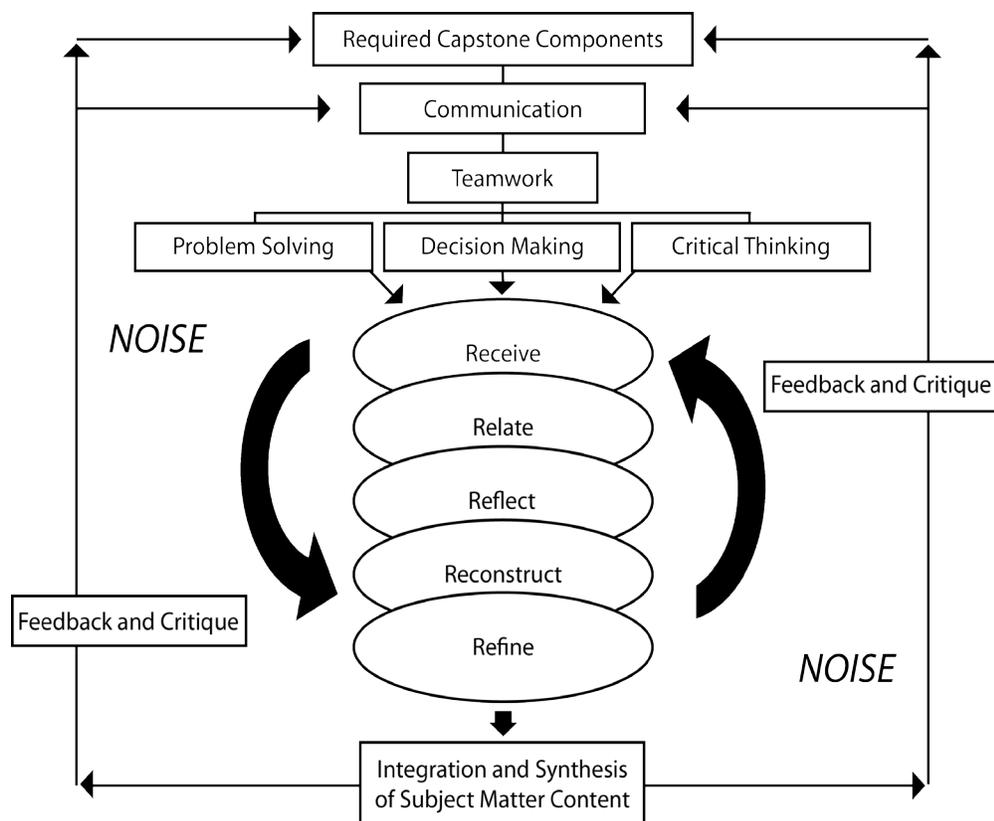


Figure 1. Rhodes, Miller, and Edgar's (2012) Modified model for integration of experimental learning into capstone courses (MMIELCC).

Teamwork, in particular, is an important skill for students in many disciplines to learn. In publication production, for example, the production process normally involves writers, editors, photographers, designers, and advertising sales representatives. For students, an understanding of resource interdependence in the group — the skills and knowledge each team member brings to the group, thereby strengthening the group's ability to complete a successful project — is key (Colbeck, Campbell, & Bjorklund, 2000).

Critical thinking and the closely related concepts of problem-solving and decision-making are also key components in Rhodes, Edgar, and Miller's (2012) model. As defined by Rudd, Baker, and Hoover (2000), critical thinking is "a reasoned, purposive, and introspective approach to solving problems" (p. 5).

Purpose of the Study and Research Question

Research on this popular approach to experiential learning might be beneficial to university-level agricultural communications faculty in at least two ways: (1) a research-based characterization of quality magazine capstone courses could guide the development of similar courses in new and developing programs; and (2) the research could guide the improvement of magazine courses that have existed for a long time — including those already known to be excellent courses. Both assertions are supported by Hall, Rhoades, and Agunga (2009). Therefore, the purpose of this study was to examine magazine capstone courses and describe students' and instructors' perceptions of the courses in an effort to work toward developing a prototypical magazine capstone course that will serve as a model

for instruction. To accomplish this purpose, this research was guided by the following question:

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

Methods

The methodology of this project included a descriptive, open-ended, online questionnaire and semi-structured interviews that followed the qualitative paradigm of investigation as described by Merriam (2009) and Lincoln and Guba (1985).

