

Engaging Students More Effectively with Case Studies: A Backwards Case Creation Assignment

Darin J. Knapp, Ph.D., CFLE, LAMFT

University of Arizona

ABSTRACT. Instructors frequently use case studies in teaching. These approaches have demonstrated effectiveness in student learning. With new emphasis on increasing student investment in the learning process in higher education, examining more effective uses of case studies in family science courses is important. The instructor of a senior-level undergraduate course in family science used a backward course design perspective to create a novel assignment using case study analysis. Students in an undergraduate family science class were assigned to write fictionalized case studies incorporating course content as an assessment of their knowledge instead of writing traditional summative research papers to demonstrate competency. The course instructor gathered student feedback specific to this assignment. Feedback was overwhelmingly positive, with 100% of participating students reporting it was an effective assignment for learning content and 92% reporting the assignment should be included in future versions of the course. Student response data yielded detailed, positive feedback about effective student learning and engagement. Considerations for using this approach to construct assignments are discussed, as are future directions for empirically examining this assignment.

Keywords/phrases: case study, backward design, student engagement

Author contact information: Darin J. Knapp, Ph.D., CFLE, LAMFT, Norton School of Family & Consumer Sciences, Family Studies & Human Development, University of Arizona, Tucson, Arizona 85721, United States, Phone: (520-621-7141), Email: darink@email.arizona.edu

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Using case study analysis in teaching and learning is effective (see Cunningham, Freeman, and Hosokawa, 2001; Grupe & Jay, 2000), particularly when students learn theoretical or diagnostic criteria (Perkins, 1991). Students can practice applying knowledge in ways that mimic professional experience in their fields of study. Many social science textbooks use case studies to highlight specific facets of the text and allow students to apply knowledge firsthand (see Kolb & Whishaw, 2008); students are becoming more familiar with case study analysis. The *DSM-5* (American Psychiatric Association, 2013a) includes a clinical case book companion with case vignettes to help clinicians understand diagnostic criteria in an applied setting that includes relationship components relevant to couple and family therapists, family scholars, and students in the family sciences (American Psychiatric Association, 2013b). Family science textbooks also have case study components, particularly in texts that teach family theories (see Smith & Hamon, 2017; White, Klein, & Martin, 2015).

Traditionally, instructors of abnormal psychology and neuropsychology courses often use case study analyses in assignments and learning activities (Logsdon-Conradsen, 2004), where students are asked to (a) read/analyze pre-existing case studies and assess diagnostic criteria of a particular mental health diagnosis, (b) develop treatment plans surrounding issues on display in the case study, or (c) apply a specific theoretical perspective to understanding behaviors in the case. Scholars have proposed that writing tasks related to case study analysis may be particularly effective for student learning (Logsdon-Conradsen, 2004). Writing assignments based on analyzing case studies are used widely in teaching and learning within the social sciences.

The use of case studies is particularly relevant and suited to family-based courses. Frequently, instructors present family case studies in written or video forms, asking students to analyze family interactions, patterns, behaviors, and other dynamics often through the lens of a particular theory or model. This approach may be used widely within family sciences because of the nature of professions students in our field pursue. In the family science field it is essential to prepare students for a variety of professional pathways including academic and non-academic family-based professions (Koblinsky, Kuvalanka, & McClintock-Comeaux, 2006). These professions call on students to make informed choices about prevention, intervention, education, and other aspects vital to family well-being that will have real impact on families they serve. Educators of family science who use case studies offer students opportunities to practice applying, analyzing, and making choices about realistic family scenarios—all skills necessary for success in their future professional careers. Within my family science courses, I have implemented a unique approach to working with case studies by creating a novel case study assignment. This approach has resulted in student reports of effectiveness in engagement and learning and has been helpful for me as an instructor.

Rationale & Pedagogical Framework

As a family science educator and clinician I frequently incorporate case studies into my course curricula during in-class learning activities, exams, and writing assignments. As I took on a new course focusing on a family systems perspective of mental illnesses, I began writing more complex case studies for use in exam questions, in-class active learning activities, group discussions, and more. These case studies depicted diagnostic symptoms of particular mental illnesses and research-supported family patterns and characteristics often demonstrated in families where members deal with such symptoms. I hoped students would be able to review what I wrote and then make diagnostic conclusions about individuals and families in the cases. While writing about these fictional families' experiences, I noted that my own engagement with and examination of these topics increased and I hoped to incorporate a similar strategy for my students.

