

Continuing the Conversation: Socrative’s Impact on Student Emotions, Student Comfort Levels, and Classroom Interactions

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Abstract. Sprague shows how Socrative, the mobile student response system, helped his students feel more in control of course materials, less anxious about assignments, and closer to their peers and instructor.

Socrative is a free, cloud-based, online student response system (SRS) available via any Smartphone or tablet with a Wi-Fi connection (Awdeh, Mueen, Zafar, & Manzoor, 2014; Dervan, 2014; Pham, 2016; Steed, 2013; Sprague, 2016). In fact, over the last decade, many studies have highlighted how Socrative increases both student achievement and complex cognitive processes (see, for example, McLaughlin & Yan, 2017). Indeed, this SRS differs from its competitors because 1) it is designed specifically for formative assessment purposes and 2) it allows instructors to create tests, peer reviews, and exit tickets quickly and easily by registering an e-mail address and password at www.socrative.com (see Figure 1). Such assessments play a crucial role because it is vital to regularly and quickly inform students of their academic progress (Richards, 2015; Sprague, 2016).

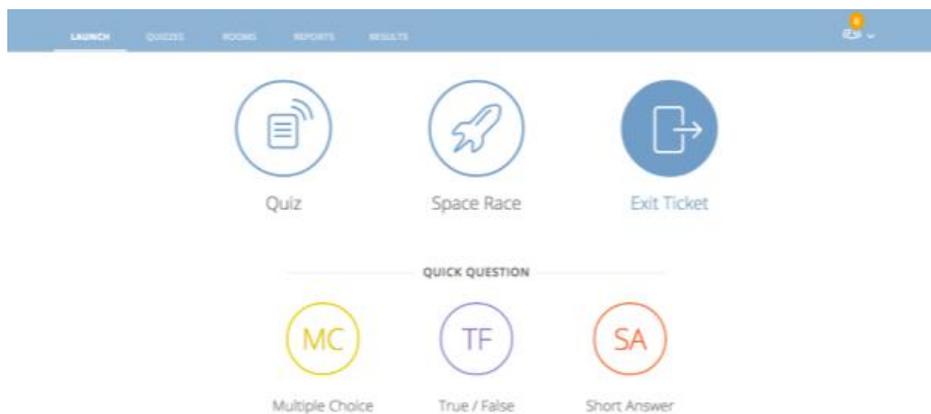


Figure 1. Socrative’s welcome screen

These conversations are now moving beyond simply looking at the impact that SRS's have on academic achievement. Now, researchers are investigating how they impact students' feelings toward their instructors and peers and how such technology impacts their overall emotional state (McLaughlin & Yan, 2017). Building on my study that analyzed multilingual students' perceptions about the use of Socrative in an English as a Second Language (ESL) writing classroom (Sprague, 2016), this study addresses a new call for research by investigating the how the 44 students enrolled in my two sections of English Composition II at Dalton State College felt about my use of Socrative to create exit tickets. Specifically, I wanted to discover how the technology impacted their relationship with their peers and me, and how the technology changed their overall emotional state.

I began by creating two anonymous surveys. I distributed the first (Appendix A) to each student after the first eight weeks of class, at which time I had yet to use Socrative. This survey asked them to use a Likert scale to rank whether they strongly agreed, agreed, disagreed or strongly disagreed with 17 statements regarding their own feelings about the course, and to explain their answers in a more detailed paragraph at the end. Key responses at this time included:

I feel a lot of pressure to do well in this course because I am a bad writer.

[The teacher] goes really fast.

Writing [essays] makes me anxious.

There's a lot of pressure to write really good in this class.

I am very anxious in this class.

I hate reviewing lectures online.

At this half-way point and for the remainder of the semester, I incorporated exit ticket prompts through Socrative as a technique to assess what my students were thinking and what they learned immediately following a lesson. For example:

1. What are the three ways to count syllables that we covered in class today? Which of the 3 was most confusing and why?
2. How do importance-level marking transitions differ from guiding transitions at the paragraph level? What still does not make sense about these types of transitions?
3. We discussed numerous reasons today why we must consider the rhetorical triangle for the upcoming essay. What were some of those reasons? Additionally, what is most confusing about the rhetorical triangle?
4. What, if anything, would you like to review again about the rhetorical situation?
5. Describe the reverse triangle and how writers can use it to write an introduction.
6. Please write 1 in-text citation from the article you read for today's class in correct MLA format. Also, what about citing sources in MLA format would you like to review once more that is giving you trouble?
7. What is the most difficult part of MLA format so far?
8. What knowledge do you still need from Adam before you turn in your essay to feel as though you will get an A on the project?
9. What literary terms are currently the most difficult for you to remember?

