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How to Improve Critical Thinking Skills in the Media Strategy Course by Implementing an Online Peer Learning Component

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This study addresses how a specific teaching standard set forth by the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC) can be measured in one of the core courses in an accredited advertising program at a large Midwestern university. Specifically, it focuses on how critical thinking skills can be improved using online peer learning in the advertising media strategy course. This study is the result of an inquiry course portfolio the author developed as a fellow of the "Peer Review of Teaching Project."

Critical thinking is a common core goal for courses in journalism and mass communication (Accrediting Council on Education in Journalism and Mass Communications [ACEJMC], 2001). Research suggests that one of the best ways to teach critical thinking is by using cases because they force students to develop many solutions, not just one (Lloyd, Slater, & Robbs, 2000). In the advertising media strategy course, students are often required to write a national media plan, which is a type of case study. Instead of teaching students what to think, this type of assignment teaches students how to think, which in turn helps them to "understand the overall workings of marketing communications and their role in brand development" (Lloyd et al., 2000).

Educators often struggle to find the most effective way to teach critical thinking skills and the literature of what instructors can do to improve these skills is sparse. However, peer-to-peer interaction among students in class appears to be one technique that can help students gain critical thinking skills (Smith, 1977). In addition, using online technology for asynchronous online discussions appear

to offer the ideal conditions for "intense reflective discussion" (Celani & Collins, 2005).

Literature Review

Peer Learning

Pascarella and Terenzini (1991) suggest that interaction with "major socializing agents" (faculty and peers) is significantly linked to the development of general cognitive skills during college. According to Cross and Steadman (1996), peer learning groups involve two or more students working together toward a common learning goal in order to encourage active learning and involvement, and to provide peer motivation and support. In addition, peer-learning groups provide opportunities for students to elaborate on new concepts learned in class by discussing them with others. Peer group learning includes both cooperative and collaborative learning, with the former being highly structured by the teacher, and the latter emphasizing a shift of authority from teacher to student. Collaborative learning is more prevalent in higher education than cooperative learning, and promotes peer-governed relations. In peer learning groups, students listen to each other as they struggle with new ideas and the thinking process is being made public to others.

However, McKeachie (1994) points out that this type of learning is not a case of "faster" learners helping "slower" students. Instead, "both the confused and unconfused benefit from engaging with course material." McKeachie explains that when students work in small groups, they are more likely to ask questions and respond to each other's questions. Both "questioners" and "explainers" alike have the opportunity for cognitive rehearsal, organization of material, and synthesis of

new concepts. While stronger students are sometimes reluctant to teach weaker students, research shows that students who teach others are more intrinsically motivated and perceive themselves as more actively engaged (Benware & Deci, 1994).

Critical Thinking

Smith (1977) found that peer-to-peer interaction is one of three teaching behaviors that are related to student gains in critical thinking. The other two behaviors include the degree to which faculty encourage, praise or use student ideas, and the degree to which students participate in class. In addition, McKeachie, Pintrich, Lin, and Smith (1986) established that instruction that stresses student discussion, with an explicit emphasis on problem-solving procedures, may be effective in enhancing critical thinking.

The literature in advertising education also focuses on critical thinking. Lloyd et al. (2000) found that 87% of media-planning professionals indicated that it is important for students to know how media (planning) fits into the bigger picture of advertising, as opposed to only 56% of educators who felt that it was important. Based on the findings of their study, the authors recommend that advertising professors teaching the media planning course should focus on "teaching students how to understand the overall workings of marketing communications and their role in brand development." One of the respondents in the study remarked, "The key is to train students how to think, not what to think." Lloyd et al. suggest that one of the best ways to teach this type of critical thinking is by using cases because they force students to develop many solutions, not just one.

The literature shows that one strategy to improve critical thinking is to increase peer-to-peer interaction in the classroom (Smith, 1977). King (1995) suggests that critical thinking in peer learning situations often occurs when students are asked to develop their own critical-thinking questions, including those that pertain to why something is important. One of the strengths of having these discussions occur in small peer-to-peer learning sessions is that students will encounter different explanations

or rationales as they try to solve a problem. In the media strategy course, this is an important teaching strategy because the quality of the answer depends primarily in the reason why it was given in the first place.