Subject Selection

Thirty-eight academic faculty from 25 U.S. colleges and universities with an active Agricultural Communicators of Tomorrow (ACT) student organization chapter were e-mailed in September 2011 and were asked if a magazine capstone course was offered in their curricula. As a result of this initial data collection effort, three agricultural communications programs offering an exemplary magazine capstone course were selected for further observation based on the following criteria: (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. Once the programs were identified, using the networking or “snowballing” technique described by Patton (1990), the researchers asked the magazine class instructors to identify two students who played an editorial leadership role in the course. The two students, in turn, were asked to identify two undergraduate students who had a “typical experience” in the course. In all, three faculty, one graduate student, and 12 undergraduate students were interviewed.

Data Collection and Analysis

The data collection was completed on three university campuses during the first three weeks of November 2011. The survey and questioning-route questions were developed around Andreasen’s (2004) Five R’s model, with the intention of framing the findings within the existing paradigm, which is well-documented in agricultural education literature. To add depth and to triangulate findings, the contents of the syllabi were analyzed as were the field notes taken by one researcher at each of the site visits. Researchers examined the data using a constant-comparative analysis as described by Wimmer and Dominick (2003), employing Nvivo 9 software to coordinate their analysis. Two coders employed open and axial coding techniques (Strauss & Corbin, 1998) on the questionnaire responses, interview transcripts, field notes, and course syllabi. Emergent themes were organized in in the form of nodes and sub-nodes (or themes and sub-themes), and a hierarchical structure of these nodes supported by excerpts from the data became the findings of this study. In this article, excerpts from the interview transcripts and questionnaire responses that typify the sentiments of the students are included to help characterize and substantiate the results.

Findings and Discussion

Overview of Exemplary Courses

The agricultural communications program at University 1 prided itself on offering its first magazine capstone course in 1921 and winning its first national award for its magazine in 1953 from “Successful Farming.” Over the past 20 years, the 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 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 was taught in a lecture-style classroom, but students also had access to a computer lab 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.

University 2 had offered a magazine capstone course 26 times. The course was offered every semester, and the program had won numerous national awards for its magazine, which was produced by students in the capstone course. The course was taught by a tenured professor. Students in the course were required to purchase an AP Stylebook. 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 and a conference table set up in the center of the room for staff meetings.

University 3 had offered a magazine capstone course more than 50 times since 1981. The program has won numerous awards for its magazine. The course was offered every semester and was taught by a tenured professor, who was assisted by a master's-level graduate assistant. 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 software. 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.

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. Of the students enrolled in these courses, 90.9% of the students were female and 95.5% were seniors. On average, students were previously and/or currently enrolled in 10 communications-related courses before taking the magazine capstone course. Each course had one instructor, and one of the courses had a second-year teaching assistant. All three instructors were veteran faculty members, two of whom held the academic rank of professor. The other was a part-time instructor who was a communications coordinator for an agriculture-related institute at the university.

Syllabus Characteristics

Several thematic characteristics were apparent in all three course syllabi. The fact that the characteristics were evident in all three exemplary courses is undoubtedly meaningful in a qualitative sense. The syllabi had similarities in three categories: curriculum, course objectives, and instructional methods and techniques, all of which are summarized in Table 1 (presented on next page).

Characteristics Relating Directly to the Five R's

Receive

The first question in both the surveys and the interviews related to the first of the Five R's, which is *receive*. Students reported several key course characteristics that made the course more realistic: contacting outside sources, having deadlines, and 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 appeared to place a high priority on experiences in which they interacted face-to-face with the subjects they interviewed for stories as well as with businesspeople to whom they sold sponsorship spaces.

