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Using a Deconstruction and Reconstruction Approach in a First-Year Seminar Course

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Abstract

Aim: First Year Seminars (FYS) are a high-impact practice for student success. FYS seminars can offer both personal development and academic goals. Incorporating research papers and presentations into FYS can be challenging to teach but can provide value to students not receiving these skills in other first-semester courses. The goal of this paper was to lay out the details of a deconstruction and reconstruction strategy for teaching research skills in an FYS course.

Methods: In the deconstruction and reconstruction approach, students take apart research papers into parts to gain a deeper understanding of how research works. The parts of the research paper are then put back together with the student writing a paper and doing a class presentation. Detail is provided into how to implement this strategy in a classroom, including information on assignment language.

Results: This new approach was successful when piloted in a section of the FYS course. Student performance on the deliverables in the course was high. And post-course surveys of students showed positive impacts of their FYS skills on future courses.

Conclusion: This strategy focuses on skills in research, PowerPoint, and public speaking. At the end of the course, the students' presentation skills had improved. A deconstruction and reconstruction approach were found to be feasible and potentially valuable. This represents a new approach to teaching research skills in FYS courses.

Recommendations: This strategy can be adapted for courses that utilize faculty from diverse academic disciplines. The ability to teach research skills with faculty from across disciplines could increase student interest in FYS courses and relieve staffing constraints by expanding the pool of eligible faculty. While a promising new method, further research is needed to evaluate its long-term impact on student outcomes.

Keywords: *First-year seminar, research paper, presentations*

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INTRODUCTION

This study aims to describe the creation and pilot testing of a deconstruction and reconstruction approach for teaching research writing in a First Year Seminar course. This approach has students take apart published research papers into pieces to be able to put them back together in a coherent manner. This new approach is designed to accommodate the teaching of research papers in an FYS course with faculty from a diverse range of disciplines who may lack experience teaching this content. While the approach was created and piloted in a First Year Seminar course, it could be useful in other course environments as well.

First Year Seminar (FYS) is an important course in students' preparation for and engagement with the college experience. FYS often has multiple goals, which can vary by institution. Some universities' FYS courses are more focused on personal development/social skills while others view FYS as a wholly academically oriented course. This paper discusses an experimental approach taken in the academic component of a required three-credit FYS course which pursues a mix of developmental and academic goals.

The institution discussed in this paper is a comprehensive university in the Northeast with approximately 4,000 undergraduate students. This institution's FYS course is team-taught by a faculty member and a peer leader. The peer leader is an undergraduate student who is trained in the FYS curriculum and is integral to helping to meet the personal development/social connection goals of the course. The personal development objectives include skills like introspection, perseverance, empathy, and curiosity, which are important features of FYS programs (Murray *et al.,* 2023). The largest academic component in this FYS course is a research paper/project based on the individual section's academic theme.

Having a research paper in a first-semester course taught by faculty from across different departments is a challenge. Many faculty members teaching this course do not typically teach students how to write research papers as this skill is taken for granted. This is not the case in a first-semester FYS course. In the Fall of 2024, the researcher used an experimental "deconstruction and reconstruction" approach in his FYS section. Instead of building a paper from scratch, students deconstructed (broke into parts) an existing published academic research paper. Students completed presentation slides and write-ups on each component of their chosen research paper: Abstract, hypotheses, literature, methodology, results, and implications for future research. This culminated in an end-of-semester presentation and paper.

Academic Content in the FYS Course

First Year Seminar is a three-credit first-semester core course taken by all incoming students at the institution. Their FYS course has approximately 30/70 split between social/personal development and academic content. The FYS course is staffed by faculty from any department. This can be a challenge in creating content and methods that can be delivered by faculty from varied academic areas. One of the primary motivations for incorporating academic content into FYS is the American Association of Colleges and Universities High Impact Practices. The FYS course seeks to include three of the eleven high-impact practices: First-Year seminars, Diversity Learning, and Undergraduate Research (AACU, 2024). This FYS course also has some components of Common Intellectual Experiences and Writing-Intensive objectives. There are common readings and assignments related to DEI in the course. Diversity can be an important part

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of FYS, although its impact can vary (Dean & Nestor, 2024; Lawrence & Pliner, 2008). DEI is part of the common content in the FYS course and is not necessarily related to the individual section's academic theme. Each section of FYS at the institution has an academic theme chosen by the individual faculty member. The academic theme can have any emphasis and be from any discipline.

Students in FYS are required to write a research paper focused on the section's academic theme. The challenge is that students in FYS are in their first semester and most do not have experience writing a college-level research paper. FYS instructors need to teach students how to write a research paper in a course with multiple objectives to achieve and is taught mainly by instructors who may not explicitly teach this in their disciplines. Many faculties have research papers required in their courses but do not generally teach the fundamentals of how to write a paper as they assume this has been covered in previous course works. Writing a research paper is a fundamental skill students ought to develop in college. It teaches them how to identify which sources constitute credible evidence, how to analyze it, and how to develop an argument based on it.