At week 15, I distributed the second survey (Appendix B) to the same students, which allowed me to measure changes in their feelings about the course and instructor. Key responses at this time included:

Seems like the professor cares more now.

Adam takes a lot of time reviewing compared to before.

I feel in control because of [Socratic]. I say what I want to review and Adam does it. It's awesome.

My anxiety about writing is a lot less.

My professor takes more time to review [course materials].

Seems like he cares more about us [than] before.

Our opinion matters now.

I feel less stressed out now when I come to class.

Based on these responses, I discovered that their feelings were drastically impacted by the implementation of Socrative. First, they felt as though they had more control over the course material. This student-perceived increase in control likely led to the second most significant finding, that they had decreased anxiety levels in regard to writing in class. It seems logical to conclude, then, that the use of Socrative positively impacted students in that they felt as though they had more control over the course material, and that increased feeling of control likely led to their feeling less anxious about the essay assignments.

Moreover, it was not only a reduction in anxiety related to essay writing. In fact, they also reported that they felt less test anxiety. These findings show that while Socrative may have direct benefits for students in writing courses, the use of this particular software may also help reduce test anxiety in other courses as well.

Another significant finding was that Socrative led to an increased feeling of meaningfulness for students when engaging in peer-to-peer interactions. This finding is likely due to the collaborative nature of Socrative. Students inputted their answers to the exit ticket questions in class, but the results of those answers were viewed and discussed collaboratively and led to collaborative review work the next class period. Because Socrative allowed for easy, quick collaboration in regard to reviewing course concepts, these findings are significant but not altogether surprising.

Consequently, students also reported feeling as though they had more frequent interactions with their peers. This means they felt that peer-to-peer interactions were more meaningful and that they were occurring much more frequently even though the first half and the second half of the semester had the exact same number of group work days, highlighting how the technology promoted more frequent interaction within the classroom despite being a digital tool. They also felt themselves growing and developing in a positive manner more so during the second half of the semester than the first. It can be argued that Socrative may have played a significant role in allowing them to feel more

positively about themselves as a result of my change in pedagogy via the implementation of Socrative.

This is a truly monumental finding, as it points to the widespread positive impact Socrative had on the students in this study. Thus, it can be safely argued that Socrative was a major affordance as it played a major role in improving the students' happiness, feelings toward me as their instructor, feelings toward their peers, feelings toward the course materials and course structure, sense of self-worth, sense of maturation, and feelings of anxiety. In other words, Socrative had a major impact on the students' emotional domain in a wide variety of ways, which was what this study was determined to investigate.

Ultimately, these responses mirror much of what I felt as the instructor. To me, the primary affordance of using Socrative was that I had the ability to cater to problem areas visible as a result of my students' exit ticket responses. It is my belief that this built a stronger community of students who better understood why I chose the materials for the next lesson, as they were the materials students showed they had the most trouble with overall. In other words, Socrative provided an increased level of transparency to the course, which led to students feeling a greater sense of control. By doing this, I felt more assured that I was providing the information that they needed, which visibly reduced their anxiety levels about the work asked of them for the course and significantly lowered the number of students asking for help during office hours likely because they received a review of concepts at the beginning of each class session.

This study answered the current call for more robust research in regard to whether or not SRS have a significant impact on students' emotional domain (McLaughlin & Yan, 2017). Although this remains somewhat of a modestly sized investigation, the study is unique because it focuses primarily on the impact Socrative had on student emotion. The results of this study continue to push the conversation forward in regard to how teachers may best use Socrative in the classroom.

Specifically, the findings of this study suggest that Socrative allows instructors rather easily to enhance their students' feelings about the overall course, course content, their

peers, and their instructor while reducing their students' anxiety levels. The software was particularly useful as Socrative allowed me to quickly make sure everyone in the class understood the day's lesson and were keeping up with the materials covered. Still, this study does not provide enough data to draw definitive conclusions. Therefore, further studies could examine the use of Socrative across a wider variety of courses or over a number of years to determine if the findings in this study are generalizable or isolated to my specific writing course.

In closing, Socrative may be a good choice for teachers working in classrooms where technological resources are rare and where computer labs may be unavailable. In a time when mobile phone usage is ubiquitous in today's youth culture, more campuses may want to consider delivering online formative assessment using mobile devices given the overwhelmingly positive reaction students had to its use in this study.