Table 1
 Characteristics of Syllabi for Exemplary Magazine Capstone Courses

Course Elements	Characteristics
Curriculum	<ul style="list-style-type: none"> • Publication management <ul style="list-style-type: none"> ○ Leadership positions were offered to students via an application and interview process • Sponsorship sales <ul style="list-style-type: none"> ○ All students were required to make sales ○ All students were required to design sponsorship layouts • Journalistic interviewing and feature story writing <ul style="list-style-type: none"> ○ Students covered a beat ○ Students coordinated and conducted interviews with feature story subjects ○ Students wrote one to three feature stories of varying lengths
	<ul style="list-style-type: none"> • Editing <ul style="list-style-type: none"> ○ 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 <ul style="list-style-type: none"> ○ All students were responsible for turning in at least one to three packaged feature story layouts • Photography <ul style="list-style-type: none"> ○ Students were required to use original photography in their feature story layouts ○ Students were required to turn in a prospective cover photo
Course Objectives	<ul style="list-style-type: none"> • Learn the magazine production process • Employ previously learned writing, photography, and design skills • Gain experience working as a team
Instructional Methods and Techniques	<ul style="list-style-type: none"> • Guest speakers <ul style="list-style-type: none"> ○ Printers ○ Graphic Designers ○ Editors • Field trips and practical observations <ul style="list-style-type: none"> ○ Students visited a print shop • Collaborative learning assignments <ul style="list-style-type: none"> ○ Staff meetings were held at the beginning of classes as needed
	<ul style="list-style-type: none"> • Problem-based approaches <ul style="list-style-type: none"> ○ Deadlines were given and enforced ○ All decisions regarding development of the magazine were made by the students ○ Expectations for attendance were treated like a job • Refresher lessons (lecture and discussion) <ul style="list-style-type: none"> ○ AP Style ○ Feature writing ○ Layout and Design ○ Photography • Sponsorship Sales

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.*

Deadlines associated with tasks in the course also were 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.*

Students in these courses were obviously proud of their magazines because these were publications that had an important public relations purpose and would be distributed to readers both on and off campus. The fact that the publications had targeted audiences and were actually distributed 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[s] 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 definitely 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 4,000 people makes me work that much harder, and it is the real deal.*

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 to 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 advertising, and design it all.*

Relate

Next, students 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*. Most of the students reported putting together skills they developed previously in coursework focused on layout and design, photography and AP style.

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.*

Instructors for all three courses reported their students used feature writing, design, and photography skills developed in previous courses — writing being the most important of these. Across all three capstone courses, students definitely 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 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.

Reflect

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 key times during the course: after major deadlines and after the final project was put together.

In each of the courses, students were required to turn in two packaged story layouts. Students reported that during these major deadlines the magazine production process became more real to them.

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.

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.

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, 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.

One instructor reported using techniques from service-learning pedagogy, celebrating the groups' accomplishments 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 allowed students to think back on the process while examining the final product.

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

Regarding the fourth of the 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. Students reported using skills outside of their magazine capstone course in school-related projects, outside jobs, and 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 included design software skills using Adobe Photoshop, Illustrator, and InDesign and writing and interview skills acquired in previous courses. Students also 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.

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

Instructors mentioned several of the graduates who had come through their magazine capstone courses now work in the magazine industry. Several of their former students had gone on to work for various commodity groups or start their own communications companies.

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 principals and sometimes creating a monthly newsletter.

Reconstruct

In the *reconstruct* portion of the Five R's 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 related to the overall production process, the printing process, and the team aspect of publication production. Also, in some cases, students realized that they did *not* want 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 realize the amount of work it took to finish the publication.

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.

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 ...

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.

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.

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.

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 students' 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.

