

Changing the Latitudes and Attitudes about Content Analysis Research

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The current research employs the use of content analysis to teach research methods concepts among students enrolled in an upper division research methods course. Students coded and analyzed Jimmy Buffett song lyrics rather than using a downloadable database or collecting survey data. Students' knowledge of content analysis concepts increased after a lecture on the topic of content analysis, but they further improved after participating in the song coding, data cleaning, and writing of results. Additionally, students reported high satisfaction with the project and believed it was an interesting and enjoyable technique for learning about research methods. We provide suggestions for incorporating similar data collection activities in undergraduate research methods courses.

Over the past few decades there has been a push to reformulate the education of undergraduate students in research intensive institutions. Proponents for this reformulation argue that students are constantly failed by universities that separate undergraduate teaching and advanced research (Strum Kenny, 1999). Arguably, the better educational program is one that combines teaching and tools for research so that students have the ability to analyze and contribute to research (Jenkins & Zetter, 2003). Many departments include research methods courses in their required curriculum; therefore, it is important to consider ways these classes might better facilitate critical thought and knowledge of how to perform research. Because it is clear that the connection between the teaching of research methods and the ability to perform research is not automatic, the formation of a research and teaching nexus is critical (Jenkins & Zetter, 2003). Jenkins, Breen, Lindsay, and Brew (2002) suggest utilizing factors from the students' social world as one strategy for linking teaching and research at the undergraduate level. The current article is an assessment of one such training exercise aimed at teaching undergraduate students the research practice of content analysis on a common factor from students' social world -- song lyrics.

The use of activities in a classroom setting stimulates student interest in learning and provides a number of advantages (Bernstein, 1999). First, participation in classroom activities allows students to become actively engaged in learning new concepts. Incorporating activities into the classroom provides students with another method of learning (i.e., learning by doing) in addition to the traditional method of passively listening to a lecture. Second, activities often change the traditional pace of the classroom such that students are regularly challenged to pay attention. Third, participation in classroom activities has been shown to provide both students and instructors with more enjoyable methods of facilitating learning. Marek, Christopher, and Walker (2004) found that

incorporating an active-learning approach to teaching research methods results in greater learning success for students. It is clear that implementing hands-on activities in the classroom can be beneficial for teaching new concepts. In addition to the use of classroom activities, topics perceived by students to be interesting have been shown to be more effective in facilitating learning than topics perceived by students to be monotonous (U.S. Department of Education, 1987). Interesting activities and topics tend to capture students' attention, hold their attention longer than uninteresting activities, and activate students' interest in learning. Additionally, several instructors note that implementing interesting classroom activities results in higher academic performance by students (Garcia & Garcia, 2004; Rajecki, 2002).

Classroom activities involving content analysis have been shown to be an interesting and educational means of teaching research methods. For example, Rajecki (2002) describes the benefits of analyzing the content of newspaper personal advertisements, and Carpenter (1998) illustrates an activity comprised of analyzing the content of articles portraying social stereotypes. Although these two studies demonstrate success with content analysis activities, a quick review of recently published introductory level research methods textbooks shows a relative inattention to this research method. Examining five different textbooks, we found between 0% and 3% ($M = 1.5\%$) of the text pages offered information on content analysis versus 6.5% to 11% ($M = 6.4\%$) of the text pages for survey research (Bachman & Schutt, 2007; Hagan, 2006, 2007; Maxfield & Babbie, 2008; Schutt, 2006).

In accordance with the suggestion by Jenkins and Zetter (2003), we implemented an exercise created to help teach content analysis to an undergraduate research methods class at a large research university. The project required students to code song lyrics written by Jimmy Buffett as a way to incorporate the students' social world, increase understanding of

content analysis specifically, and increase appreciation for research methods generally.

Method

Participants

Twenty-five undergraduate students who were registered for a research methods class (16 women and 9 men) at a large Southeastern university participated in the current class project and all phases of testing. Eighty percent of the students who participated in all three waves were either juniors or seniors; the other 20% were sophomores. An additional 15 students were used as a control group.

Materials

At three different points, each participant completed a 12 question knowledge test that included 11 multiple choice questions about content analysis and research methods. For example, one question was, "If a study was coding latent content rather than manifest content, then we would expect to see _____ inter-rater reliability" (correct answer option: lower). Another question was, "A content analysis researcher interested in a newspaper's commitment to the community might operationalize that concept in terms of _____" (correct answer option: how many different bylines appear on stories about local government meetings). The twelfth question was open-ended and asked the students to develop a content analysis research project on their own to address a specific research question. The question was, "A certain researcher was interested in high school friendships. Describe a content analysis study addressing this issue." At the end of the study, students also completed an eight question satisfaction measure similar to that used by Marek and colleagues (2004). Example questions from this measure included the following: "Overall, I would recommend including a class project similar to this one" and "I enjoyed this class project." Students answered on a scale from 1 (strongly disagree) to 5 (strongly agree) with higher scores indicating more satisfaction with the project.

