Making Methods Relevant: Undergraduate Research Methods and the Content Analysis Project

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Abstract

Teachers of undergraduate research methods classes may struggle at times to keep their courses engaging and to have students view the material as relevant to the occupations they will soon enter. This article discusses a content analysis assignment and how it offers a way for students to demonstrate critical thinking and acquire data analysis skills. Through the use of multiple high-impact learning practices, the assignment requires students, individually or in a group, to identify data appropriate for content analysis and then, with faculty guidance, develop research questions, manage the data, conceptualize and operationalize themes, perform content analysis, draw conclusions from the data, and assess the validity and reliability of their work. We discuss the benefits and potential pitfalls of the assignment and analyze data (both quantitative and qualitative) derived from student evaluations of their content analysis project.

Keywords: Undergraduate Research Methods, Content Analysis, Assessment, Course Relevance, Critical Thinking, Data Analysis Skills, Student Evaluation Data, Active Learning, Project Based Learning

Introduction[1]

Higher education increasingly focuses on maximizing recruitment/applicant pools, student retention, and return on students' investment in a college degree (Moran, Wells, & Smith,

2015; Wismath & Newberry, 2019). Engaging students in high-impact learning assignments has been identified as a best practice for increasing the appeal of academic programs, thus enhancing recruitment, retention, and future employment that delivers a return on investment (National Survey of Student Engagement, 2007). While a number of high-impact activities, such as learning communities, writing-intensive courses, research with faculty, and field experience, have been identified (National Survey of Student Engagement, 2017), how best to incorporate high-impact learning experiences into individual courses remains an open question. Beneficial outcomes, especially for at-risk students (Bonet & Walters, 2016), have been noted when high-impact activities (National Survey of Student Engagement, 2017) have been incorporated into the classroom experience (Crowe & Boe, 2019).

Those who teach research methods know the challenge in engaging students who may not view such material as relevant to the careers they envision. Research methods, often a core course in the curriculum, was one of six content areas the Academy of Criminal Justice Sciences (ACJS) required in its certification standards for baccalaureate programs (ACJS, 2016). Undergraduate research methods courses typically emphasize training students to engage in critical evaluation as an informed consumer rather than to produce research (Hagan, 2012; Kessler & Swatt, 2001). The undergraduate-level research methods course ideally instills in students an array of key skills, values, and knowledge that together transcend a tight focus on research design and data measurement. The course should also help students overcome angst or indifference related

to working with mathematical or statistical data (Peyrefitte & Lazar, 2018; Wisecup, 2017). Thus, the research methods course should not only fit squarely within the liberal arts tradition but also provide analytical skills that can be used in a variety of careers, including criminal justice (Flanagan, 2000). Undergraduate research has also demonstrated positive associations with key goals of a liberal arts education (Kilgo, Ezell Sheets, & Pascarella, 2015).

The purpose of this article is to present a content analysis assignment as a high-impact learning exercise for use in an undergraduate research methods course. We believe that the content analysis project (CAP), through the use of high impact practices, increases student engagement and learning. The assignment requires students, individually or in a group, to identify data appropriate for content analysis and then, with guidance, to develop research questions, manage the data, conceptualize and operationalize themes, perform content analysis, draw conclusions from the data, and then assess the validity and reliability of their work. We then assessed the assignment using students' evaluation of, and feedback on, the assignment itself.

REVIEW OF THE RELATED LITERATURE

Student Engagement

Student engagement has been identified as key to student retention in higher education. One pedagogical approach that appears to bolster student engagement is the high-impact learning assignment. The National Survey of Student Engagement (NSSE, 2017) identifies six high-impact

practices: learning communities, service learning, research with faculty, internship or field experience, studying abroad, and a culminating senior experience. In addition to increases in the quality of faculty-student interaction, high-impact practices are associated with increases in the time required for projects, the intensity of the work, and collaboration with faculty.

High-impact activities typically take place outside of traditional classroom settings (Fink, 2016). Tukibayeva and Gonyea (2014) identify two important elements of high-impact practices: frequent feedback and direction, as well as the synthesizing of ideas and concepts. They also note that undergraduate research is connected to higher-order learning, which promotes the synthesis, evaluation, and application of theoretical concepts to specific inquiries concerning real-world situations. Sullivan and McConnell (2018) also emphasize the greater quality of student work produced for appropriately challenging and meaningful projects requiring a greater investment of time and energy.

Research project-based courses are fairly common and offer several benefits (Crowe, & Boe, 2019; Lanning & Brown, 2019). For instance, Bailey, Rembold, and Abreu (2020) measured undergraduate students' attitudes of skill development, self efficacy, enjoyment, relevance, anxiety, and aversion to difficulty while taking their project-based research methods course. Encouragingly, the researchers noted skills and enjoyment of research increased and research anxiety decreased after taking the research course. Likewise, Wollschleger (2019) noted significant increases in student course evaluations moving to an applied projects-based approach

in research methods in sociology. Crowe and Boe (2019) compared outcomes between student research offered through independent study and research based in a required senior seminar course. They report more favorable outcomes for students participating in research as part of a course allowing for greater participation and engagement in the entire process. In a broader application, Kilgo and Pascarella (2016) noted the importance of participating in undergraduate research opportunities outside of the classroom. While controlling for other variables, they noted no statistical association between participating in undergraduate research and increased four-year graduation rates, but students were more likely to pursue graduate work. This finding was reinforced by findings by Miller, Rocconi, and Dumford (2018). Incorporating research opportunities into required courses provides the opportunity for these activities without the additional time and credits to degree completion, which has been identified as a concern.

