

Kirkwood Community College
CASTLE
Case Study Analysis Questions
Introduction to Sociology

Jeff Sherman
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Course: Introduction to Sociology

Learning Outcomes: Evaluate the techniques of different research strategies in collecting scientific data.

Case Scenario:

My challenge is twofold. The first challenge is to ensure that students are grasping the learning objectives. I have created a cooperative classroom activity focusing on the objective above, which is followed by a similar activity for a grade. I will attach the assignment. Some of the concepts are easily understood by most, but others are not, even after discussing them in class, providing examples, and giving them opportunities to apply the concept. Also, students often want reviews, however, in order to do the types of interactive, cooperative classroom exercises that are believed to engage students and stimulate learning there is no time for reviews. I indeed have difficulty just trying to cover the essential material using such techniques. With larger class sizes and full rooms, I also struggle with including all of the students and completing group activities within a reasonable time frame. The bottom line is that I want to use methods that are most efficient in reaching a majority of the students. I am curious as to how online learning aids can be used to determine if students are getting it in class.

Second is to create assessments that better reflect the learning objectives on the syllabus. It seems that students often do not pay much attention to learning objectives unless there are clear links made to them in class. I have taught at a variety of places with outdated or generic objectives that did not reflect what was being taught in class. With the emphasis placed on assessment in recent years, especially with ties to accreditation, I think the connections need to be more lucid. The learning outcome above is one that I identified. I evaluated and modified the course objectives last year as part of the LENS project, although these are not the official objectives of the department. Now I want to be sure that the assessments used speak directly to the objectives, and possibly can be used for course assessment, as well as student assessment.

1. What are the important teaching/learning issues in this case?

The first issue involves fostering students' development of higher level learning and critical thinking skills. Many students seem to gain only a superficial understanding of

the more complex concepts being taught. While some terms are easily understood, there are a number that consistently give students problems. Most students are able to recite definitions, demonstrating the ability to memorize the terms, but are unable to give examples, apply the term, or answer questions about them on an exam.

The second issue involves the development of assessments that are directly connected to the learning objectives of the course. For this case study I identified a learning outcome that is viewed as core material in an Introduction to Sociology course. The goal is to maximize the time in class spent directly working on the main learning outcomes, and then utilizing quality assessments to gauge student progress.

2. What teaching/learning strategies might be helpful?

As indicated in the case scenario I make use of cooperative learning techniques that require students to work in groups to answer questions about a hypothetical research project. This encourages them to apply critical concepts and processes to an actual situation. Of course, this activity is preceded by a discussion/lecture on the topic. However, many students still fail to understand what is meant by an operational definition, and are unable to create such definitions on their own.

In November I met with Rich Edwards, CASTLE Project Coordinator and Dr. Dave Mittelholtz. We discussed ways to help students gain a more sophisticated understanding of difficult concepts. One suggestion was to first slow down. I generally spend most of a class period reviewing the pertinent information, and then give the students the group project. They have a short period of time to review the questions before dismissing, and then are expected to present their results after briefly discussing the questions in their groups during the next class period. Obviously, many teachers feel a time crunch to cover all they feel is necessary during a semester. I was probably covering a bit too much information and recognize that more time to devote to the subject would certainly be beneficial to the students. Of course more time devoted to this, means less time for other material. I was asked how important this material was to the course and reminded that students need to rehearse new material to reinforce what they have learned. Because this material is in fact tied to a learning outcome it is probably in the best interest of the class to devote more time to the discussion and project.

It was also suggested that I use very explicit, familiar examples when discussing the concepts prior to the group activity. It is important to use examples that all students can relate to, otherwise those with fewer life experiences may not make the connections.

Another method proposed was to give students assignments to apply the concepts they are having difficulty with. For example, I could ask them to operationalize marital happiness, television violence, and poverty. For the next class we would review the definitions. Nonexamples can then be used to show common errors in creating the definitions. For example, students may identify the number of hours of television watched as a measure of television violence. I could then explain that hours viewed is

not a measure of violence. Violence is determined by the qualities of the content portrayed.