This approach draws from a backward course design perspective (Daughter, 2006), which outlines that student learning is enhanced if students are first given an end-point and then work backwards on their analysis in order to examine the process of how the end result was reached. In my own experience noted above, I had known what type of characteristics and symptoms should be on display in my case studies *before* I started writing them. Then, as I wrote them, I was able to apply my knowledge of the topics in detailed ways. Thus, the backward design allowed me to approach case studies from a different perspective: rather than being given an existing case study and then asked to determine patterns of interaction and the diagnosis of mental illness that fit best, I started with the diagnosis in mind first and *then* had to write a story that characterized that diagnosis clearly enough for readers to draw accurate conclusions.

In addition to this backward design perspective I included elements of choice-based learning in my courses because many psychological researchers have demonstrated that students who are able to make choices and demonstrate preference in their learning environments show increases in competence, motivation, and performance (Cordova & Lepper, 1996; Patall, Cooper, & Robinson, 2008; Patall, Cooper, & Wynn, 2010). Teachers who allow students to make choices in the learning process promote increases in student autonomy, engagement, and motivation (Patall et al., 2008, 2010; Schmidt, Rosenberg, & Beymer, 2018). Accordingly, I wanted to integrate the element of choice along with the backward design approach. With the backward course design approach and choice-based learning in mind, I created the case study creation assignment described below.

Case Creation Assignment

Instead of asking students to first read a case study and provide traditional analysis that focused on their understanding of course content applied to a previously-conceptualized fictional person/family, I asked students to write two of their own fictional case studies, with each case study focused on one specific issue from course content (see Appendix for assignment

instructions and grading rubric). Students chose their own topics for the assignment, underscoring my intention to promote student engagement and motivation on the assignment in line with choice-based learning perspectives. Within their writing, students were required to know course content well enough so they could work backwards from an end-point (i.e., a specific mental health diagnosis or relationship problem), and then describe a fictional family in enough detail so they could accurately convey research-backed information about experiences of families in those situations. Again, this emphasizes the backward course design (Daughter, 2006) approach of having students start with the endpoint (in this case, mental illness diagnosis or family problem) and then work backward to apply content accurately.

The assignment was broken into three segments. First, students wrote completely fictionalized accounts of families experiencing issues related to a specific mental health or relationship issue. These read like stories or examples from clinical case study textbooks. Second, students were to include an application section in which they applied scholarly and clinical sources to their fictional families' situations. Third, students wrote about potential prevention or intervention treatment options for their fictional case-study families. To illustrate an example of what this paper could look like, I included the following example: a student fictionalized a family in which a parent was experiencing Major Depressive Disorder (MDD). The student first described daily family interactions, relationship dynamics, and individual and family symptoms of the diagnosis typically seen in families dealing with MDD. This portion was written like a fictionalized short story. Next, the student showed how major course readings and other scholarly sources connected to that family's experience, providing a rationale for why their case-study family was portrayed in the ways they chose. The student concluded the paper by discussing potential treatment options for families in which a parent is experiencing MDD. The student then duplicated that format and wrote a second case study about a fictional family that was experiencing problems related to grieving a loss.

To evaluate this assignment, I provided students detailed instructions for writing their cases and rubric that outlined each section of the paper and illustrated expectations for their writing (see Appendix). One main goal of these case creation assignments was that I, as the instructor, could appropriately "diagnose" the case studies students wrote without their having to explicitly state what diagnoses they were portraying. I asked them to "paint a picture" of their fictional families in enough detail so it would be easy to identify each family's particular issue/presenting problem even without overt statement of what the family was experiencing. I wanted to be able to identify the particular diagnosis or relationship issue the student's fictional family was dealing with before the student explicitly "revealed" the actual diagnosis/issue later on in their assignment. I implemented plagiarism checking software to ensure that all cases were original in nature.

To scaffold students' ability to succeed on this paper, I assigned several case study readings and incorporated case study textbooks into the course (see American Psychiatric Association, 2013b; Gorenstein & Comer, 2015) to familiarize them with how case studies are typically written. Students also practiced analyzing case studies in each course period. They were shown case studies on lecture slides or on handouts, and then discussed and analyzed them as a

class or in small groups with instructor feedback. Case studies were part of every exam, where students were asked to analyze family issues based on vignettes. Thus, students' exposure to case studies throughout the semester was thorough; they read and analyzed many case study accounts to use as models for their own fictional case studies on this assignment.