To stress the wide-ranging value of high-impact learning, the NSSE (2007) advocates enabling "every student to participate in at least two high impact activities during their undergraduate program" (p. 8). The NSSE annual *survey* (2018) measures student participation in a number of high-impact learning activities, as well as other types of engagement in classroom campus activities. This survey lists seven student activities that are integrated into our assignment: (a) preparing two or more drafts of a paper; (b) working with other students on a class project; (c) applying facts, theories, or methods to practical problems or new situations; (d) using examples or illustrations to explain difficult points; (e) reaching

conclusions based on the student's own analysis of numerical information; (f) writing a paper of more than 11 pages; and (g) working with a faculty member on a research project. The CAP incorporated activities deemed important for student engagement and academic challenge.

Critical thinking, effective writing, and the ability to integrate and apply concepts are key skills that students should acquire and polish in their university experience, and various studies (Sullivan & McConnell, 2018) have reported on methods that may improve these skills. Peat (2006) has evaluated the use of a rubric for scoring research design proposals that students developed in an undergraduate methods course. In her rubric, learning objectives focused on the literature review, research methodology, and the application of research concepts to a student's own project. Peat notes that the lowest average grade for the research proposal assignment was recorded in the semester prior to the use of this rubric. Peat also reports that the benefits of the rubric include clarifying expectations, facilitating communication on the assignment, and making the grading process more objective. We have also provided our rubric to students early in the semester to guide their efforts.

Applications in Criminal Justice

Kardash (2000) notes the value of learning experiences whereby students become familiar with conceptual material but then gain a deeper understanding of it when they encounter real-life examples of those concepts. Part of the value of the CAP comes from connecting it to skill sets and activities encountered in criminal justice work. For example, content analysis has been used to analyze criminal motive, as in the case of the Unabomber (Gottschalk & Gottschalk, 1999). In content analysis using computer software that measured neuropsychiatric dimensions of the Unabomber's manifesto and written messages, Gottschalk and Gottschalk (1999) note, "the writings obtained from his cabin indicate violent and murderous motivations and revengeful intentions" (p. 27). Likewise, Grant (2008) discusses various questions for which forensic authorship analysis might provide answers. Forensic analysis can address legal issues such as the authorship of text messages, exploitive internet conversations involving minors, confessions, witness statements, and documents critical to investigations of illegal activity. Content analysis can be useful when analyzing police reports for key information that may indicate patterns of crime, such as estimated time of an offense, items stolen, method of entry, and physical attributes of the burglarized property (Scott, 2004, 2016).

The correctional literature also contains examples of content analysis. In a widely cited study of unobtrusive methods, Klofas and Cutshall (1985) used content analysis to categorize 2,800 graffiti in a shuttered juvenile detention facility in Bridgewater, Massachusetts, and thereby gain information on the lives of incarcerated youth. More recently, Block and Ruffolo (2015) used content analysis to examine the pre-incarceration mind-set of sentenced individuals who would be entering prison.

While an extended discussion of content analysis is beyond the scope of the current paper, there are a number of resources available that provide detailed descriptions of content analysis (see Berg, 2009; Mackey, 2014; Strauss, 1990;

Strauss & Corbin, 1990). Since research methods textbooks typically only provide scant (e.g. 1-2 pages) coverage of content analysis, for the purposes of the CAP assignment, this content is supplemented with additional readings that are provided to students. For the assignment described here, content analysis is both a research design and a data analysis technique. Holsti (1968, p. 608, as quoted in Berg, 2009, p. 341) defines content analysis as "any technique for making inferences by systematically and objectively identifying special characteristics of messages." Berg (2009) stressed the role of content analysis as a mechanism for making sense of various forms of communication, as well as for identifying patterns within the content.

The Content Analysis Project

The CAP we assigned to our students has five specific learning objectives:

(a) locating appropriate academic sources and then synthesizing the scholarship to compose a literature review
(b) demonstrating writing skills appropriate for the discipline of criminal justice
(c) demonstrating problem formulation, conceptualization, operationalization, and sampling techniques and assessing reliability
(d) constructing and managing an original data set
(e) analyzing original data and drawing conclusions

Appendix A contains the text of the assignment itself. Appendix B contains the grading rubric for the assignment. Appendix C contains selected components of the course syllabus, including information about the CAP assignment itself and the semester's schedule of events so readers can see how the assignment was apportioned during the course of the semester.

The most fundamental aspect of the CAP assignment is obtaining a data set. We urge students to access existing, publicly available sources of data. Publicly available data are ideal for student use because such data are not subject to Institutional Review Board rules per Department of Health and Human Services (2009) Title 45 Code of Federal Regulations Part 46, which defines human subject research as obtaining "(1) Data through intervention or interaction with the individual, or (2) Identifiable private information." We therefore advocate using data sources in the public domain that do not require interacting with people and do not contain personally identifying information. (However, it is always a good idea to consult IRB representatives when planning coursework that involves using personal data of any type). Using an online data source has the advantage of allowing students to collect data in a relatively short period of time (Seale et al., 2010), which makes the CAP assignment feasible for a traditional 15-week course.