Two other suggestions were to use videos and professional articles as different ways to practice applying the concepts. For example, students could watch a video clip of a scene depicting a family celebration. They may be asked to identify the social class of the family. To do this they would have to operationally define social class by considering a number of characteristics that they agree on – type of housing, cost of food, language patterns, and so on. Research articles can be used by asking students to identify methods used, variables, hypothesis and other concepts.

One last technique discussed was cueing. This involves asking easily answered questions that build up to the more complex concept. By beginning with simple questions students develop confidence, become more active in discussions, and build a framework for understanding the concept.

3. What learning theories might support or inform these teaching/learning strategies?

A majority of the suggestions made above appear to be connected to the cognitive learning theories. This material seems to have been emphasized in our reading, I assume because it provides more insight into student learning than the others. In any event, I will begin with the one example that was the exception. Cueing is a tool proposed to initiate a behavior or action so that it could then be reinforced. This technique came from the Operant Conditioning theory. Cueing was identified as a prompting of students to get some desired result. When students are presented with easy questions, they may then be praised for getting the questions right. This serves as a positive reinforcement for engaging in class discussions and builds confidence in their ability to learn the concepts.

The rest of the suggestions I think best connect with the cognitive views on learning. These theories focus on three major components: different information stores in the brain, processes for transferring information from one information store to another (cognition), and the awareness and use of these cognitive processes (metacognition). One thing I have noticed is that older students tend to have better ability in applying sociological concepts than do younger students. This relates to the concepts of background knowledge, and experience and perception discussed in our materials. The meaning students attach to new ideas is influenced by their past experiences and perceptions of the concepts. Students may give examples using past experience to see if their perceptions of the concept are correct. If they are not, this can be clarified in class. If the students have limited experiences, however, they may not have the ability to attempt to apply the concept in the first place. Learning occurs when we can make connections between new information and background information that has already been acquired. So when we discuss raising children and socialization in class, students that have not had children do not have the benefit of background knowledge that the parents do. Using examples that all can relate to can ease all classmates ability to learn and apply

the concepts. Therefore, I could ask students to operationalize student success. Because they are all students they have some background knowledge, thus they can apply the definitions in a meaningful way leading to long term memory of the concept.

This also applies to why I have difficulty teaching certain concepts to students. Most students have little difficulty with declarative knowledge, which includes the memorization of facts and concepts, however, those with little background information have difficulty developing procedural knowledge, or the ability to apply the concepts. Generally speaking then, older students tend to have greater ability to develop procedural knowledge in my courses because they have had more life experiences that they can attach to the concepts. Even so, some concepts like operational definitions seem alien to most students. That is why it is important to give very familiar examples that allow students some building blocks for understanding the terms. Like beginning by having them define age and gender.

Information, such as concepts and how to apply them, is then transferred from temporary or working memory, to long term memory through rehearsal and encoding. This is why slowing down, repeating the information and giving more time to practice and development of answers was suggested above. In order for information to enter long-term memory through rehearsal there must be adequate time given for students to process the information.

Encoding is another mechanism for transferring information to long-term memory. It involves connecting information in ones working memory to that which is already in long-term memory. Two of the tools that help encoding include activity and organization. Learning activities centered on activity include teacher questioning, building lessons around applications, problem solving, and questioning that involves more than memorization. The classroom activity discussed in the opening fulfills these functions. Also, the information is organized by type of research method used. When students are asked to complete a practice research assignment, each group is assigned a specific method. Each method utilizes a different approach for collecting information, and therefore the process for collecting information and answering questions will vary. Students must then recognize that they simply cannot rely on declarative knowledge, but must use procedural knowledge specific to the organization of each research method.

From our discussions, I believe that I am practicing a lot of methods consistent with the cognitive theory of learning, however, need to slow down, provide greater opportunity for rehearsal, use familiar examples to build on students background knowledge, and provide varied presentations of the material to give them more practice, hopefully enhancing their ability to connect with preexisting knowledge, or encoding.