Evaluation of the Assignment

After the semester ended and final grades were posted, I surveyed students who completed the case creation assignment (64 students enrolled, 27 students responded). I collected data from 2016 from one semester's section of a senior-level undergraduate course focused on preventing and treating mental illnesses and relationship problems from a family systems perspective. The course typically enrolls between 60-70 students. Initial evaluation of the assignment focused on student perceptions and was intended to inform my decisions about using the assignment in the future. Since a non-research design was used, these results are informative in many ways but do limit some conclusions I can draw about actual effectiveness for student learning. I expand upon this point more directly as I offer considerations about application later in this manuscript.

Participating students completed anonymous surveys consisting of three Likert-scale questions (5 possible responses ranging from 1= strongly agree to 5 = strongly disagree) and three open-entry questions to collect qualitative data. One hundred percent of respondents ($n = 27$) reported that the assignment was effective in their learning (selected *agree* or *strongly agree*), and that it allowed them to display their knowledge of course material effectively ($M = 1.3$, $SD = 0.5$). Ninety-two percent of students reported that they would include this assignment in future versions of the course ($M = 1.3$, $SD = 0.6$), with the remaining 8% reporting a "neutral" response to that item.

Open-ended questions assessed positive student feedback, learning effectiveness, and requested suggestions that might improve the assignment. Questions included "What did you most enjoy about the assignment (if anything)?", "How was the assignment effective/not effective for your learning?" and "If you had input about improving the assignment for future semesters, what input would you give?" I reviewed student responses primarily with open-coding techniques (Strauss & Corbin, 1998), resulting in following emergent trends across the majority of responses: *enjoyment of creating in learning*, *effectiveness of learning*, and *challenge as benefit*. Then I used focused coding (Charmaz, 2006) to identify specific student responses that supported themes identified in open coding. In this review I found that not only did students report this was an enjoyable assignment different from other assignments they completed, but that it was an effective measure of their knowledge and allowed them to showcase application skills effectively and creatively. Each feedback category is described more fully below.

Enjoyment of Creating in Learning. Students reported that the creativity aspect of the paper aided their engagement with content and helped them enjoy the writing process. One student wrote that "I enjoyed the creative aspect of it—it wasn't just another research paper."

Another added that “I liked having the ability to be creative in displaying how I knew content,” while a different student noted that “[I] liked that I was able to display my knowledge on topics by telling a story.” One student mentioned that this assignment engaged their personal learning process in a new way: “It made me confident that I truly understood the material since I had to be creative with it, and then analyze it. The depth of thought required to complete it well is something I will continue to strive to achieve in future classes.” Students seemed to enjoy the creative aspect of this assignment as they participated in creating original content of their own in a unique way.

Effectiveness of Learning. Many students indicated they felt this assignment was particularly effective in their actual learning of the material. For example, one student noted that the assignment “was effective in helping me to learn because it forced me to apply diagnostic criteria to how they might present in a real person. I think you can undoubtedly learn a lot just from reading and understanding, but putting it into a realistic situation was really useful. It felt almost like I was already working with the case study families.” Another student highlighted the assignment’s effectiveness in helping to personally learn course material by noting that “It really forced me to learn the material and helped me put it in perspective by thinking about it in a ‘real life’ scenario instead of just talking about it in a classroom/research setting.” As students worked backward and wrote their own scenarios rather than analyzing pre-existent ones, they reported that this helped them learn content.

Challenge as Benefit. Since this was a novel approach for many students who were not used to a backward-designed assignment, they noted that it was challenging yet advantageous to their learning. As one student reported, “I liked getting to challenge myself to come up with fictional examples that encompassed all of the components of the topic at hand.” Another described a similar experience: “Doing [this assignment] pushed me out of my comfort zone and made me understand the topic at a deeper level.” The difficulty level of the assignment was something that students ultimately reported as beneficial to their learning.

Application

I encourage instructors of family science courses to think about adapting this novel approach to case study assignments within their own courses. I chose to use this case creation assignment in only one course I teach because of the content covered specifically in that class. However, there are broader uses for this assignment in multiple contexts. I have considered using this assignment in other classes where case studies could focus on various topics aside from mental illnesses in family systems. One other topical idea for application includes having students fictionalize a family case study from the perspective of different family science theories. Instructors could also apply other types of family issues to this case creation assignment including family violence, families experiencing chronic illness, families going through developmental transitions, and more. Instructors can integrate this type of assignment across various topics according to course learning objectives and content.