The first two steps in the CAP assignment are for the students to identify a data source amenable to content analysis and to formulate a problem statement based on the data found in that source. The data source must be one that facilitates later phases of the assignment (e.g., sampling). Examples of public domain data sources include comments posted about YouTube videos or online news articles offered by

mainstream media. These user comments may suggest a criminal justice topic, be sufficient in number to facilitate sampling, and be wide ranging enough to allow for category development. For example, the video titled "Open Carry Legal in New Hampshire?" (https://www.youtube.com/watch?v=5FWXnK5UyRI) is accompanied by nearly 2,300 comments.

When students begin their effort to identify a feasible data source and develop a problem statement, we stress the need for a narrow focus so that they can complete the assignment within the 15-week term. We then walk students through the steps of manual content analysis. For this, we use grounded theory techniques of immersion, open coding, and axial coding (Berg, 2009).

The first stage of manual content analysis is *immersion*, during which students read through the information found at the source and familiarize themselves with its content and tone. The second step is *open coding*, when students, having read the source material, determine all the possible themes that may be present in the material and divide those themes into categories. This step produces the full range of themes to be analyzed but does not reduce their number (Mackey, 2014). The unit of thematic analysis, whether individual words or something else, would depend on the student's data source. As students determine the themes, or "open-code" the information in their data source, they typically judge only the information's "manifest content," or that which is on the surface and straightforward. Berg (2009) contrasts this manifest content with latent content, which depends on the coder's interpretation of words and phrases. The third stage of content analysis

is *axial coding*, which involves "relating subcategories to a category" (Strauss & Corbin, 1990, p. 114). While open coding creates a wide range of categories, axial coding connects related categories and themes and thus reduces the number of categories. The coding process is described in more detail in the work of Block and Ruffolo (2015, pp. 313-314), Klofas and Cutshall (1985, p. 373), and Mackey (2014, p. 2). For example, in the video titled "Open Carry Legal in New Hampshire?," the 2,300 comments were ultimately categorized into 17 unique categories (Mackey, 2013). Each category would need a mutually exclusive definition to distinguish it from other categories and a detailed process of coding to address potentially overlapping themes. For example, six of the 17 categories were: benefits of open carry, critical of open carry, favorable of the police handling of the encounter, critical of the police handling of the encounter, positive attributions of the main protagonist, and negative attributions of the main protagonist.

Once students have identified the themes in their data, we work with them to define those themes. The quality of the students' coding and categorization of their data is demonstrated through *inter-rater reliability*, which they must assess. To do so, most students select a sampling technique, draw a sample from their data, and share their results with another student or group. Students who are working alone can determine *intra*-rater reliability by drawing another sample themselves and repeating the coding procedure. To help students navigate this process, we divide the project into increments, with each increment having its own due date. With the permission of previous students,

we also provide our students with examples of strong projects from previous semesters.

Methods

To evaluate and assess the learning objectives of the CAP assignment, we collected four semesters' worth of feedback data (Spring and Fall 2016, Spring 2017, and Spring 2018) from research methods students for whom we were the instructors of record (four classes total). This analysis relies solely on the results of student feedback obtained from our face-to-face course offerings, as few students enrolled online provide faculty/course evaluations. The CAP was a course requirement for each of the methods classes for which outcomes were assessed. Because assessment of the CAP assignment would be a major component of this paper, we obtained a significant number of student evaluations ($N =$ 74) over multiple semesters. We then organized the assessment data in the aggregate so that no one student or term could be identified.

Quantitative Assessment of
Student Learning Objectives

Administered on the last day of class to each of four course sections, the evaluation instrument contained both closed- and open-ended questions (see Table 1 for the closed-ended questions, as well as the means results for each of these questions). We used SPSS software to analyze responses to the nine closed-ended (i.e., quantitative) questions. Students responded by placing a vertical slash on a 10-cm line (a variation of magnitude estimation) somewhere between "totally disagree" on the left and "totally

agree" on the right (scored 0-10). We have used this response category successfully in previously published research efforts. The first five questions emanated from the specific learning objectives of the assignment, but we also included a handful of other questions relating to measuring (1) the relevance of the assignment, (2) job tasks in CJ, (3) whether enough examples were provided for the CAP, and (4) the helpfulness of the required course text. Specifically, we were interested in measuring the extent to which the CAP facilitated student learning and engagement in the course.

Qualitative Assessment of
Student Learning Objectives

Realizing that open-ended questions would provide richer feedback, we offered students three opportunities to provide comments. We organized and analyzed the responses to these open-ended questions by using NVivo (qualitative data analysis software). Student comments were coded into themes that emerged from the data. Manifest content of the student comments was used to determine themes, and all coding and content analysis was completed by one of the authors. Thus, to analyze our data, we used the same process (immersion, open coding, axial coding) we had taught our students to use in the CAP assignment. Describing the themes helped us to conceptualize them prior to operationalizing the themes (i.e., coding/dividing them into categories). A single sentence in a student comment could contain multiple themes. The number of themes that emerged from the data (student comments) and the "total comments" offered by students were summed and are listed at the bottom of every table of results

presented here. Each time a comment, or part of a comment, was identified as a theme, it was counted as a "reference" (the term that NVivo uses) and coded accordingly. Individual theme percentages were calculated by dividing the frequency counts of themes (references) by the total number of comments offered by students (see Table 2).