Formally teaching students how to write a research paper "from scratch" is particularly challenging when dealing with first-year students. New college students often lack familiarity with how to create a hypothesis and what constitutes proper evidence to support their argument. Students occasionally confuse opinions for evidence and can use non-credible sources. This deconstruction approach is designed to avoid these problems by presenting students with a completed research paper as a foundation on which to start their work.

Deconstruction and Reconstruction Approach to the Research Paper

The typical approach to a research paper involves giving students instructions on how to write it and a series of deadlines for deliverables. However, there exists a significant challenge in that first-semester students may not have enough knowledge to know if they are doing it correctly or not. In tackling this challenge, a section of FYS has experimented with the pedagogical approach of deconstruction and reconstruction. The primary goal of this approach is to increase research and presentation skills. The secondary goals are improving students' critical thinking skills and reducing the anxiety students face when writing a college research paper for the first time.

While the deconstruction method has been utilized in the sciences (Clark *et al.*, 2009), its application to FYS is novel. This approach can be illustrated through the analogy of teaching students how to build a car. The typical teaching approach would be to give students the car parts, and instructions and then have them assemble the car. However, it can be incredibly challenging to accomplish this task if the student has never seen a car. Using the deconstruction and reconstruction approach would have students systematically dissect a car into its pieces and then put the car back together. This approach offers a scalable solution for teaching research paper writing in first-semester courses and addresses gaps in FYS pedagogy.

To help prepare students for the project, the experimental sections of FYS had a reading list of journal articles that students were required to outline and discuss in class. To start the project, each student chose an article of interest from the theme (but not from the class reading list). Students were shown how to use academic literature search engines and how to pull papers from the references of existing articles. Over the course of the semester, students took their chosen journal articles into pieces (deconstruction). The project had six parts due throughout the semester.

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The project is broken into several parts with deadlines throughout the semester to maximize feedback and to lower student anxiety. As students receive feedback, they gain confidence in completing the next part of the project. Research has found that repeated writing can increase self-efficacy for students in FYS courses (Goodman & Cirka, 2009). For each part, the student made PowerPoint slides and writing and the faculty member reviewed each milestone. The project culminated in a final presentation in front of the class at the end of the semester along with a 5–7-page paper. Students learned what a research paper's hypothesis looks like and how it comes out of a gap in the literature. The students learn how this hypothesis is tested in a paper and what constitutes real evidence, opinions, or conjecture. Students learn the fundamentals of what it means for something to be a research paper. To use the previous analogy, students learn how to take the car apart, put it back together, and then explain to a room of people how it works.

The six parts of the project were as follows:

Part 1: Students start by retrieving an abstract, citation, and electronic copy of an article related to the academic theme using online academic search engines. Students then make two PowerPoint slides. The first is a title slide (title, author, citation) and the second contains a bullet list of points from the abstract. This first part of the project allows students to see how an abstract provides a useful "snapshot" summary of the research paper.

Part 2: In this part, students need to identify the thesis/research question of the paper which they chose. They respond to prompts such as "How does this paper contribute to the literature (overall conversation) and/or policy?" and "Why is this an interesting question?" Students make two PowerPoint slides. The first slide is the research question and the second discusses why the paper is interesting/important to read. Creating a hypothesis is a very challenging part of the research paper process for students. This part of the project allows students to understand what a hypothesis looks like in a research paper.

Part 3: The third part of the project has students outline the previous literature on which this paper's work is based. They use the citations in the paper's introduction/literature review to help them learn how to categorize the literature by topic area. Then they make 1-2 PowerPoint slide(s) with bullets listing the main lines of literature the paper is based on. They write the ideas of the papers and answer prompts such as "What are the few main hypotheses/arguments on which this new paper is based?" This part of the project helps students to understand that research papers are based on previous work in the literature.

Part 4: In this part, students discuss the methodological approach of the paper. They answer prompts such as "What approach are they taking to answer this question?", "Are the authors gathering their data or using existing data that someone else previously collected and used?". Students make two PowerPoint slides. The goal for the first slide is to write a few bullets on the type of data being used and the second slide is about the most important variables in the analysis. This part of the project helps students to understand how hypotheses are tested which helps them to avoid the common pitfall of using opinion as evidence.

Part 5: In this part, students discuss the interesting results which were found in the paper. They make two PowerPoint slides with 2-3 bullets per slide, listing the paper's most important/interesting results. They respond to prompts such as "What did this paper add to the

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conversation?" and "What are their new insights, something that no one previously found." This part of the paper helps students to connect back the paper's results to the paper's hypotheses.