Educators may also use this type of backward case creation approach during class time as a learning activity. Instructors could assign students individually or in groups to write brief case studies about relevant course topics. Then, students could exchange case studies and analyze them, reconvening and discussing whether their analyses drew accurate conclusions as the author(s) intended, and whether their case studies were sufficiently demonstrative in applying course content.

I also suggest a potential strategy for exams that could incorporate elements of this case creation approach. Instructors who include written-response items on exams could ask students to fictionalize a brief case study within their answers to a question. This would allow students to demonstrate thorough understanding of course materials as this backward approach does seem to demand a high level of comprehension of the topic(s) of focus. I recommend that students be made aware of case creation approaches on an exam before the exam occurs, since many students may have never been asked to write in this way and may want to modify exam preparation strategies or study strategies.

So long as students are used to reading and analyzing case studies as part of the course design, instructors could incorporate this type of assignment into online courses and in face-to-face ones. For online courses in particular, students may benefit from posting the cases they create to discussion forums and engaging in peer analysis of each other's cases. Allowing students to write their own cases *and* analyze case studies from peers provides multiple avenues for learning course information.

As I have implemented and applied some of these strategies in my courses, I have also noted a bonus incentive to me for doing so aside from the engagement and learning from students I noted above. Because I have so many submissions of case studies from students, this can save me some time from having to generate my own case studies for use in course materials. For example, I have obtained permission from students who wrote exceptional case studies to use their case studies (which I subsequently de-identify) in future classes. This way, I already have a wide range of case studies that I have reviewed and can use well-constructed ones in teaching future students. I can adapt those case studies for review in class, for use on exam questions, and for students to see as examples for their own case creation assignments.

Considerations

I have since used this assignment in additional sections of this course, and continue to receive encouraging feedback from students regarding the uniqueness of this assignment and how it engages them in their learning processes in new ways. While I do find this assignment promising, it is important to note certain considerations and limitations while presenting possible application ideas. One important point of consideration is that the data I collected are strictly from an evaluative perspective and not an empirical research study. This means that for now, I have no data explicitly linking student use of this case creation assignment to learning outcomes for the course. Therefore, generalizations and conclusions about data I collected cannot be drawn. In the future, it could be helpful to construct an experimental design for this project,

incorporating a control group in which another assignment is used comparing it to students who complete the case creation assignment. Then I could measure specific learning outcomes from each group and compare findings in order to assess effectiveness of this assignment more directly. I hope to pursue this line of scholarship in the future to further empirically examine this assignment and verify its impact on student learning outcomes. Despite the lack of true empirical design in my original evaluation, the initial feedback I received about this assignment is encouraging in terms of leading toward future scholarship based on examining case creation activities and how they relate to assorted student learning outcomes.

I also want to note that the course in which I use this technique and assignment is an upper-division undergraduate elective course targeted at students who are focusing on family science and human development in their education, many of whom are pursuing clinically-focused careers or graduate work. Perhaps these students are already familiar with case studies in various forms from other courses, meaning that their experiences with the case creation assignment could be biased in favor of the assignment as compared to students coming from other backgrounds. With that in mind, it is again imperative that future empirical work examines this approach more carefully so that specific conclusions can be drawn.

Conclusion

Drawing from the backward course design model, I developed a unique assignment that allows students to create their own case studies as a way of assessing their knowledge of course content. This assignment was well received by students in the course. Instructors may consider using a backward case study approach in their writing assignments, exams, in-class active learning activities, and more. Family science courses are particularly suited to using case study approaches because these courses often intend to prepare students to interact with real families in circumstances similar to those portrayed in such case studies. By using this altered approach to case studies, family science educators may be able to help students engage more fully in coursework and class, enjoy co-creation of course materials while learning, and learn content effectively.