Results

From the student evaluation instrument, we first assessed the quantitative questions addressing student learning objectives. We find that the results were generally positive, with the two highest means/scores being Question 5, "The CA project allowed me to analyze original data and draw conclusions" (a mean of 8/10), and Question 7, "Examples were provided which helped explain the project, yet still providing the opportunity for students to develop their own unique projects" (a mean of 8/10). Because we spent so much time showing students the relevance of the CAP assignment to actual job tasks in CJ professions, we were pleased to see a mean of 7.3/10 on a question about relevance. The lowest assessment score, one that was unrelated to the objectives of

Table 1:

Student Evaluation Results—Quantitative Data

Item #	Question (response measured on 10 cm line, from totally disagree to totally agree, scored 0-10)	Mean
1	The CA project has helped me learn how to locate appropriate academic sources, synthesize, and compose a literature review.	7.7 / 10
2	Because of the CA project, I have been able to demonstrate appropriate writing skills for the discipline of criminal justice.	7.1 / 10
3	The CA project has helped me to demonstrate problem formulation, conceptualization, operationalization, and sampling techniques and to assess validity and reliability.	7.4 / 10
4	The CA project taught me to construct and manage an original data set.	7.8 / 10
5	The CA project taught me to analyze original data and draw conclusions.	8.0 / 10
6	The instructor explained the relevance of the content analysis assignment to actual job tasks in criminal justice professions.	7.3 / 10
7	Examples were provided that helped explain the project yet still gave students the opportunity to develop their own unique projects.	8.0 / 10
8	I was able to connect what I learned doing the content analysis project to terms, concepts, and procedures from the text and class.	7.2 / 10
9	The required textbook for the course was helpful in facilitating my learning of course material.	6.4 / 10
		$N = 74$

the CAP, concerned the required textbook. One class of 19 students had been asked to provide their thoughts on the textbook and 95% of them had very positive comments to offer about the book, suggesting that there may have been some confusion about this particular evaluation item, thus, we will look to reword this item in the future so students will know that "course material" includes content and qualitative data analysis.

The three open-ended questions concerned what students liked most about the CAP, what they liked least, and how the assignment could be improved. First, we assessed what students liked most about the CAP. Representing the largest category of references (20) were students who stated that they enjoyed the project and/or believed that the CAP was fun and/or exciting. "I enjoyed creating my own data and analysing [*sic*] its meaning," one student wrote. Another student offered, "To analyze 500 comments, first

Table 2:

Analysis of Student Responses to the Question "What did you like most about the CAP?"

Theme label	Theme description	# of references	%
Enjoyment of the project	Enjoyment of the project and/or the CA project was fun and/or exciting	20	20
Learned a lot	Learned a lot from the project in general or the project facilitated greater understanding or orientation of certain components of the project	18	18
Letting us choose the project	Could find and use our own data set on a topic that was more/most interesting to us	14	14
Could call it my own	Enjoyed compiling my own data and/or conducting my own research	7	7
Something new	Project was something completely new to me	7	7
Project was split up	Liked how the project was split up into smaller sections to make the project less overwhelming	6	6
Hands on	Enjoyed doing "hands-on" research	5	5
Topic was interesting to me	Liked the process of collecting and analyzing data on a topic that was of interest to me	5	5
Nothing or not sure	Didn't like anything about the project, not sure [or response was vague]	5	5
Had lots of time to work on it	Appreciated that the instructions were provided at the beginning of the term and/or had a good amount of time to allot to each part of the project	3	3
(101 total comments / 18 thematic categories / top 10 themes)			

time ever in my life, it was cool." Some students wrote that certain portions of the project were fun or exciting, such as the coding process itself or the sampling component of the project. "The sampling [portion] of the project (CA#3) because i [*sic*] had the opportunity to code. Coding was very exciting." In addition to enjoying the project, several students confided that the CAP facilitated their learning and increased their understanding of certain components of the project (18 comments). Several students were grateful for having had the opportunity to choose the subject area of their project (14 comments). It should be noted that the CAP was required in addition to lecture material about other, more traditional research methods–related topics, such as sampling, survey design, and experimentation, among others. The CAP thus provided an opportunity for students to learn and then use and assess important procedures and concepts related to research methodology, such as sampling, assessing reliability and validity, using archival and secondary data sources, and so on. We believe that students learn more material and are better able to apply what they have learned when they actually complete the tasks and processes associated with research methods. Judging by several of their open-ended comments, the CAP did result in increased learning. One student wrote in the course evaluation, "Doing the project made me understand the concept [as] opposed to just hearing about it in a lecture."

Although 18 comments referenced learning a great deal from the project, some students also noted the difficulty and time-consuming nature of the project. For example, one wrote, "[You] Cannot half-a@@ this project. [It was a] Good

learning experience." Other common themes that emerged from the responses to the question about what students most liked about the CAP were: (a) being allowed to choose the topic/subject area of the project (14 references), (b) the novelty of the project (7 references), (c) being able to call the project their own (7 references), (d) the manageability of the project, given that it was split up into sections (6 references), and (e) the "hands-on" nature of the project (5 references), among others. Although students found the project challenging and time consuming, it is apparent to us after reading these comments that many students were better able to understand the concept of content analysis by actually "doing it" and walked away from the course with a greater understanding of the method and its relevance to the field.

Second, we assessed what students liked least about the project. Clearly, some students were confused by the CAP, as the response "the assignment was confusing" accounted for 15 references (Table 3). Some remained confused throughout the project (e.g., one student stated, "I still feel somewhat lost during the course of the assignment, I wasn't exactly sure about whether I was doing the project the way it was supposed to be done"), while others were confused mostly at the beginning of the project but became less confused as their work on the project progressed (e.g., "Just was a little confusing in the beginning but became much clearer after it was discussed in class"). Many of the student comments citing the confusing nature of the project also mentioned its time-consuming nature. Although these two categories were coded into different themes, comments like the following were not uncommon:

"Not enough time and I still feel as if I don't have a full grasp on what and how to do content analysis." This is a good example of a student comment that could be, and was, coded under two different themes: not enough time to spend on the project and the confusing nature of the project.