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Appendix A

Week 8 Course Survey

ENGL 1102, Weeks 1-8

Gender: _____

*The purpose of this survey instrument is to evaluate how you felt during **the first 8 weeks of the semester** in this course.*

INSTRUCTIONS: Consider each item separately and rate each item independently of all others. Circle the rating that indicates the extent to which you agree with each statement. Please do not skip any rating.

	4=Strongly Agree	3=Agree	2=Disagree	1=Strongly Disagree
1. I feel happy in class	4	3	2	1
2. I feel that I have frequent interactions with my professor	4	3	2	1
3. I feel that I have meaningful interactions with my professor	4	3	2	1
4. I feel that my professor cares about me	4	3	2	1
5. I consider my professor to be a friend	4	3	2	1
6. I feel valued by my professor	4	3	2	1
7. I feel like my opinion about course material matters	4	3	2	1
8. I feel that I have frequent interactions with other students in class	4	3	2	1
9. I feel that I have meaningful interactions with other students in class	4	3	2	1
10. I feel like I am growing and developing as a student in this class	4	3	2	1
11. I feel like I am growing and developing as a beneficial peer to other students in this class as a result of how this class is taught	4	3	2	1
12. I feel that I have test anxiety in this class	4	3	2	1
13. I feel that I have anxiety completing essays for class	4	3	2	1
14. I feel that I have control over the course material in class	4	3	2	1
15. I feel happy about how class material is presented to me	4	3	2	1
16. I feel happy about how I interact with other students in class	4	3	2	1
17. I feel that I better understand my own strengths and weaknesses about writing as a result of this specific class	4	3	2	1

18. In 1 short paragraph, please explain your answers in more detail by writing 1 short paragraph about how this particular course has impacted your feelings and emotions so far this semester.

Appendix B

Week 15 Course Survey

ENGL 1102

Gender: _____

*The purpose of this survey instrument is to evaluate how you felt **during the second half of the semester** in this course (after the course began using Socratic regularly)*

INSTRUCTIONS: Consider each item separately and rate each item independently of all others. Circle the rating that indicates the extent to which you agree with each statement. Please do not skip any rating.

4 = Strongly Agree 3 = Agree 2 = Disagree 1 = Strongly Disagree

- | | | | | |
|--|---|---|---|---|
| 1. I feel happy in class | 4 | 3 | 2 | 1 |
| 2. I feel that I have frequent interactions with my professor | 4 | 3 | 2 | 1 |
| 3. I feel that I have meaningful interactions with my professor | 4 | 3 | 2 | 1 |
| 4. I feel that my professor cares about me | 4 | 3 | 2 | 1 |
| 5. I consider my professor to be a friend | 4 | 3 | 2 | 1 |
| 6. I feel valued by my professor | 4 | 3 | 2 | 1 |
| 7. I feel like my opinion about course material matters | 4 | 3 | 2 | 1 |
| 8. I feel that I have frequent interactions with other students in class | 4 | 3 | 2 | 1 |
| 9. I feel that I have meaningful interactions with other students in class | 4 | 3 | 2 | 1 |
| 10. I feel like I am growing and developing as a student in this class | 4 | 3 | 2 | 1 |
| 11. I feel like I am growing and developing as a beneficial peer to other students in this class as a result of how this class is taught | 4 | 3 | 2 | 1 |
| 12. I feel that I have test anxiety in this class | 4 | 3 | 2 | 1 |
| 13. I feel that I have anxiety completing essays for class | 4 | 3 | 2 | 1 |
| 14. I feel that I have control over the course material in class | 4 | 3 | 2 | 1 |
| 15. I feel happy about how class material is presented to me | 4 | 3 | 2 | 1 |
| 16. I feel happy about how I interact with other students in class | 4 | 3 | 2 | 1 |
| 17. I feel that I better understand my own strengths and weaknesses about writing as a result of this specific class | 4 | 3 | 2 | 1 |

18. In 1 short paragraph, please explain your answers in more detail by writing 1 short paragraph about how this particular course has impacted your feelings and emotions during the second half of the semester (after the course began using Socratic regularly).
19. Based on your answers on both surveys this semester, which environment provided a more supportive emotional environment for you?
- The first 8 weeks without Socratic
 - The final 8 weeks with Socratic
20. Based on your answers on both surveys this semester, which environment allowed you to form more meaningful relationships with students and your professor?
- The first 8 weeks without Socratic
 - The final 8 weeks with Socratic