Procedure

Right before a midsemester break, students took the knowledge test to obtain a baseline measure. When the students returned from the break, the professor lectured on content analysis as a research technique. The students took the knowledge test again during the following class to measure their postlecture knowledge.

The class then started working on the content analysis project. We chose Jimmy Buffett song lyrics because Buffett's career has spanned more than 30 years, his lyrics are readily available on his website, most students knew of him, and researchers have previously addressed the content of his music without doing a formal systematic study of his lyrics (Bowen, 1997; Mihelich & Papineau, 2005). Students developed research questions and hypotheses based largely on the articles that had addressed Buffett's music. For instance, Mihelich and Papineau (2005) note that Buffett's career changed in 1984 when he obtained corporate sponsorship; therefore, students hypothesized that the content of his music changed after 1984. General knowledge of his songs led students to hypothesize that the change would be mostly reflected in lyrics that mention alcohol, drugs, and deviant behavior.

We randomly assigned each student the lyrics from seven Jimmy Buffett songs resulting in two separate coders who were responsible for coding each song. The students recorded information such as year the song was released, whether the song charted, and on how many albums the song appeared. The students coded each of the songs for manifest content such as whether alcohol was mentioned in the title of the song, number of references to criminal activity, and number of references to alcohol and drugs in the lyrics. Students also coded for latent content such as overall theme of the song (e.g., love, humor, and social protest) and whether the song glamorized alcohol consumption. Comparisons between the coders revealed high consistency for the manifest content and lower consistency on the latent content. We used the inconsistency between coders as a class demonstration about intercoder reliability and the importance of clear operational definitions in research. After we resolved the inconsistencies between the coders, we removed duplicate songs so that each song represented one unit of analysis.

In order to demonstrate the concept of inferential statistics, we selected a sample of the songs on which the students performed univariate and bivariate analyses to test their hypotheses. Acquiring the population of songs from which the sample was selected allowed for a demonstration of the concepts of sampling techniques and hypotheses testing. The students wrote their final class papers based on the sample of songs that included the following sections: hypotheses, methods, results, discussion, and conclusions. On the same day their papers were due, the students took the knowledge test a third time and also took the satisfaction measure. The entire process took five weeks from the initial pretest to the final posttest.

Results

Student Learning

Repeated measures ANOVA revealed that student knowledge of content analysis concepts significantly increased between each of the three tests, $F(2, 48) = 55.85, p < .001, \text{partial } \eta^2 = .70$. This increase was linear ($F(1, 24) = 112.66, p < .001$), with scores before the lecture averaging 36% correct on the 11-item multiple choice portion of the knowledge test. After the lecture the average score was 56% correct, and after the music lyrics project the average was 72% (See Table 1). The difference was also noticeable on the open-ended portion of the test. Although the open-ended question was frequently left blank by the students (44% blank in pre-test, 36% blank in test after lecture, and 40% blank in post-test after completion of project), no student who attempted to answer this question at the baseline (before the lecture) accurately described an appropriate content analysis project. Students were asked to describe a content analysis study addressing high school friendships, but in the pre-lecture and post-lecture conditions they often described surveys or observational research methods. For example, one student wrote, "Analyze two people who share a friendship over a long period of time." After the lecture (the second test time) all of those who tried were either completely wrong in their descriptions or they made fairly serious omissions. For example, one student wrote, "You could design a study that looked at the type of seating arrangements in a classroom and at lunch if they weren't set by a teacher." After the class project (the third test time), all but one student who attempted this question accurately described an appropriate content analysis project. For example, one student described in great detail a project that involved reading and coding the messages people wrote in yearbooks.

To ensure that the increase in scores was not simply due to testing effects, we administered the same tests with the same time delays (same five week schedule that included a mid-semester break) and the same lecture to a control group in a different research methods class. The control group had no significant differences between the three testing times (percentage correct = 33%, 29%, and 29% respectively) ($F(2, 28) = .55, p = .58, \text{partial } \eta^2 = .04$). In addition, no student in the control group correctly answered the open-ended question in any of the three test times. The slight decrease in scores after the lecture in the control group may be attributed to the fact that the students were not as interested as the experimental group in the topic because their final project was not going to involve content analysis. As discussed above, content analysis is unfamiliar to most undergraduates and the slight

differences in mean scores are likely due to differences in student guessing. The control group scores do demonstrate that the improvement in scores for the experimental group was not due to repeat testing effects.