Several student comments mentioned confusion with, and lack of time for, the assignment.

Fourteen comments specifically mentioned the "amount of time the project took" as something that they liked least about the project, while 11 mentioned that there was not enough time to produce a quality product. Although we believe that these two complaints represent distinct categorical themes, they both deal with time or the lack thereof, and, if combined, they represent 25 of

Table 3:

Analysis of Student Responses to the Question "What did you like least about the project?"

Theme label	Theme description	# of references	%
Confusing	Assignment was confusing, hard to understand, and/or vague	15	18
Amount of time it took	Project was time consuming	14	16
Not enough time to spend on the project	There was not enough time to work on the project to produce a quality result	11	13
Miscellaneous	[This is a kitchen sink category where no other themes emerged. Items included "there were too many parts to it," "I had to work by myself," and recommendations for the course as a whole, not the CAP specifically, among others	11	13
Literature review	Did not like the literature review component of the project	9	11
Overwhelming/difficult	The project was overwhelming at times and/or difficult	8	9
Not enough assistance or examples	Believed there was not enough assistance, guidance, and/or examples to complete the project	4	5
Coding	Did not care for the coding process, or found the coding process to be the most difficult and/or confusing aspect	3	4
Length the paper had to be	The length of the paper and/or how long the project was or had to be	3	4
Could not find an appropriate, interesting data source	Had difficulty at the beginning of the project finding an interesting, relevant, or appropriate data source to use	2	2
Total newness	Didn't like how the project was something totally new and/or unfamiliar	2	2
(85 total comments / 13 thematic categories / top 11 themes)			

the 85 (29%) total references for this open-ended question. Clearly, this was a time-consuming project, and that is one reason we had decided to divide the project into four components. Our goal was to make the project more manageable. Among the other themes that emerged in the "least liked" open-ended response category were (a) the literature review (9 references); (b) the difficulty of the project, to the point of being overwhelming at times (9 references); and (c) not enough assistance or examples (4 references).

To assess the reliability of our thematic coding of the student comments, we trained a research assistant to do a random check. The assistant randomly selected the question "What did you like least about the project?" and coded the responses. We then compared these recodes to our original coding to determine the extent of congruence in applying coding rules. This process resulted in 63 agreements out of 85 themes (within 70 comments) generated from the individual responses to this question, resulting in a reliability coefficient of .74. Other research efforts exploring similar types of data and using similar methods have considered reliability coefficients in the .70 to .80 range to be acceptable or satisfactory (see, for instance, Block & Ruffolo, 2015; Dupre & Mackey, 2003). Most disagreements among coders occurred within the "difficult" and "confusing" and "time consuming" and "not enough time" themes, which suggests that coding rules and descriptions of these themes should be more narrowly defined in future analyses. Although we still believe that each of these themes represents a distinct category, all of them are certainly theoretically similar,

resulting in potential coding disagreements. In any event, given the high frequency of references for all of these themes and how they are displayed in Table 3 (by descending frequency), the reader can easily determine which themes are most numerous and thus most important to students.

Last, we asked the students if they had any suggestions to improve the project. Because the CAP was new and represented a great deal of work for students, we were very interested in student responses to this question. Among those students who responded to the question (versus those who left the space blank), 21 of the 70 total comments for this category (30%) offered no specific suggestions for improvement. This comment is representative: "I am afraid I have no real suggestions to give besides recommending you keep doing it." As this example shows, some of these comments in the "no specific suggestions" theme recommended that we continue to do something that we were already doing with the project, like keeping the CAP divided into increments or continuing to use student examples to facilitate student learning (e.g., "Continue to use past students [*sic*] examples – they helped a lot!!") (Table 4).

The second most commonly referenced theme comprised student recommendations that more time be spent on the CAP (15 references; 21%). One student commented, "I liked that you provided examples and I learned a lot from this project! Would suggest a little more time to complete each section of the project." Of these 15 references, about half (8) specifically suggested that more class time be spent on the CAP. For example, one student wrote,

"Overall I liked the project but I think that we should have gone over requirements and how to do it in class more." More specifically, "Some time in class to work on it; it would be nice to get insight from classmates and professor cause [*sic*] I'm not an outspoken person." Additional themes that emerged from these responses were that more examples would have been helpful (9 references; 13%) and that more details and/or explanation of the project would have helped (8 references; 11%), among others.

DISCUSSION

The CAP described here allows students to become familiar with research design concepts and analysis techniques in a structured, intensive learning experience. For the CAP, students must not only learn methodological concepts but also evaluate and apply these concepts to a research problem. Although some improvements to the CAP could be made, a review of the student assessment data collected thus far reveals that we

Table 4:

Analysis of Student Responses to the Question "Do you have any suggestions for improvement?"