4. What questions or hypothesis does this case raise that might be further investigated in a classroom research project?

Spending more time rehearsing difficult concepts will increase long-term memory of them.

Providing opportunities for students to apply concepts by using familiar examples will improve procedural knowledge.

Providing a number of different activities to apply difficult concepts will improve procedural knowledge of terms.

A research question I pondered about concerning the cognitive learning theory is if background knowledge stored in long term memory can aid in encoding of declarative knowledge, or if transfer of information generally occurs as we use experiential information to connect with declarative knowledge already in **the long term memory stores? What is known about this?**

5. What classroom assessment data could be collected to test out these questions or hypotheses?

The students will begin by working in groups in class. They will address the basic components of research design by practicing applying the methods to a specific case. This is a formative assessment, which provides the students and me with information about the progress they are making in understanding the concepts.

This will be followed up by a similar exercise that students will do individually. Beginning with a couple of variables, each student will be asked to develop a basic research plan for collecting data about their hypothesis. This will be done out of class and submitted to the instructor in the form of written papers. In the past I have required a similar exercise in the form of an essay question on a timed exam. I expect to get better results as I have employed the techniques discussed above, and the students have more time to contemplate their answers.

Further, there will be test items addressing the key concepts on the following exam. These will be written in multiple choice format. Such questions may address definitions (declarative knowledge) and/or applications of concepts (procedural knowledge).

Conclusion

This project did not result in the outcomes I expected; however, important information was revealed through doing the analysis. After consulting with the project leaders and making a number of adjustments to try and improve student understanding, I was prepared to receive student papers that clearly and accurately answered the questions involving operational definitions. I graded and recorded data on 100 papers submitted by students in 3 different classes. I specifically scrutinized the answers to the items addressing the difficult concept I was hoping to see improvement on. This part of the paper asked the following questions:

- Clearly define what an operational definition is. Provide an example.

- How will you operationalize, or measure, your variables for this research study?

The variables were earlier identified to be media violence and aggressive behavior. One point was awarded for defining the variable. Two points were awarded for accurately operationalizing each of the variables being studied. The average score was 3.22 out of 5 total points, or 64%. The scores were not great, but since this was a take home assignment all students made some attempt at the answer. When students were asked to respond to these questions as essays on timed exams, they often skipped the items if they did not know the answer. The incorrect answers provided the key to unlocking the problems that students were having. What I found was that a sizeable number of students that answered incorrectly were making the same mistakes. Many errantly used the frequency of the occurrence of a variable as its operational definition. They never identified how the variable was defined in the first place, which is necessary in order to determine frequency. Here are some examples from student papers:

- “I will operationalize violence in terms of their hours spent watching television.”
- “The operational definition will be the number of times aggressive behavior was noted among the children.”

In both cases, definitions of the variables were not provided. What is media violence? What is aggressive behavior? Frequency cannot be determined until the operational definitions are established. While frequency is important in establishing cause and effect relationships, it is not an operational definition.

Another frequent mistake was using the concept in its definition. For example:

- “Aggressive behavior will be defined by children who are aggressive to other children.”
- “I will define media violence as violence someone sees on television.”

Again, definitions of the terms are never established.

The rest of the points missed were generally attributed to incomplete responses to the questions. Some students defined one variable, but not the other. A few did not attempt to define either or were way off base on their analysis. Here is how the data worked out:

- 26 students earned all 5 points. 74 students missed at least 1 point.

Of those missing points:

- 33/74, or 45%, used frequency of variables in at least one definition.
- 14/74, or 19%, used the concept in its own definition
- 31/74, or 42%, gave an incomplete answer

I started out seeking a solution to a problem I had identified in class. Although my attempt to solve the problem was not entirely successful, I was able to identify the source

of the problem, which can be addressed by continuing to engage in the classroom research process. While my project did not end in the way I had expected, it opened up new avenues to better address learning in the classroom. As an instructor interested in continued improvement and the development of means to facilitate student learning, the organized collection of information to address classroom issues seems to be a tool that can and should be used continuously throughout a teaching career.