It appears that critical thinking is a common course goal across disciplines (Cross & Steadman, 1996). However, the definition of this cognitive ability ranges from analysis, logic, and problem solving to broader definitions including functions of problem recognition, identification of main ideas, and support of conclusions. In addition to defining critical thinking as a target for higher education in general, it should also be considered as a means to achieve higher levels of understanding. The definition of critical thinking by Pascarella and Terenzini (1991) is one of the most widely adopted ones: "[It] appears to stress the individual's ability to interpret, evaluate, and make informed judgments about the adequacy of arguments, data, and conclusions." Lipman (1988) defines critical thinking as "thinking that (1) facilitates judgment because (2) it relies on criteria, (3) is self-correcting, and (4) is sensitive to context. Lipman's reference to the context is important in this study because it emphasizes that students must be able to understand the marketing situation because it drives subsequent advertising and media decisions.

For the purpose of this article, the working definition of critical thinking includes elements of Lipman's (1988) as well as Pascarella and Terenzini's (1991) definitions and incorporates King's (1995) suggestion to ask "why" when discussing questions in a peer-learning environment as a means to develop critical thinking skills: "Critical thinking can be defined as an individual's ability to interpret, evaluate, and make informed judgments about the adequacy of arguments, data, and conclusions that are (a) sensitive to context, and (b) based on a rationale that explains why they are adequate."

Online Interactions

Research suggests that asynchronous online discussion seem to offer "ideal conditions for

intense reflective discussions" (Garrison & Anderson, 2003; Pawan, Paulus, Yalcin, & Chang, 2003). Some of the benefits of asynchronicity include that students can elaborate on their thinking at their own pace, to plan and structure the contributions carefully and to review their writing for appropriateness of content and structure before they make it available to others. In addition, this type of discussion allows students to estimate the relevance of their own contribution in the context of their peers and to participate freely, without the constraints of face-to-face interactions. Celani and Collins (2005) suggest that connectivity allows for feelings of belonging to the group and cognitive engagement. The authors state that it is important for all participants to establish new roles, especially for students, as they become the primary information source. Instructor leadership will be "manifested in the ability to contribute with ideas, diagnose problems and misunderstandings, explain, clarify, and synthesize facts and arguments, motivate intense connection of ideas and guide discussion towards a resolution" (Cross & Steadman, 1996).

The Study

The study is based on the pedagogy employed in an advertising media strategy course taught at a large Midwestern university accredited by ACEJMC. One of the goals of this course is to foster "critical and independent thinking" in order to prepare students to develop solid strategic decisions that help them solve a larger marketing problem. The course is taught from a marketing perspective and heavily influenced by real-life business decisions companies are faced with. It is important for students to be able to see "the bigger picture" of media planning and to understand how media strategy fits into the overall advertising/marketing process.

Students receive three credit hours for successfully completing the course, which is part of the core curriculum and taught in a regular classroom twice a week. Blackboard is used for course management and to facilitate discussions among students outside of class. The students in the target course for this study

were required to write an individual marketing-driven media plan for a specific consumer product as a final project. The assignment was created to measure the following course goals: (1) to understand how advertising is coordinated with marketing and other aspects of a company or organization's activities, (2) to identify and evaluate a wide range of alternatives for delivering advertising messages and how to use those delivery vehicles, (3) to develop critical and independent thinking, (4) to apply basic numeric and statistical concepts, and (5) to develop skills necessary to write and execute media plans.

The client was Payless Shoe Source. Students were required to write a brief rationale for each strategic decision in order to teach them how to defend their decision. The rationale was a key component of the (academic) media plan because it clearly shows the level of critical thinking as defined by Pascarella et al. (1991) and Lipman (1988). The rationale is a tool for the instructor to assess whether students can think critically and "see the bigger picture" in a marketing context, as media planning is a function of advertising, which in turn is a function of marketing. While some past students have excelled in writing a rationale that clearly showed their understanding of "the bigger picture," others have struggled to use the tools learned in class and to apply them to a more complex problem. In the past, these students often failed to provide a rationale at all, or offered "canned" answers directly from the book (with and without proper citations) or from lectures without including their own original thoughts. While these answers weren't necessarily incorrect, they did not indicate whether the student really understood why he made a particular strategic decision.

To explore whether other learning components would foster critical thinking, peer learning - where students read, analyze, and evaluate each other's work - was used during the semester. If students decide to become media planners, they will need to know how to evaluate the work of others. In addition, it was believed that the peer learning process would help students articulate their questions

and comments to others instead of sending last minute emails to the instructor. The study also explored how asynchronous student online discussions demonstrated critical thinking in the advertising media strategy course as well as students' perceptions of the effectiveness of online peer learning to help them think critically?