Part 6: The final part of the project has students discuss the avenues for future research from this paper. They make one PowerPoint slide with 2-3 bullets listing some suggested future research projects based on this paper. Authors usually provide some ideas in the last couple of paragraphs of the paper which makes this easier for students. This final part of the project brings students back to the idea of how ideas for new research papers come from existing research.

For the PowerPoint slides, students are instructed to make the bullets brief and to put additional information into the notes section of the slides. For each part of the project, students turn in both the slides and accompanying paper write-ups for that section. The paper directly correlates to each part of the project and a large extent serves as a "script" for students' presentations. Students receive feedback on both their slides and paper for each part so they can make changes and incorporate critiques, as learning is an iterative process.

REFLECTIONS

There were lessons learned for future implementation of this approach. The first lesson from this experiment is that it requires a great deal of feedback from the instructor. For students to improve on each successive part of the project, they need detailed feedback on how to improve both the slides and paper writing from the previous part of the project. Thus, there needs to be prompt, detailed feedback provided on an individual basis to students. From this experience, it also became clear that this is most suitable as an individual, rather than group, project. Students need to be forced to immerse themselves in every part of this project for it to be effective and this cannot be guaranteed in a group project setting. Another lesson learned is that with so many different parts and deadlines, students need repeated reminders to turn in each part on time. This is not surprising with first-semester students.

Results from a follow-up survey revealed some insights into students' experiences. Excerpts from student responses are included below in Table 1. This sampling of responses, along with others received, encourages further usage of this approach.

Table 1. Student Responses to Follow-up Survey

Follow-up Survey	Student Responses
Do you think your FDS final was much more effective than writing an entire paper from scratch?	I think our FDS final was much more effective than writing an entire paper from scratch. It taught me a lot about the parts of a research paper which supplemented what we worked on in EMS101 very well. I think the approach you took makes the project more beneficial by also focusing on presenting. I liked the way it was broken down into small checkpoints because it helped pace my progression with the slides to leave time to prepare for presenting at the end. Especially where we had to present a lot in EMS104 in the Spring, our FDS final presentation was very beneficial in gaining confidence in my ability to speak in front of a group for a longer time than I had before.

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Did the project was helpful in knowing how to structure research papers in the future?	Personally, the project was helpful in knowing how to structure research papers in the future. I think it was an insightful yet well-paced and stress-free process. It was good to know how to read complex research papers and understand them.
Did my final project accomplished its goal of familiarizing us with the process of writing a research paper?	I think your final project accomplished its goal of familiarizing us with the process of writing a research paper. It helped us gain a lot of experience without all the stress that I saw the traditional final paper causing other people.
Did the project broke it up nicely?	I think it broke it up nicely. I liked the process of dissecting a research paper and then making it into a PowerPoint so you get the key details out of the paper. I think it can help because it provides a good method that we can follow for the rest of our careers at Bentley. I was a fan of how you broke up each part into due dates. I always procrastinate when doing large projects. This helped to avoid that and remove a lot of the stress.
Did the project did help me to understand what goes into a research paper?	I think the project did help me to understand what goes into a research paper. The timing of the project demonstrated how it is more efficient to break down research as opposed to cramming to get research and writing done all at once. I think the project helped, as it set a nice foundation for how to complete work efficiently for research-based assignments. I liked how we had to present; I think it is a motivator to be involved with our work, and to retain the information we learned through the semester.

CONCLUSION

FYS can encounter unique challenges based on its structure and staffing. First Year Seminar courses are often required of all first semester students at an institution. This creates an enormous strain on teaching resources, far more than any one department can handle. One advantage of this new strategy is that it can be adopted by faculty members teaching FYS regardless of department or level of experience. Faculty do not need to have formal experience teaching writing to use this approach. There are substantial constraints on instructional time and students' time management skills in FYS courses. Having a highly structured approach with multiple, clear deadlines helps to mitigate these problems.

From the papers and presentations, it is clear that students have learned the difference between opinion and evidence in a manageable manner which has stuck with them. There is a logical sequence of how the pieces fit together in making a research paper that students get to better understand. While having a research paper in a first-semester FYS course is a challenge, it can provide high returns across a student's entire academic career. Achieving this objective aligns with institutional objectives of high-impact practices such as improving retention and preparing students for advanced coursework. Having a research paper and presentation can help to set students up for further academic success. Students who took part in this pilot reported success in future courses based on the skills gained from this approach. This "deconstruction and

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reconstruction" approach can help to meet the challenge of achieving these goals in First Year Seminar.

This paper contains recommendations for practice and future research. This approach can be utilized in courses in different areas outside of FYS. This type of learning method is best suited to smaller classes (25 students or less) and would be challenging in a large class environment because of the high level of faculty feedback required. There also could be challenges instituting this method in courses which require more discipline-specific nuances to their research papers. The next steps in this approach would be to test the long-run effects of student outcomes across their other courses. This would be a way of checking for long-term benefits from adopting this approach.

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