Critical Thinking in Media Writing: Preparing the Workforce by Training Students to Ask Effective Questions

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Introduction and Theoretical Framework

The scientific community needs students who can think critically and communicate clearly about the world's biggest problems. Training students to become critical thinkers requires comprehensive instruction in effective communication. To meet this need, we developed online reusable learning modules for seven communication characteristics as outlined by Crawford et al.'s (2011) study on necessary skills needed in a professional workplace—1) asking effective questions; 2) listening effectively; 3) communicating accurately and concisely; 4) communicating orally; 5) communicating pleasantly and professionally; 6) communicating in writing; and 7) communicating appropriately and professionally using social media. Refining these communication characteristics can be further mastered by providing formal instruction to train students to think critically about analyzing problems and identifying potential solutions.

Guided by a need to prepare a "sufficient scientific and professional workforce" equipped to address challenges faced in the 21st century, the National Research Council (as cited in Stripling & Ricketts, 2016) recommended preparing students in agricultural classrooms by "encouraging elaboration, questioning, and explanation" (p. 33). By incorporating learning activities, such as asking effective questions, students can refine the process and skill of critical thinking within a classroom setting (Boyer et al., 2010). At the heart of hard news media writing lies the need to be critical thinkers and effective questioners. One strategy to ask more in-depth and robust questions is to use Socratic questioning, which uses a systematic approach to understand the concept of a situation by asking questions of fact, preference, and judgement (Paul & Elder, 2012). To incorporate these systematic strategies, there is a need to reinforce instruction to train students how to ask effective questions and think critically in the classroom.

Paul and Elder's (2012) model of critical thinking served as the framework for the study described herein. Within the model, critical thinking requires people to make meaning by engaging the process of reasoning with their innate intellectual standards and traits (Paul & Elder, 2012). Reasoning often exists simultaneously with the ability to ask effective questions. To support instruction within an agricultural media course, we implemented an asking effective questions (AEQ) reusable learning module in Texas A&M University's introduction to hard news media writing course (n = 39) in Fall 2019.

The purpose of the study was to investigate if completing the AEQ module would influence students' final course scores. We used the following objectives to guide the study:

1. Describe students' participation and average time spent in the AEQ learning module.
2. Investigate the relationship between completing AEQ and students' final course scores.
3. Investigate if time spent completing AEQ could serve as a predictor of students' final course scores in the introduction to hard news media writing course.

Method

We implemented AEQ in Texas A&M University's introduction to media writing course consisting of mostly sophomores (30–59 credit hours) and juniors (60–89 credit hours). We

designed AEQ to take approximately 60–90 minutes to complete if students completed all formative assessments and learning activities within the module. Students received 10 points, or the same point value as a daily lab or lecture assignment, for completing AEQ. Students received access to AEQ at the beginning of the unit on conducting effective interviews to write hard news media stories. The instructor used content taught in AEQ, such as Socratic questioning, within course lectures to reinforce concepts about the different types of questions to ask in an interview. We also generated Sharable Content Object Reference Model (SCORM) files from the activity within AEQ that addressed how many students completed the online module, how many minutes they took to complete it, and their scores from the formative assessments within the module. We, then, used descriptive statistics, a one-way ANOVA, and a simple linear regression to analyze the data.

Results

Thirty-two students (82.1%) completed AEQ, and students ranged from 20.4 to 296.12 minutes to complete the module ($M = 116$; $SD = 63.82$). The average final grade in the course was 85.47% ($SD = 7.37$). We used a one-way ANOVA to compare the effect of completing AEQ on final course scores ($p < 0.05$), and we met the assumption of homogeneity using Levene's test ($p = .91$). We did not find a significant effect [$F(1, 37) = 1.57$, $p = .218$, $\eta^2 = .041$]. Prior to running the linear regression, we tested for the assumption of linearity and additivity; statistical independence; homoscedasticity; and normality. We adjusted for heteroscedasticity by removing two outliers on the independent variable (i.e., amount of time spent to complete AEQ) from the dataset. Using a simple linear regression, we found time spent completing the module was not a significant predictor of students' final course scores ($\beta = 0.03$, $p < .209$).

Conclusions, Implications and Recommendations

Students completed AEQ as one lab assignment to supplement the unit on critical thinking and becoming an effective interviewer. However, to facilitate more formal and structured instruction developing critical thinking skills, we recommend instructors increase the point value of completing AEQ within the course. Boyer et al. (2010) suggested engaging learning strategies, such as asking effective questions, can best facilitate critical thinking development when students are fully engaged in the process of learning. If students see completing the modules as a larger percentage of their grade, they might see more value in taking time to learn the processes within the content rather than treating the assignment as a completion grade.

The range of time it took students to complete AEQ in the study described herein took 275.72 minutes between the shortest and longest times, even though we designed AEQ to last 60–90 minutes. If instructors use AEQ to supplement course instruction, we recommend assigning one or more of the formative assessments or learning exercises in addition to completing the module to reinforce instruction. Paul and Elder (2012) stated that critical thinking improves when students interact with material on a more engaged level. As a result, if students spend more time engaging with the material within the AEQ module, the time spent completing the module could possibly become a stronger predictor of final course scores. We also recommend incorporating reflective discussions of students' experiences within the AEQ module to allow students to elaborate and explain the process of asking effective questions to their peers, as Stripling and Ricketts (2016) suggested. We recommend reinforcing concepts taught in the online module in the face-to-face course to help students critically analyze within a media context.

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