Methods

This mixed methods exploratory sequential design consists of two distinct phases, qualitative followed by quantitative (Creswell, 2003). In this design, qualitative, text data is collected and analyzed first. The quantitative, numeric data is collected and analyzed second in the sequence and helps elaborate on the qualitative results obtained in the first phase. The second, quantitative phase builds on the first, qualitative phase, and the two phases are connected in the analysis. The rationale for this approach is that the qualitative data and subsequent analysis provide a general understanding of the research problem (Morgan, 1998). The quantitative data and its analysis refine and explain the rich descriptions that emerged in the qualitative phase of the study by testing respondents' opinions about the process used in the study (Creswell, 2003).

Online discussions

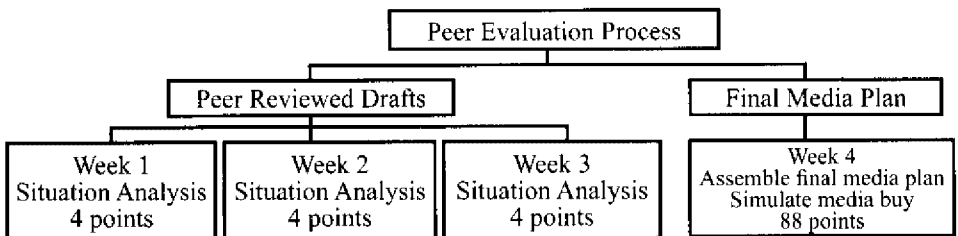
Qualitative data were collected in order to answer the first sub-question. The sample of the study consisted of 35 students from two sections of the advertising media strategy course. Students were divided into groups of four or five and each group had access to its own online discussion board as part of the course Web site. The data were collected from

interaction in a set of asynchronous discussions around the final project: the media plan. This assignment was chosen because students had to use the tools learned in class and apply them to a real-life scenario.

The process

The media plan project is quite complex and can be overwhelming for students. Therefore, the project was divided into three major components, including (1) the situation analysis, (2) media objectives and strategies, and (3) media analysis and recommendation. These three sections comprised the strategic component of the assignment. Students were required to work on their own individually written plan, but they were divided into groups of four or five students to facilitate the peer evaluation process. Each group had access to its own online discussion board on Blackboard, where each student in the group was required to post drafts of each of the three majors sections described above by a specified deadline. In addition, each student in a group was required to review and comment on at least one other student's draft posting during the same timeframe. Students had a week to work on each section. As suggested by Cross and Steadman (1996), each student also received feedback from the instructor, ensuring that the suggestions made by other students were indeed appropriate.

In order to motivate students to post their drafts and to comment on other students' work, the instructor incorporated the quality and timeliness of both draft postings and comments in the final grading rubric for the media plan. The points were allocated in a way that if a student chose not to participate in the peer evaluation



process, she would lose up to an entire letter grade for the final work. This process lasted about three weeks (one week per major section of the media plan). The students then worked on the final version of their media plans by incorporating the feedback they received from their peers as well as their instructor before assembling the final plan, followed by a simulated media buy using computer software to execute the plan. The peer evaluation process was not used in this final step and thus not included in this study.

Overall, the discussion boards produced 410 messages posted by 35 students in eight groups and the instructor of the course. For the purpose of the study only those messages posted by students were analyzed. Typological analysis was utilized for discussion review (Hatch, 2002). The overall data set was divided into categories based on three predetermined typologies that corresponded with each major component of the media plan: (1) situation analysis, (2) media objectives and strategies, and (3) media analysis and recommendation. The online discussions were coded and data disaggregated into the predetermined typological categories. Patterns, relationships, and rich descriptions that met the definition of critical thinking were noted within typologies.

Survey

In addition, a short survey was administered at the end of the semester to measure students' perceptions of the degree of difficulty of this project, how helpful they thought the peer evaluations were in their own learning processes, and how well the assignment overall met specific course goals outlined in the syllabus. The survey was based on Diamond's "Evaluation of an Assignment" survey (1989) and included closed-ended and open-ended questions. The closed-ended questions were used to measure students' perceptions of the effectiveness of online peer learning during the four-week process. The open-ended questions along with the discussion board postings were used to help explore how asynchronous student online discussions demonstrated critical thinking.