Other Important Characteristics

In addition to Anderson's (2004) Five Rs, which are the central elements of Rhodes, Edgar, and Miller's (2012) modified model of capstone courses, several other important characteristics of successful capstone courses exist. Observations of the three exemplary courses supported that the following elements are a part of quality courses. It should be noted it is not the mere presence of these characteristics that makes a course high quality, but how the instructor integrates and deals with these elements. These elements included teamwork, critical thinking, communications, the presence of noise (potential distractions to learning), facilitator and student feedback, students feeling they had sole responsibility for the final product, instructors' high expectations of professional conduct, opportunities for students to interact with professionals, and refresher lessons.

Teamwork

Working together as a team is an extremely important skill in the magazine production process. The synergy created when students pool their resources in terms of skills and knowledge related to the project is as realistic in capstone projects as it is in real work environments. This awareness of "resource interdependence" (Colbeck, Campbell, & Bjorklund, 2000, p. 73) was evident among the capstone course students. In these three courses, students reported an acute awareness of the importance of working as a team to overcome problems, to 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: 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

Students enrolled in these courses were exposed to multiple opportunities that allowed them to develop critical thinking skills through solving problems and making decisions, key components in experiential learning and capstone courses (Rhodes, Edgar, and Miller, 2012; Rudd, Baker, and Hoover, 2000).

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: *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 coworkers 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 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 effectively with others.

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 noise should be included throughout Andreasen's (2004) Five R's model and accounted for in actual instruction to overcome the disruptions. Students reported that situations that could have been disruptive did occur in the capstone courses, but rather than obstructing the learning process, the apparent distractions were often converted by the instructors into learning opportunities for students, who were able to gain valuable lessons from these experiences. For some students, experiencing these problems contributed to the realism of the course.

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.' For example, we were supposed 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 supposed to use the same ad from last year, but just make these changes. What [instructor] really wanted was a completely original and completely new design. 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 should occur throughout a good capstone course. Students placed a high value on 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, comparing it to co-workers in the workforce editing each other’s work. Two of the courses required all students to peer edit, while one course only required students on the leadership staff to edit the their peers’ work. Students in all three courses received feedback from facilitators and professionals in the communications industry. 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 feedback 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.

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 OK, 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.

Students Feeling They Have Sole Responsibility for the Final Product

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

High Standards of Professional Conduct

The students in all three exemplary courses were responsible for maintaining high standards of professional conduct — standards that were much like those in the real world. Students were expected to meet all deadlines and attend every class. In all three courses, the consequences for late assignments were severe, involving either no grade or a reduced grade for the assignment. Requiring students to have real-world responsibilities like this helps the students achieve a sense of identity and work toward their full potential as students transitioning into professionals (Collier, 2000). Capstone students' confidence levels also appeared to improve, which, according to Manz and Manz (1991), causes students to be more apt to perform to their highest level and put their newfound knowledge to practice.

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 discussed their experiences with students, and students also had the opportunity to meet with staff at local print shops, where they could see the printing process firsthand. Since most of the students had little or no exposure to the printing industry and, 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 processes they were studying. This concept of establishing accurate initial schemas through experiential learning is in line with Kolb's (1984) model of the experiential learning process.

Refresher Lessons and Review

In all three courses, students revisited previously learned skills through refresher lessons. At the beginning of the semester, instructors taught lessons in feature writing, AP Style, layout and design, and photography. In the second half of the courses, students were given the opportunity to interconnect these skills with the magazine production process. 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.

Conclusions and Recommendations

The results of this study provide an overall depiction of the key characteristics of quality magazine capstone courses. Following the logic that faculty at other institutions offering magazine capstone courses should seek to emulate the qualities of these three exemplary courses, the characteristics lead directly to some practical recommendations for magazine capstone course instructors (see Table 2 on next page).

