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Planning a Study & Choosing a Design Framework

The study I propose is born from my personal interest in the work I do with students with attention deficit disorder (ADHD). These students are those whom teachers often label as lazy and unproductive. They are the students who may or may not do ‘all’ the homework, but often fail to see the relevance in studying or reflecting on the work and so they don’t. Hence this study is a inquiry to uncover the sources of student effort. I want to understand what behaviors separate the effortful student from the student who does ‘just’ enough. I have chosen to examine the phenomena inside a high school algebra 2/trigonometry classroom. This is an ideal context in many ways. One, I have easy access to this classroom. Two, I know the curriculum and have access to the resources available in and out of the school. Three, the teacher has shared her concern with me regarding the low academic performance of the students and her attempts to find a way to reach them. And, finally I can easily interview the teacher and a few students to get their perspective on classroom/content.

I have not finalized the lens that I will use to frame my examination but it may possibly include the social-cognitive perspective. I believe this perspective may be the umbrella perspective that will guide the approach of the study along with other theories that will help make sense of behaviors observed and things shared during interviews. It is my belief that prior experience, personal agency and the social/physical environment influences learners’ behavior toward tasks. In this particular setting, however, I want to know what is happening within the high school algebra2/trig period 4 classroom that is resulting in some students getting good grades while others, with the same ability, are not? How is the delivery of the math content being received? How are students making use of outside resources provided by the classroom teachers (are they using the outside resources)? What is the relationship between classroom independent practice and quiz/test grades? What is the relationship between home practice and quiz/test grades?

I hope to find if there is a relationship between completing work at school and completing work at home. Further, I hope to understand what role student beliefs and experience play in how much effort they expend on in the classroom and at home. I seek to understand how much effort students choose to exert in math class and why they might avoid it.

I am limited in this study plan by the ubiquitous questions I have in my head and by the vague framework. I guess, I’m doing a grounded theory study in that I’m not really sure what behaviors I’m looking for or what constitutes engagement in this particular setting.

You mentioned using an observation tool for this. Is it a structured observation instrument? While that isn’t a bad thing, for the purposes of the class, make sure you get a chance to practice your own note taking skills. You can use the instrument, even if it is structured, but if so, combine it with some of your own notes, too. That way, you’ll have a way to capture the context and specifics that some tools omit.

One caution on measuring effort--I’ve looked at this a bit in a study I’ve worked on evaluating the use of technology in undergrad engineering courses. We have correlated student test scores with their use of the tech to see if those who use it more frequently do better in the class. Turns out there’s a reverse correlation and the students who use the tech more are not the A students. When we talk to the A students, they say they don’t need the extra materials, so they rarely access them. We’d assumed that students who did well in the course used the materials, but their explanations made perfect sense—why use extra materials when you already understand? Anyway, your question about students using the outside resources reminded me of this.

I think this sounds interesting. You’re definitely trying to observe something that might be hard to observe though, so I’d suggest making sure you have a pretty clear idea of what “counts” as effort. It seems that effort might be relative to each student—what one person sees as a huge amount of effort may be the norm for another. I think the interviews will definitely be helpful in offering explanations for the behaviors you observe. Will you know ahead of time which students you will interview so you can focus on them during observations? It would be nice if you could key in on certain students for observations and then ask them questions about their actions in the interviews (maybe towards the end in case it makes them defensive?).

And, I’m curious what role students’ attitudes towards the subject matter might play in the amount of effort they put forth. I didn’t really like math in high school, so I did enough to get my A- or B and was okay with that. In subjects I liked, I wanted an A and was much more willing to work harder for it because it was more enjoyable and less like work. I wonder if that might be true for some of these students as well, unless you plan to focus on students who do just enough in all areas.