Findings

How do asynchronous student online discussions demonstrate critical thinking in the advertising media strategy course?

In general, students were eager to share information that would help their peers. The online discussions produced various levels of critical thinking as specified in the operational definition, stating that "Critical thinking can be defined as an individual's ability to interpret, evaluate, and make informed judgments about the adequacy of arguments, data, and conclusions that are (a) sensitive to context, and (b) based on a rationale that explains why they are adequate." In terms of an advertising context, Lloyd et al. (2000) suggest that students should be able to "see the bigger picture" and that critical thinking should be taught using case studies that allow student to find more than one solution. Critical thinking as defined above was found at various levels in each of the three typologies of the media plan.

Situation Analysis. This section consists of a summary of the marketing plan the groups had to present as first part of the project. Students needed to base their media decisions on facts and figures they had researched in this first part of the assignment. While the original assignment was a 10-page report, students had to condense it to the "mere basics" (2-3 pages) for the media plan.

While many students gave advice regarding the format of this section and the media plan in general, several students did an excellent job commenting on content, demonstrating that they were able to think critically. Many of these comments focused on the use of numeric data to support strategic decisions. As one student noted when commenting on another student's posting, "One thing I noticed is that there is no geographic information in your paper. You may also want to add the actual dollar amounts to the marketing objectives section, in addition to the percentage goals." Other common comments pertained to the product life cycle and the need to include numbers to back up decisions. "Talk about the locations of Payless and the product life cycle in there so that we (the advertisers)

know that Payless is in a decline and so we can work with that."

Another student demonstrated the ability to think critically by explaining how media planning fits into the larger marketing realm. "I would add a little more about the fact that women are able to buy a variety of shoes and styles due to the lower prices. I'd also suggest including seasonal sales info/assumptions to help determine the best times to buy advertising space." This student made a connection to the volume of shoes that needed to be sold in order to reach a marketing objective, and also pointed out that the media schedule should coincide with sales patterns, which is evidence of "seeing the bigger picture" as suggested by Lloyd et al. (2000).

Media Objectives and Strategies. For this section, students were expected to set specific media objectives and then devise marketing-driven strategies that would help them achieve these objectives. One of the objectives students needed to set was a budget objective based on past advertising budgets. This proved to be challenging for several students, but they were not afraid to ask their peers for help. Some suggestions were as simple as recognizing the difference between a marketing and an advertising objective. One comment simply states, "You may just want to mention that 'changing the habits of 37% of the target audience' is the advertising objective, not the marketing objective." This comment shows that the student understands the role of advertising in the marketing context.

Another way to describe and work with a target audience is to define it in terms of usage levels. Not all students did this, but students in one group in particular discussed usage levels showing that they were thinking about how objectives can be reached by fine-tuning the target audience. One student states, "When you talk about changing the extremely light users to light or moderate users, how do you measure their usage level? One time you said an extremely light user visited the store once in 3 months, but later you said they would need to buy 2 pairs of shoes as a light/moderate

user. You could maybe clarify what classifies a moderate user." This rationale clearly shows a deeper level of understanding because the student demonstrates an understanding of the marketing context.

Students became very resourceful when they had to justify how they had set their own budgets. Two students from the same group decided to research the client's most recent SEC filings and then shared their strategies with the rest of the group on the discussion board. The following is a detailed description of how one student derived her budget, which is an example of this study's operational definition of critical thinking. The student is able to interpret, evaluate, and make informed judgments about the adequacy of her arguments, data, and conclusions, while explaining her rationale to others. The only instruction that had been given in class was that students should look at the client's past advertising budgets in order to predict what it may be for the next fiscal year. After several of her group members had posted questions about how to establish the budget, she stated the following: "Okay, here's how I got the budget for the campaign...and I'm not sure if I did it correctly, but I'll tell you anyway: In 2003, Payless ShoeSource spent \$62 million on advertising. Over a ten-month period in 2004, \$43.5 million was spent on advertising (www.payless.com). Based on these figures, the estimated budget for this campaign will be \$43.95 million dollars. Okay...they spent \$62 mil. in 2003. Per month, that is \$5.17 mil. In 2004, they spent \$43.5 mil. in TEN months...not the whole year...so that is \$4.35 mil. per month. So to find the total they spent in 2004, I took \$43.5 mil (ten months) and added \$8.70 mil (two months) to get a total of \$52.2 mil. Then, I took \$52.2 mil. and divided it by \$62 mil...doing that, you get 84.19%...and if you subtract 84.19% from 100%, you find that the budget, from 2003 to 2004 decreased by 15.81%. So, to calculate our budget, I took \$52.2 mil. (the total from 2004) and multiplied it by 15.81% (assuming that the decrease in the amount spent on advertising would be constant) and got \$8.25 mil, the amount that the budget would decrease. So then, I subtracted \$8.25 mil. from

\$52.2 mil. and got \$43.95 mil, the amount I set as my budget.”