Recommendations for Further Research

Though capstone courses have provided agricultural communications students with the necessary skills to enter into the workforce (Edgar et al., 2011; Graham, 2001), further research is necessary to determine if and how these courses help students once they entered the workforce. Furthermore, a study is needed to expand on Manz and Manz's (1991) research on the relationship between having real-world responsibilities in magazine capstone courses and students gaining self-belief. Also, this study identified noise occurring in the capstone course environments but showed the experiential learning was actually enhanced by this noise; more research on this phenomenon is necessary, and modification to the Five R's model developed by Andreasen (2004) and further developed by Rhodes

et al. (2012) is necessary to reflect this important aspect of teaching and learning through capstone courses.

Table 2

Key Course Characteristics and Recommendations for Practice

RQ1: Based on examination of course syllabi, field observations, and instructor interviews, what are the common characteristics of exemplary magazine capstone courses in terms of curriculum, course objectives, and instructional methods?	
Findings/Observations	Conclusions/Recommendations
1. Characteristics that related R's model were helpful in making the courses more realistic and more valuable for students.	1. Course objectives should lead students toward real-world responsibilities in a setting with high expectations of professional conduct and a sense of full responsibility for the final product.
2. The courses exhibited several ways in which the experience was made as realistic as possible.	2. Faculty developing new courses and re-designing existing courses should follow this model in preparation and practice.
3. The quality of the courses was enhanced by the use of guest speakers and field trips.	3. Guest speakers should be used, and the class should tour a local print shop.
4. Refresher lessons on a variety of topics were helpful for students.	4. Students should revisit previously fragmented knowledge through refresher lessons on various basics of writing, editing, and graphic design. Also, feature writing and layout and design courses should be pre-requisites for capstone courses.
5. The final products were real, printed publications distributed and used in actual university public relations efforts.	5. The final product should be printed professionally and should be promoted and publicized, and students should be given a final copy for them to properly reconstruct their schemas as a result of seeing the project through to completion.
6. Students sometimes didn't see the "big picture" until late in the semester or even after the semester was over.	6. Instructors should create opportunities to provoke students to think about the applicability of skills developed in the course, while being patient as the students discover through their experiences.
7. Realization of the importance of teamwork was a key characteristic in all the courses.	7. Instructors should ensure students work as a team and not simply as individuals completing a few writing assignments on their own. Peer editing and using students as lead editors are recommended.
8. Students desired feedback and used it to combat uncertainty and lack of confidence in some situations in the courses.	8. Instructors should conscientiously provide students with positive reinforcements and feedback throughout the course.
9. Various types of disruptions and distractions threatened the learning environment but were often turned into learning opportunities by instructors.	9. Instructors should pay attention to problems as they arise to ensure students gain a valuable learning experience, while being flexible and seeking the opportunity to turn noise into teachable moments.

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References

- 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. (2004, March). Integrating experiential learning into college of agriculture capstone courses: Implications for practitioners. *NACTA Journal*, 48(1), 52-57.
- Ball, A. L., & Knobloch, N. A. (2009). An exploration of the outcomes of utilizing ill-structured problems in pre-service teacher preparation. *Journal of Agricultural Education*, 45(2), 62-71.
- Colbeck, C. L., Campbell, S. E., & Bjorklund, S. A. (2000). Grouping in the dark: What college students learn from group projects. *The Journal of Higher Education*, 71(1), 60-83.
- 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.
- Doerfert, D. L. (Ed.) (2011). National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.
- 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.
- 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>
- Hall, K., Rhoades, E., & Agunga, R. (2009). Student publications' place in agricultural communication curriculum. *Journal of Applied Communications*, 93(1&2), 35-44.
- Kerr, W. J., Davenport, E., Bryan, E.A., & Thompson, W.O. (1931). *The spirit of the land grant institution*. Retrieved from the Association 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.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- 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.
- 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, 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>
- Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research: Grounded Theory, Procedures and Techniques*. Newbury Park, CA: Sage.
- United States Department of Agriculture — National Institute of Food and Agriculture [USDA-NIFA]. (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.
- Wimmer, R. D., & Dominick, J. R. (2003). *Mass media research: An introduction*. (7th ed.). Belmont, CA: Wadsworth/Thomason Learning.