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Using Google Forms to Enhance Student Learning

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ABSTRACT

Active learning leads to high levels of student engagement, which can in turn lead to improved student learning outcomes. Google Forms, a free online survey tool, are easy to create and disseminate, and can support active learning in areas such as interactive real-time polling, as well as classroom and homework assignments.

RATIONALE/BACKGROUND

- Active learning leads to high-levels of student engagement (Siau, Sheng, and Nah, 2006).

- Student engagement can lead to positive indicators of student learning outcomes, such as high GPA (Fuller, Wilson, and Tobin, 2011).

- Technology can be used effectively to support active learning (Heaslip, Donovan, and Cullen, 2014; Djenno, Insua, G, and Pho, 2015; Peacock and Grande, 2016).

- Google Forms can be used to enhance active learning:
  - For in-class polling (to replace clickers)
  - For in-class assignments (individual and groupwork)
  - For out-of-class work (homework)
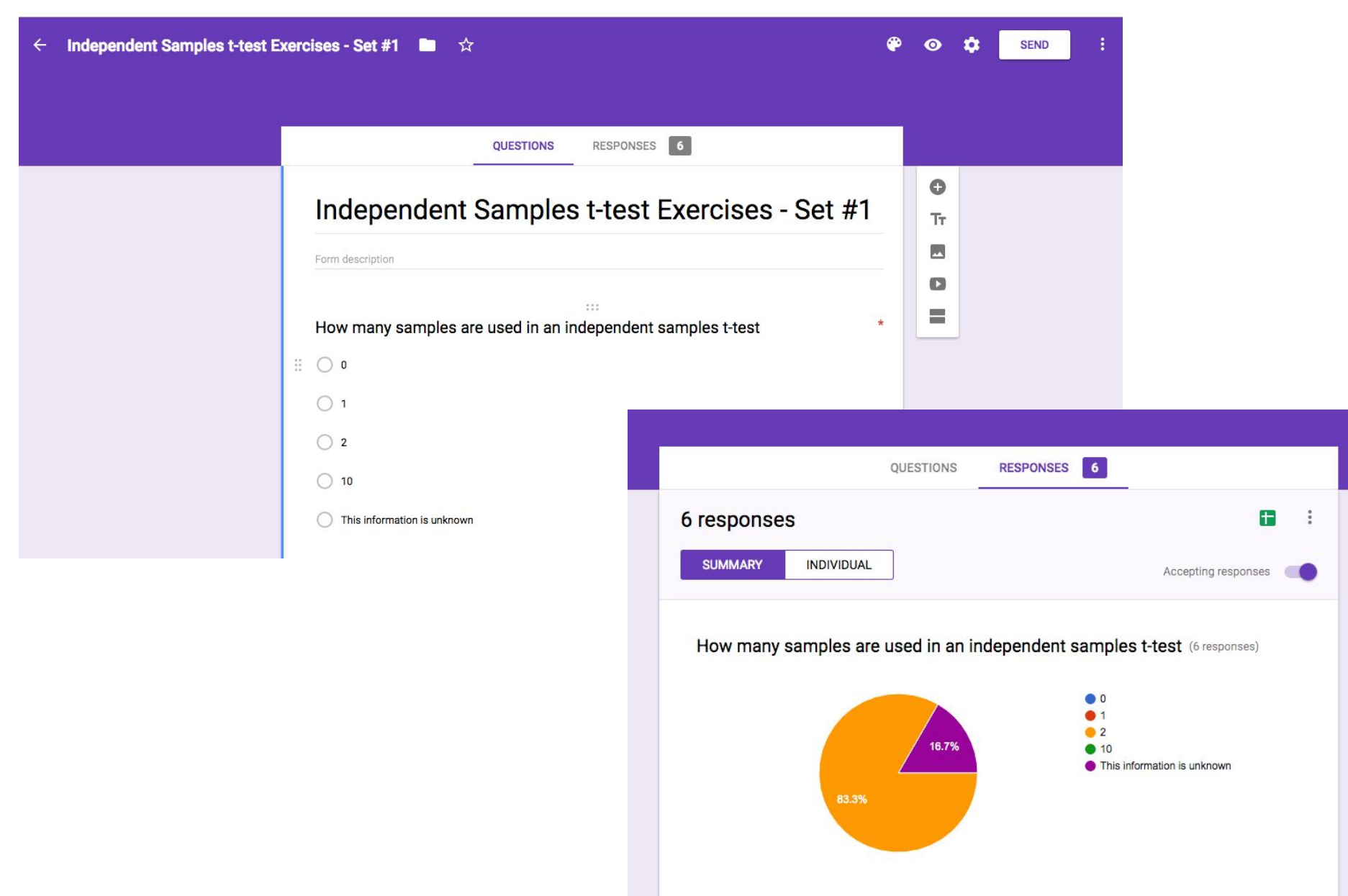
HYPOTHESES

Students who use Google Forms in class experience high levels of engagement and satisfaction as measured by responses to a post-course satisfaction survey.

THE STUDY

Participants

- Over a period of five semesters (Spring 2016-Spring 2018), 81 undergraduate Psychology majors at an East Coast Regional Higher-Education Center (RHEC) participated in one or two Research Methods courses. After the course ended, every student in that class received an email asking them to complete a survey for each course they took. Because of this, some students (n=5) had the potential to respond twice but for different courses.