Reach and frequency objectives are vital to any media plan and are often difficult concepts to grasp. Instead of simply stating what they are, students need to cite reasons why they set them at a certain level. As one student commented on another student’s reach and frequency objectives, “Good work here--I have just a few suggestions. First, you didn’t mention if you are emphasizing reach or frequency--it looks like they are both pretty high. There is a page in the textbook that explains when you should emphasize reach and when to emphasize frequency. Also, when giving reasons for the different media choices, there are two figures in the book which give reasons why the different [media] are beneficial--you might back your choices up with some examples from these.” While this discussion does not take the marketing context into consideration, it still shows a basic level of critical thinking because it seeks to facilitate judgment by relying on specific criteria outlined in the textbook.

Media Analysis and Recommendations. Students must analyze and synthesize statistical data in order to make strategic media recommendations. This has often been the most difficult portion of the media plan because there are no right or wrong answers. One student recognized that quantitative analysis is important, but that media planners also need to consider qualitative values when making strategic decisions. “I would suggest explaining a little more about why you chose primetime for your television vehicle since its CPP is so

high...I think it’s the right choice, just maybe mention a little more about it. You might also want to mention why you didn’t choose the other two in that section as well.”

Another student explained why two other students calculated different numbers, demonstrating that she was sensitive to the larger marketing context by correctly interpreting a media planning tool that had been introduced early on in the semester and that students now had to apply in their media plans. “CPP [cost-per-point] can vary for each of ours depending on which spot markets we use and how many spot markets we use. The cost becomes different, thus the CPP is different as well.” Yet another student explained correctly why one of her peers’ numbers was off. “I think the reason why the numbers are off is because I used the raw number for the CPM and it looks like maybe you used the circulation number?” These examples illustrate an understanding of how an argument can be improved, and demonstrate a deeper level of thinking based on the operational definition of critical thinking because these students made informed judgments about the adequacy of an arguments.

What are students’ perceptions of the effectiveness of online peer learning to help them think critically in the advertising media strategy course?

One of the items on the survey was a list of five course goals that this assignment (the media plan) was designed to measure. Students were asked to rate each objective on an ordinal scale from 1 to 5 indicating how well the media plan assignment helped them reach each, with 1

Table 1: Student Evaluation of Media Plan Assignment Based on Course Objectives (N = 35)	
Objective	Average Rating
– To understand how advertising is coordinated with marketing and other aspects of a company or organization’s activities	4.4
– To identify and evaluate a wide range of alternatives for delivering advertising messages and how to use those delivery vehicles	4.5
– To develop critical thinking skills	4.4
– To apply basic numeric and statistical concepts	4.4
– To develop skills necessary to write and execute marketing-driven media plans	4.5

being “not at all” and 5 being “very much.”

As shown in Table 1, students perceived the media plan to be an adequate assignment to measure all five course objectives outlined earlier. Each course objective received an average rating of 4.4 or higher. More specifically, the average rating for “to develop critical thinking skills” was 4.4, indicating that students perceived the assignment itself to be an adequate way to learn and develop this skill.

In terms of the perceived effectiveness of online peer learning to complete the media plan as a course requirement, the survey revealed that more than half of the students (52%) found the peer review process “very helpful,” with another 39% finding it “somewhat helpful.” None of the students thought that it was not helpful at all and only 9% found it not particularly helpful. Thus, the majority of students were able to succeed in their writing of the media plan at least partially because of the peer learning process.

The open-ended question on the survey asked students to comment on the peer review process as a learning tool for this assignment. Most students commented positively on the peer review process for two reasons: 1) it helped them catch mistakes that they would have otherwise missed, and 2) it helped them stay on track with the assignment. One student noted, “[The] peer review throughout the assignment was very helpful – [it] allowed us to share ideas and thoughts and critique to improve.” Another student pointed out that “it was great to have sections posted at different times, so we weren’t waiting until the last minute to complete the assignment.” The same student indicated that s/he would have liked to see other components of the media plan (implementation) in the peer review as well. (“...I would have liked a peer review of the flowchart, too”).