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Appendix

Case Creation Assignment Instruction and Grading Rubric

General Requirements:

This is a creativity and application paper in which you will create a fictional family and describe them amidst an issue that we have discussed throughout the semester (for example, a single-parent family dealing with a depressed parent, or an elderly couple dealing with substance abuse problems). You choose the attributes of the family as well as the issues they are facing (see guidelines below). The family you write about should focus on adult individuals/relationships, as our course does not cover these topics for children (if the individual of focus is a parent to children, that is fine, but the focus cannot be on a child). You will use your knowledge of course materials to describe the structure and functioning of these fictional families to write a “snapshot” of what their lives are like, almost like a story. They should be written in a similar style to the case studies we review in readings and in class throughout the semester. You should use course terminology, concepts, and content as you write, citing your textbook, lecture, and other readings/sources as applicable. By writing about this family, you need to show that you understand the issues we have discussed in class as you use research-supported detail to paint an accurate description of what a family’s life might be like. I want to be able to read your paper and know what issue you are writing about without you even specifying it. I want to be able to “diagnose” this case study from your writing.

You are not to share too much similarity with any of the case studies used in class examples or in readings. Also, please do not “borrow” ideas from books/movies/TV shows. I use a plagiarism-checking software to ensure that your writing is original in nature. If you do have stories based too closely to other works, you will lose 50% of your earned points.

Paper Content

1. Family Background
 - a. Provide background information about the makeup, structure, and basic information of your first fictional family (how many parents and children, married or not, ages, culture, race, religion, occupations, etc. as applicable). This can just be nuclear family, but if extended family live in the same residence as your fictional family (an aging parent, for example), you can include them as well. Be sure that if you are going to reference a family member in your application section, you mention them as you describe background information. Be brief to ensure you have room for the application part of the paper, but provide adequate detail for understanding this family’s relevant contextual factors and history.

2. Description of the Issue
 - a. Next, describe what this family is dealing with. If you are writing about depression in the family, for example, write about individual diagnostic criteria for depression, what that looks like in daily life, how relationships are affected, other aspects of family life that might be affected (finances, school, parenting,

etc.). Describe the situation so that I know that you know how these issues actually play out in real family life according to content we've learned in class. As you do this, the most important part of your writing is to describe your fictional case study family using concepts and terminology from the course in your description. You should reference course materials (as applicable) in your writing.

You must include information about developmental aspects of this disorder. As you're writing, think about developmental patterns we learned in class and in readings about this specific issue, and incorporate them into your paper and the fictional story you're writing. For example, if you know that the disorder you're writing about is more common for people who experienced child abuse or who are a specific gender, age, etc., you should include that information in the story and background of your case, using appropriate references to course materials and citing them accordingly.

There should be a focus on individual symptoms and experience **along with** application about interpersonal relationships and family relationships from a family systems theory perspective. You must discuss family-related and/or relational issues in the application section, even if you are writing about an individual's diagnosis of a specific mental illness.

3. Recommendations

- a. Last, provide some brief recommendations of what this individual and family may need to do to help resolve this issue in terms of treatment or prevention. For example, in many of the situations you describe, families or individuals may benefit from therapy, medication, or other types of treatments. You will need to do some outside research on your topic to find effective ways for families to face these issues, and cite accordingly as you make recommendations. You must cite at least one "outside" (meaning not from class) scholarly source in this section of your paper.

The assignment will be graded on the following criteria:

Case Creation Assignment Grading Rubric		
	Points Possible	Points Earned
Background Section <ul style="list-style-type: none"> • Provides adequate but brief information about the fictional case family to understand the context (include race, religion, social class, income, makeup and membership, i.e. who is in the family). 	5	
Description of the Issue Section <ul style="list-style-type: none"> • Clearly describes the issue by "painting a picture" of the situation <i>without specifying what issue is being portrayed</i> 	10	

<ul style="list-style-type: none"> • Describes individual “symptoms” in applied language • Focuses on how issue affects family relationships • Multiple family member’s roles in the issue are clearly explained • Includes developmental factors associated with this issue as relevant 		
<p>Application Section</p> <ul style="list-style-type: none"> • Illustrates knowledge of course content, diagnostic language and terms, and family science terms/concepts as applied to the individual’s experience • Describes the issues through the lens of family systems theory • Incorporates specific course terminology/concepts to examples from your fictional case to demonstrate thorough understanding of the issue • Applies course content related to the <i>family impact</i> of this issue 	15	
<p>Recommendations Section</p> <ul style="list-style-type: none"> • Provides multiple concrete recommendations for treatment/prevention of these issues • Provides concrete recommendations for ways families/relationships may work on these issues • Uses sources (course material and at least one outside source) as basis for recommendations 	12	
Paper Readability (grammar, writing mechanics, etc.)	5	
Proper APA format throughout (proper citations, proper cover page, references page, margins, etc.)	3	
Total	50	