- As an incentive, students were offered the opportunity to be entered into a chance to win a $25 gift certificate if they provided an email address. Otherwise, responses were anonymous.

- In total, 35 responses were received. Of those, 26 were from the Research Methods in Psychology I course and six were from the Research Methods in Psychology II course.

Materials

- Students brought their personal technology devices (e.g., smart phones, ipads, computers) to class and were expected to use the devices for in-class polling and other assignments.

- Students also had access to the course's Learning Management System. (LMS)

Procedure

In-Class Polling:

Most class sessions included at least one set of in-class polling exercises.

- During the lecture/discussion, the instructor would ask students to click on a link provided in the current week's folder in the LMS.

- The link connected the students to a Google Form with one or more questions.

- Students completed the forms and submitted their responses.

- Anonymous, aggregated responses were displayed on the overhead projector for class discussion.

In-Class Activities:

- Several times during the semester in each class, students completed in-class assignments. Initially, students would work on the problem individually, then would come together to work as a group. Each group submitted their input as a single form, which was then shared on the overhead for discussion.

Out-of-Class Activities:

- Students completed homework assignments out-of-class using Google Forms.

RESULTS & DISCUSSION

Satisfaction Survey

Other than basic demographic and course information, the Google Form survey consisted of three closed-ended questions based on a 5-point Likert-type scale. The remaining six questions were open-ended/qualitative questions
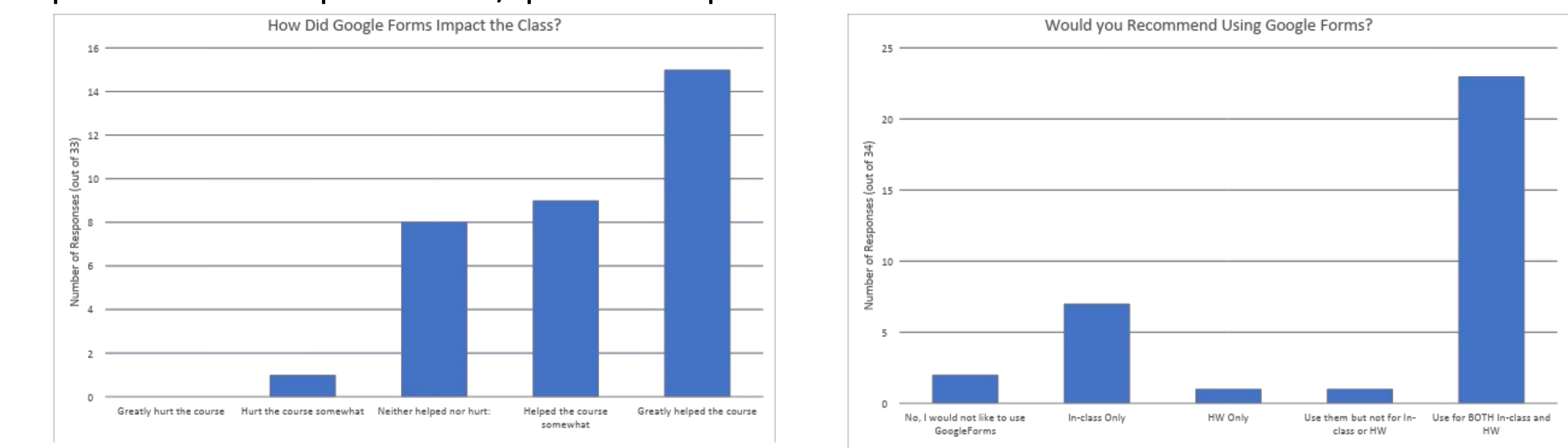
- Open-Ended Questions – "How did Google Forms enhance the class?" "How did Google Forms hinder the class?" "What recommendations do you have for the course?" Student feedback was grouped based on the following themes:
  - Engagement/Interactivity
  - Helpfulness
  - Ease of Use
  - Communication and Feedback
  - General/Other

> Examples of Student Feedback:
> *"It made me more engaged in class"*
> *"I liked seeing other's opinions to gauge if I was lining up with my peers"*
> *"I feel that using Google Forms made the completion of SPSS assignments easier."*
> *"It helped because the group was able to incorporate the lesson and, share answers with the professor for instant feedback."*
> *"It was a simple and clear way to submit work and to answer questions related to coursework."*
> *"I'm a hands-on person and I enjoy I interactive activities. Having said that, I felt it was helpful when we would go over the various responses in class because this helped to clarify the topics."*
> *"The poll questions on certain materials in class helped with highlighting areas where the class was struggling which led to better reviews of the material which in turn helped me with what I was struggling to understand in class."*

Best Practices

Based on feedback from students:

- Using easier links/access (e.g., tinyurl – see https://tinyurl.com/ and QR codes – using https://www.qr-code-generator.com/) and whenever possible, not requiring the institution-specific email address.

- Making sure that all students *bring devices to class*. Of course, this can open up the possibility for more unrelated browsing and distraction.

- Considering effective ways to give good feedback on homework and out-of-class assignments. Options: Use Answer Keys and/or creating output documents using merge files from student responses.

- Making the questions short and to-the-point, especially for polling and in-class activities. Keep it simple! Allow enough time!

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