Challenges of the online peer learning experience include the fact that some students were uncomfortable commenting on other students’ work because they did not know if they would give adequate feedback. One student said, “I don’t like commenting on other people’s work when I’m not even sure about my own.” Another student thought that the peer learning process was a waste of time and that “time could have been better spent working on [the] actual media plan.” Finally, not all students

participated in the online discussions of the posted drafts, resulting in elevated frustration levels among those students who did participate (“Not everyone participated – frustrating”).

Discussion

The purpose of this study was to explore how online peer learning can improve critical thinking and to examine the effect of this teaching approach. An online peer learning approach was used as a vehicle to help students discuss each other’s drafts of a major semester project. The feedback students gave their peers revealed that the majority of students were able to think critically by providing constructive criticism of their peers’ work. This finding is consistent with Smith’s (1977) study, which suggests that peer-to-peer interaction is directly related to gains in critical thinking. One prominent example of critical thinking in the media plan assignment was students’ awareness that media strategy is a component of advertising, which, in turn, represents a component in the marketing mix. The student discussions show that many of them were aware of media strategy’s role in the larger marketing context, which is consistent with Lloyd et al. (2000), who state that the media strategy course should focus on teaching students how to understand the “overall working of marketing communications.”

Overall, the online peer discussions appeared to be an effective way for students to comment on each other’s work. The findings of this study are consistent with Garrison and Anderson’s (2003) conclusion that asynchronous online discussions offer ideal conditions for intense reflective discussions. In addition to giving and receiving quality feedback on the strategic components of their drafts, students also used this forum to encourage each other during the writing process simply by sharing their ideas, questions, and suggestions. Many students reminded each other to include numbers in their rationales, where to find them and how to interpret them. Overall, students appreciate the feedback of their peers, while also recognizing that everyone on the team has to participate in order for it to work. An area of concern is that some students indicated that they were “uncomfortable” giving feedback to others. One reason for this answer may be students’ natural

competitiveness with their peers. Fearing that they may "give away" their strategies so that other students could improve may have prevented them from posting the best possible draft or commenting on other students' work in a meaningful way. Therefore, it is important to remind students that the quality of their responses will have a relatively heavy impact on their final grade.

The online forum is also an effective forum for the instructor to give feedback and to find out about questions students have but may be too shy to ask in class. The instructor can use this technique to clarify several issues in class or on each group's discussion board based on issues students raised in their peer evaluations, which is consistent with Celani and Collins' (2005) description of "instructor leadership" in an online teaching environment. In addition, the online discussion board was an effective tool to post comments and track the quality and quantity of each student's posting, which were taken into consideration in the final grade of the media plan.

However, some improvements could be made to help even more students succeed in media planning, and specifically this assignment. While the online peer learning process appears to be an effective tool in helping students succeed, it also adds to the students' workload. The technique requires instructors to monitor the discussions and to provide feedback for students early on, but makes grading of the final media plans much more efficient. Much of the quality of the discussion depended on the students comprising each group. Some of the groups included a graduate student, whose presence almost always added to the depth of the discussion. The comments became less frequent and less thorough toward the end of the semester. Also, some students were unable to keep up with the suggested timeline, in which case they were not able to post their sections on time and then give and receive feedback. In the survey at the end of the semester students asked for more time to complete each of the three strategic sections of the media plan. It is important to point out that the quality of comments varied to some extent among students. While some student comments clearly showed their ability to think critically

in a marketing context, others merely touched on the writing style or stated that everything "looked great." One way to keep students motivated quality comments in a timely manner would be to weight their responses more heavily in the final grade of the media plan.

Limitations and Suggestions for Further Research

The primary limitation of this study was its relatively small sample size. In addition, it was limited to two sections of the course taught during one semester one university. Therefore, it would be beneficial to replicate the study on a larger scale including students from other universities as well as over a longer period of time. Furthermore, online peer learning as a means to produce critical thinking should be examined in other advertising courses as well because critical thinking is a common course goal in journalism and communications courses across the country. In addition, many universities now offer courses entirely taught online in an asynchronous environment. If critical thinking can be improved using online peer learning, more students may benefit from this type of course delivery and interaction with peers and instructors.

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