Student Satisfaction

Students' satisfaction as measured by an 8-item satisfaction scale was quite high ($M = 4.00, SD = 0.61$, on a scale of 1 to 5 with 1 being Strongly Disagree and 5 being Strongly Agree and higher scores indicating more satisfaction). Overall, the students found the project to be enjoyable and useful in their understanding of research methods and content analysis. The students were also asked to provide their opinions of the project. A few examples follow:

- "[The project was] much more interesting and easy to get into than a random data set forced on us,"
- "I believe it helped me understand the concepts better than to just have lectures on the material,"
- "I think the project was useful because we were involved in every step, so we could see what was going on,"
- "[The project] was excellent and one of the best class projects I've done during my three years in school,"
- and "It was vastly more educational to collect and code the data than just read about it in a textbook."

Discussion

Students reported learning from and enjoying the content coding project, and their knowledge of content analysis improved throughout the project. Students had a basic increase in knowledge after a lecture on the topic of content analysis, but their ability to apply that knowledge and develop their own content analysis project was better solidified after they had done the class project. Arguably, the scores still only reached an "average" level (72%), but that was likely due to the fact that the knowledge test was intentionally difficult, as demonstrated by the extremely low scores at baseline. Additionally, the students were not told that they would be taking the test and, therefore, would not have studied the material. The scores represent what the students knew without actively studying for an exam on the topic.

The open-ended question included in the knowledge test had a fairly low response rate (approximately 60%) even in the posttest condition. We attribute the high rate of non-completion to the

Table 1
Mean Scores for Experimental and Control Conditions

Measure ^{1,2}	Mean	SD
<i>Control Group (n = 15)</i>		
Pretest (before lecture)	3.63	1.80
Test (after lecture)	3.19	1.93
Post (after delay)	3.19	1.74
<i>Experimental Group (n = 25)</i>		
Pretest (before lecture)	3.96	1.62
Test (after lecture)	6.16	1.89
Post (after delay for project)	7.92	1.59
Satisfaction with Project	4.0	.61

¹ A score of 11 was the highest possible correct on the pretest, test, and posttest. A score of 0 was the lowest possible score.

² The satisfaction score could range from 1 to 5 with higher values indicating greater satisfaction.

extra effort this question required over the effort for the other questions on the test. Similar to other non-required and non-graded measures (e.g., teacher evaluations), the students likely decided the open-ended question was too much effort. Most importantly, we did see a great deal of improvement in ability to develop their own research questions and methodology for those students who did choose to complete the open-ended question.

Although not part of the formal knowledge test described above, the concepts of hypothesis testing, units of analysis, populations, and samples were also better understood by students. In past semesters when students performed statistical analyses and wrote papers based on a large database provided to them by the instructor, these concepts were often difficult and the questions concerning these concepts were frequently missed on the exams. In contrast, during the semester with the content analysis project, the students' exam scores demonstrated that they achieved a better understanding of these general research methods and statistical concepts.

Content analysis as a research technique is underrepresented in research methods texts and courses, but particularly useful because it easily demonstrates to students how information in their daily life can be sources of research data. It is also an easy way for students to collect their own data without any of the Institutional Review Board difficulties that might be present when using a survey technique. Song lyrics are a practical source of content because most are readily available online and are easily assignable to individual students to code.

Other research methods classes could replicate the current project using the same Jimmy Buffett lyrics or lyrics from another musician, musical group, or musical genre. For instance, Cole (1971)

content analyzed top-10 singles from each year of the 1960s. He coded each song for mood, love-sex, religion, violence, and social protest. A research methods class could similarly examine multiple decades and multiple musical genres. Additional content coding projects could easily be done on magazine articles, newspaper articles, television shows, or any other readily available social artifacts. To capitalize on the popularity of reality television shows and their availability online, a class project could have students code episodes of a reality show for instances of racial and gender stereotyping or stereotype threat. By bringing these elements from our daily world into the research methods classroom we will be able to convey to our students that conducting research is not only accessible to them, but that it is relevant to their daily lives.

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Authors Note

The authors wish to thank Lauren McIntyre for her suggestion to write this article, Errity Jones for her work on the project, and the students from the authors' research methods classes. We also thank Jimmy Buffett for providing the enjoyable lyrics and each of us a reason to "drink my wine and breathe the midnight air" (Buffett, 1970, *There's Nothing Soft about Hard Times*).