

**Final Reflection** (through May 31st)

I successfully implemented the experience sampling and reflection project into my spring semester. Students had 20 short 3-minute mobile surveys to fill out. They were sent the survey link four times a day randomly between 10am- 1pm, 1-4pm, 4-7pm, and 7-10pm. The surveys lasted five days instead of seven (doing 3 a day) because I thought I would capture better data starting closer to the test date since very few students start studying a week out from exams. Students registered for SurveySignal during class. First, they filled out a screener survey to ensure they had a smartphone and reliable wifi connection. I set up another SurveySignal study that distributed the links via email, instead of text, and had a few students concerned about phone service or who encountered technology issues sign-up for that project. After the screener, the class registered their phone on the SurveySignal platform and from there I sent them directly to qualtrics. Here, the class completed an intake survey in which they provided their year, major and filled out the Learning Strategies subsection of the Motivated Strategies for Learning Questionnaire (MSLQ) to measure meta-cognition abilities.

The main issue I ran into was that SurveySignal starts sending the signals a certain number of days out from registration, not based on actual dates. Therefore, the few students who did not come to class or register on time missed an entire day of surveys. Otherwise, data collection occurred seamlessly. Students had to complete at least 15 of the 20 surveys to get full credit (20 points). The week following Exam 2, I made report cards for each student with the data I collected from the 3-minute surveys. The report cards took a ton of time since I had 74 students; therefore, this is one thing I would consider changing next time. The report card showed how much time they studied each day, how much of that time was productive, what chapters they studied, what strategies they used to study (and the class averages), and their overall study time and productive time compared to the class averages. Additionally, their confidence, confusion and anxiety means for each day were provided. Students received their individual report card with data via volmail's OneDrive.

The first reflection was due a week from receiving their data. Students submitted their reflections in a Blackboard journal so that they were private. Students answered the following prompt for 12 points for Reflection 1:

*“What did you do that worked well to help you prepare for Exam 2? (3pts). What did you do that did not work as well? (3pts). Reflect on what you believe to be the strengths and weaknesses of your study methods for Exam 2. It may help to compare what you did with the class averages.*

*Consider how you performed on Exam 2. Is there a discrepancy between where you believe your abilities are and how you are performing? Why might this be (or not be) the case? Reference your confidence, anxiety or confusion ratings in your answer (3pts).*

*Create a study plan with specific goals for how you plan to study for Exam 3. Include at least three goals that are measureable (3 x1pt). Journal reflection 2 is due after Exam 3 and will ask you to reflect on whether you reached the goals you create here.”*

Reflection 2 was due a week after the class's Exam 3 grades were posted. It prompted students to reflect on their studying by addressing whether they reached the goals they made in the first reflection and why or why not. Both reflections promoted students to directly think about how they approached class material and helped them to reflect on what learning strategies worked for them and make future study plans, possibly adapting their strategies.

At the end of the semester, I sent out a Qualtrics survey to get students feedback on the entire project. The mean ratings provided were on a Likert scale of 1 (*strongly disagree*) to 7

Amy Heger

(*strongly agree*). Students said that they found that the project helped them improve their study habits ( $M= 4.96$ ;  $SD= 1.75$ ), changed the way they think about their studying ( $M= 4.82$ ;  $SD= 1.89$ ), took a reasonable amount of time ( $M= 5.45$ ;  $SD=$ ), was enjoyable (4.58), helped remind them to study for Exam 2 ( $M= 5.05$ ;  $SD= 1.60$ ), and also increased their anxiety about Exam 2 ( $M= 4.22$ ;  $SD= 1.97$ ). More specifically, the data report card was interesting to them ( $M= 5.36$ ;  $SD= 1.78$ ) and surprised them ( $M= 4.69$ ;  $SD= 1.75$ ). Lastly, I asked if they would like if professors used smartphone technology in their courses and the majority of students said they somewhat agreed ( $M= 5.22$ ;  $SD= 1.60$ ). I also inquired about open-ended feedback on things students did and did not like about the project. Some quotes from students are:

- “I liked that it showed me my study habits, and it made me much more aware. I tend to think I put enough time in studying for exams, but I usually never do. Also I loved the data sheet, it surprised me a little bit.”
- “I thought the content was really interesting, as I never really considered how long and how in depth I actually studied for the exams. The data allowed me to see where my strengths were and to think of ways I could relieve my test anxiety and improve my confidence in the material.”
- “I liked that it gave more options on how to study and see where I was lacking.”
- “I like that it helped me organize and see how well I was doing compared to the rest of my class”
- “It was irritating having to check my phone and do surveys while I was at work.”
- “I would change the randomness of the surveys to ensure everyone can do them and have less stress over them.”
- “I would try to make the project earlier in the semester so people can see what they need to change sooner.

The feedback was informative and has led me to plan to make changes if I repeat the project. Specifically, to send the survey texts at set times spread out through the day because many students mentioned the random nature of the texts being stressful and hard to do when at work or class. If they knew when to expect the texts they could let their boss or teacher know ahead of time and increase their chance of completing them.

I did not have identifying information for the feedback survey, but collected response on the MSLQ again. Unfortunately, I cannot calculate difference scores for the students from time 1 to time 2 (to test for improvement) because of this and only 55 students completed the measure the second time. However, I compared the class means from before the project to those after on the five subcomponents of the learning strategy subscale. None of the mean differences were significant (see *Table 1*), however most trended in the direction of improvement over time, hopefully due to the project! Overall, this has been a wonderful learning experience. I think my class project definitely benefited some of my students, especially those who were struggling.

*Table 1.*

<b>Subscale</b>	<b>Statistics</b>	<b>Mean Time 1</b>	<b>Mean Time 2</b>
Rehearsal	$F(134,1)= 0.08$ $p= .774$	4.61	4.68
Organization	$F(134,1)= 0.61$ $p= .437$	4.41	4.23
Elaboration	$F(134,1)= 0.23$ $p= .631$	4.83	4.94
Critical thinking	$F(134,1)= 1.44$ $p= .232$	4.01	4.28
Self-regulation	$F(134,1)= 0.03$ $p= .857$	4.35	4.38
Overall: Learning Strategies	$F(134,1)= 0.13$ $p= .721$	4.43	4.49