Theme label	Theme description	# of references	%
No suggestions for improvement	No suggestions for improvement were offered	21	30
More time to spend on the project	More time to spend on the project would be beneficial	15	21
More class time for the CAP specifically	Specifically suggesting that more "class time" be spent on the CAP	8 (out of 15 above)	11
More examples	More examples would have been helpful	9	13
More explanation of expectations	More details and/or explanation of the project would have helped	8	11
Miscellaneous	[Comments here included "smile more," "I liked the pizza party," among others]	7	10
Be provided with a few topics to choose from	Pre-selected topics and data sources (provided by the professor)	2	3
Modification of deadlines	A modification of deadlines was suggested to make the project easier or more doable	2	3
	[Themes with 1 reference are not displayed]		
(70 total comments / 13 thematic categories / top 7 themes)			

are meeting the learning objectives. One of the advantages of the CAP is that we can have the students collect existing, archival, or other unobtrusive data, which does not require Institutional Review Board approval, thus saving valuable time during the brief weeks of the course term. In line with the observations of Block and Ruffolo (2015), we note that the typical data sources and methodology for the CAP have several limitations. While existing online discussions provide accessible data and typically do not require IRB approval, they present a number of challenges. For example, there is no opportunity for interaction and follow-up with individuals. In addition, the validity of the information typically used for these projects may be questionable. Depending on the specific source used, there may be data from trolls, advertisers, and posers. However, the positive attributes of the data may mitigate these concerns. Block and Ruffolo note that postings can be more authentic and naturalistic, since they are not produced by researcher prompts. They also point out that internet-based content analysis may be useful for accessing hard-to-reach populations. For this assignment, it is important to have a source of data that can be collected at one point in time. These limitations do not exist for content analysis of documents and archived material, which have been employed in research methods courses for sociology students (Peyrefitte & Lazar, 2018; Wollschleger, 2019).

Wisecup (2017) recognizes the importance of connecting research skills and experiences to career aspirations. Despite our efforts to demonstrate this connection, some students still struggle to see how content analysis is relevant to the careers they envision. One way to address this problem might be to have guest speakers describe how they employ content analysis in their work. This could tie in nicely with an opportunity for students to conduct occupational/professional interviews and/or inquire about agency internships. We have discussed the process of these interviews, as well as the benefits thereof, elsewhere (e.g., Mackey & Courtright, 2014). Although Miller, Rocconi, and Dumford (2018) report a stronger association between undergraduate student participation in research with faculty outside of a course with their subsequent graduate school attendance, they also note undergraduate research had a positive correlation with students reporting starting a new job after graduation.

Given the student comments about what we could do to improve the CAP, it is clear that the examples we provide are helpful, so we intend to keep providing them. Some students wanted more examples. In the past we have asked students who wrote very strong projects for permission to digitize their work/proposals and share them with students enrolled in future sections of the course. It is also clear that some students struggle with how to actually code data into themes. Although we talk about how to code, as well as the different ways to code, it is possible that students would benefit from actually witnessing how this is done. In light of these comments, we intend to spend more time in actually *showing* students how to code data (i.e., words and sentences) into themes. This could be accomplished via using Excel and/or Word, and perhaps NVivo (qualitative data analysis software) to provide students with visuals of

the coding process via selecting and highlighting certain words or phrases from a data set and dropping them into themes (called "nodes" in NVivo). Walking students through this process, one step at a time in the classroom, would likely help them visualize and thus better understand the coding process. Through this modification, we expect that we could improve upon at least some of their confusion and their "suggestions for improvement" noted in Table 4. In addition to providing students with more specific coding examples, we will continue to look for ways to streamline the assignment, perhaps considering modifying the CAP into *one* stand-alone homework assignment (with reduced requirements of course) in a series of other (unrelated) assignments. We suspect that at least two of the top three "least liked" aspects of the assignment listed in Table 3 ("amount of time it took" and "not enough time to spend on the project") would be improved in so doing. Future assessments of the project, given these modifications, would show whether or not such changes would influence student learning objectives. Using a previously developed topic and data set, we could illustrate conceptualization and theme/node creation and continue on to the coding process (making multiple passes through the data) and perhaps conclude the walk-through with assessment of reliability—all done in the classroom for students to see. Considering the feedback already received, we believe this approach would help at least some of our students.

As mentioned above, it is apparent that we need to at least explore ways to streamline the assignment. Because of the COVID-19 pandemic this past term, many classes that were initially face-to-face were thrust online. This provided one of the authors the opportunity to attempt to streamline the assignment into an *analysis-only* portion of the assignment whereby students were provided a data set and a research question and were asked to analyze a random (10%) sample of last statements by Texas death row inmates (which are publicly available) with a specific research question in mind. In this streamlined assignment, students did *not* have to come up with a topic, find a data set, complete random sampling of the data, nor complete intra-rater reliability. Students could focus their efforts solely on analyzing textual data. The quality of these efforts seemed high, especially given the timeline for completing the assignment, which was three weeks. Due to the uniqueness of the spring 2020 term (i.e., the pandemic), this shortened version of the assignment was not evaluated, but this "experiment" seemed to go well enough to try again and can certainly be evaluated at a later date.

We continue to use this assignment in our research methods classes. Based on student feedback, we believe that the CAP, although it represents a substantial amount of work for everyone involved, is a worthwhile project and one from which students can learn a great deal. When viewed through the lens of the National Survey for Student Engagement, the CAP meets the definition of several of their recommended "high impact activities for an undergraduate program" (2007, p. 8). With so many students (N = 21) offering "no suggestions for improvement of the CAP," we believe that the CAP is a successful and worthwhile assignment, and we will continue experimenting with it and expanding upon our baseline data. The CAP assignment increased our

interactions with students more as they navigated this complex assignment that involves learning a technique completely new to them. This is an assignment that students have to actively engage in to complete and do well in. Inevitably, some students chose not to take an active role, but most do. In our opinion, the students who engage are excited to use their creativity, imaginations, and critical thinking skills on such a unique assignment. As educators, it is refreshing to work with students as they use their imaginations and problem solving skills. Having said that, this is obviously a time consuming process for both students and faculty so this kind of assignment lends itself to smaller classes and faculty who are not afraid to hold office hours and meet with students outside of the classroom.

Lastly, we are pleased to report that at least four of our research methods students have participated in Edinboro University's annual Celebration of Scholarship (COS), a college-wide event in which students, in consultation with faculty, present their research in a competitive yet supportive forum. Two groups of students won recognition and financial awards (from the provost's office) for their research, so it is apparent that the CAP can result in high-quality and interesting student research.

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Appendix A

Research Methods in Criminal Justice:
Multi-Stage Content Analysis Assignment

Learning Objectives

1. Locating appropriate academic sources, synthesizing sources, and composing a literature review
2. Demonstrate writing skills appropriate for the discipline of criminal justice
3. Demonstrating problem formulation, conceptualization, operationalization, and data sampling techniques, as well as assessing reliability of data
4. Constructing and managing an original data set
5. Analyzing original data and drawing conclusions based on that analysis

Grading

There are two grading options for the assignment: individual or group (group members would receive the same grade for the project). Students must choose a grading option at the start of the assignment. You should fully consider the advantages and disadvantages of each option prior to making your decision. The grading for this assignment is based on polished drafts and revisions. Therefore, it is key to turn in work by specific due dates. Material turned in late will be penalized at each stage of the process.

Topic Selection

The assignment is based on polished drafts and revisions. Therefore, it is key to hit specific due dates. Late papers will be penalized at each stage of the process. *This handout is not intended to serve as a "how to" list for the project, but instead is intended to give students some idea as to how the CAP will unfold throughout the term and what kinds of processes will be involved in each stage of the project. More specificity on each stage of the process will be provided to students as the CAP unfolds.* Although specific examples will be provided in class, points to consider before selecting a topic and gathering data:

-- Is the topic researchable, given the available time, resources, and data accessibility?
-- Do you have a personal interest in the topic that might help to sustain your attention throughout the project?
-- Does the study topic fill a void or replicate, extend, and develop new ideas in the scholarly literature?

-- The research problem needs more than a yes or a no response or a relation; you need an interpretation of data.

-- The research problem is also not just producing a statistic or a number.

-- Also, make sure it's not being used just to support a position. This would be more of a position paper rather than a scientific paper.

Part I: Introduction (two to three paragraphs, with sources properly documented in APA citation style)

The introduction to your content analysis paper should contain a brief overview of the issue/problem that you will study. This section should address the social or policy significance of the problem. The significance of the study is the "so what?" aspect of the project. The introduction should culminate with the purpose statement, which establishes the direction for the research. The purpose statement is a one-sentence synopsis of the overall purpose of the study. The writing style should be formal and use the third-person point of view. Write this introduction in a way that stimulates interest and conveys the importance of the issue; a broad readership should be able to relate to it. Although drafting the content analysis paper will begin with the introductory section, keep in mind that it may be necessary to revamp the introduction quite a bit by the time you complete your study and prepare the final version of your paper.

Part II: Literature Review (five to seven pages, minimum of 12 academic sources)

The purpose of this portion of the content analysis assignment is to produce a quality review of the existing literature related to your research topic. The review of the related literature should indicate how your study fits into the context of the research that has already been published. The literature review should discuss a minimum of twelve scholarly works related to your topic. Some of the scholarly academic sources you discuss may be the same ones you mention in your Introduction. The structure of the literature review will be determined by the nature of your research topic.

Part III: Methodology (four pages, appropriately documented) Key areas to address (checklist):

-- Explain how your study picks up where the already published literature left off or how it follows the lead of previously published work

-- Discuss why content analysis is a worthwhile tool in the field

-- Describe the nature and type of data

--Conduct content analysis

--Describe the coding process

--Detail conceptualization & operationalization of themes

--Appendix to illustrate themes

--Assessment of the quality of the measures:

--Detail sampling used to determine reliability (inter-rater)

--Validity

Part IV: Results and Discussion (four paragraphs)

--Describe your findings

--Describe how your findings reflect your purpose statement

--Describe how your findings compare to those of the scholars whose works are discussed in your literature review

Appendix B

Content Analysis Research Project Scoring Rubric

Area	Below Satisfactory	Satisfactory	Point allocation
Title page per model (**DEC 9**)	Bland title	Conforms to the model Descriptive & interesting title for the paper	/5
ID data source (**OCT 5**)	Late	Workable data source for content analysis (feasible, …)	/5
Introduction: Problem and significance (**POLISHED** Draft due **OCT 16**)	Spelling/APA errors Unfocused purpose statement or too broad/vague; not engaging development of topic; and/or significance of the topic not elaborated.	Clear and concise purpose statement; creates interest in topic; and addresses significance of the study (2 to 3 paragraphs)	/ 10
Introduction final (**DEC 9**)	Spelling/APA errors Unfocused purpose statement or too broad/vague; not engaging development of topic; and/or significance of the topic not elaborated.	*submit Introduction draft hardcopy with comments Clear and concise purpose statement; creates interest in topic; and addresses significance of the study (2 to 3 paragraphs)	/20
Literature review draft (**POLISHED Draft due OCT 30**)	Spelling/APA errors Lack of integration and synthesis of sources Excessive quotes	APA style referencing in text; APA reference page; Requisite amount of scholarly articles/sources; Integration of source material; Avoided overuse of quotes	/ 25

Literature Review: (**final DEC 9**)	Ineffective use of transitions between paragraphs; No clear organizational structure, appears rambling and disjointed	Discussion of scholarly studies on the topic; How does this study relate to and extend the related literature Writer presents information in logical, interesting sequence which audience can follow; Headings used to organize material where appropriate (5 page/ minimum of 12 scholarly academic sources) Draft copy with comments resubmitted with paper; Draft comments addressed;	/ 30
Content analysis as a method (**DRAFT NOV 9**)		Describe the nature and type of data; Describe content analysis; Describe the coding process; Detail conceptualization & operationalization of themes; (4 pages)	/ 60
Assessment of the quality of the measures:		Reliability (inter rater reliability) * indicate who performed inter rater reliability Validity Detail sampling where appropriate (methods section)	/ 10
Results & conclusion **DEC 9**		Discussion of results; Restates and connects to the introduction Appropriate statistics to describe data Appendix to illustrate themes	/ 20
Mechanics and Sentence Structure DEC 9	sentence construction, organization, paragraph organization	Paper is meticulously proof read ***Paragraph transitions*** ***Writing style integrating citations*** ***Spelling errors- errors docked at 2 points each*** 0-2 errors 10; 3-4 errors 5; 5 plus errors 0	/10 Spelling already Deduct ∞

Referencing & Citation	Less than 12 scholarly academic sources; References listed but not cited in the body of the paper; **APA Errors docked at 2 points each**	Paper is formatted in APA style; citations in text and reference page formatted correctly. All references in the 'works cited list' are cited in the paper; Minimum of 12 scholarly academic sources are used 12=10, 11=8, 10=6, 9=5, 8 or less = 0 0-2 errors	/10 Deduct ∞
			/ 10
Total points: Letter Grade:		points earned = points	/ 160 Final grade: /100

Appendix C

Selected Components of Criminal Justice
Research Methods Course Syllabus

CONTENT ANALYSIS PROJECT (CAP):

For the purpose of demonstrating an understanding of course materials and the ability to apply them to a practical situation, each student will be required to complete a content analysis research project. Each student will plan a reasonable research project -- starting with a topic and literature review and ending with a discussion of a results section. To make it more manageable, the project will be broken down into *four smaller projects*: 1) topic selection and justification of the topic as a research problem; 2) literature review; and 3) developing a viable design (methodology) to carry out the project, including operationally defining the terms and concepts that will be used in your proposed study and collecting data (methods), and 4) presenting your results and providing a discussion of same. In order to successfully complete these assignments, you will need to make extensive use of your class text, on-line resources, and the library. In its entirety, the project is worth 40% of the final grade. Due to time constraints and the number of students I will have this term, re-writes of the various sections of the proposal will not be possible or accepted, however, you are encouraged to call, email, or visit me during office hours *prior* to handing your assignment in to see if you are on the right track, particularly, if you are confused or have questions. **Please note:** All assignments are due in class on their respective due dates. *In fairness to all, assignments turned in late will be penalized 5 points for each day they are late.*

TENTATIVE COURSE OUTLINE / READING ASSIGNMENTS:

This outline is intended to 1) provide a tentative schedule for the topics and events of the semester, and 2) to provide students with a schedule of the assigned readings. **To do well in this course and successfully complete the project and all assignments, you will have to read and possibly re-read all the assigned readings AND be an active participant in the class. NOTE: This schedule is tentative and is subject to change at any time by your professor.**

Week 1 –   Introduction; description of course requirements and policies;
(1/22)   Introduction: Why care about research methods?
                  Read Dixon et al. - Chapter 1

Week 2 –   Science and social research
(1/29)   Read Dixon et al. - Chapter 2

**last day to add or drop a course – Monday, January 29th Library presenta
tion about here…**

Week 3 – (2/5)	Designing, organizing, and writing a research proposal Read Dixon et al. Chapters 4 & 14 **content analysis project #1 distributed about here quiz about here**
Week 4 – (2/12)	Ethical considerations of social science research and Human Subjects Review boards Read Dixon et al. - Chapter 3 **extra credit opportunity #1 distributed about here…**
Week 5 – (2/19)	Concepts, operationalization, and measurement Read Dixon et al. - Chapter 5 **content analysis project #2 distributed about here**
Week 6 – (2/26)	Week #5 continued & Sampling introduction
Week 7 – (3/5)	Sampling Read Dixon et al. - Chapter 6 **mid-term exam on Wednesday, March 7th extra credit opportunity #2 distributed about here**
Week 8 – (3/12)	**SPRING BREAK**
Week 9 – (3/19)	Experimental and quasi-experimental designs Read Dixon et al. – Chapter 7 extra credit opportunity #3 distributed about here
Week 10 – (3/26)	Qualitative data and qualitative data analysis Read Dixon et al. – Chapters 10 & 13 content analysis project #3 distributed about here
Week 11 – (4/2)	Field research and interviewing Read Dixon et al. – Chapter 9 last day to withdraw from a course – Friday, April 6th

Week 12 –   Survey research
(4/9)   Read Dixon et al. – Chapter 8

Week 13 –   Survey research continued
(4/16)   **content analysis project #4 distributed about here**

Week 14 –   Evaluation research
(4/23)   (A break on the reading for you here…)

Week 15 –   Course wrap-up and review for final exam
(4/30)   **last day of class – Friday, May 4th**

Week 16 –   **Final exam – Wednesday, May, 9th from 12:30 – 2:30pm**
(5/7)