

SYLLABUS 2.0: USING VIDEO TO MAKE THE MATH SYLLABUS ACTIVE

John Kerrigan, Ed.D.
Rutgers University

Christina Bifulco, Ed.D.
Rutgers University

INTRODUCTION

There is a widely held view that a college course syllabus serves as a contract for students rather than a teaching and learning opportunity (Fornaciari & Lund, 2014). Earlier studies on syllabus development have focused on necessary components to include in the syllabus, such as professor information, course information, disability information, student support services, grading, and technology requirements (Doolittle & Siudzinski, 2010; Garavalia et al., 1999; Jenkins et al., 2014; Perrine et al., 1995). A second wave of studies focused on how the syllabus is presented in terms of professor tone (Harnish & Bridges, 2011) and length and use of images (Harrington & Gabert-Quillen, 2015; Nilson, 2002). More recent research on syllabus development has expanded on previous design considerations and has focused on accessibility and universal design for learning (Womack, 2017), the infusion of diversity, equity, and inclusion across the various components of the syllabus (Fuentes et al., 2021), and the inclusion of social justice elements across sections (Taylor et al., 2019). Given the wealth of research available on what components to include in a syllabus and possibly how that affects instructor perception, there is a lack of research on how to present the syllabus in a way that engages students in learning about the course. Our study examined the implementation of two multimedia syllabi developed for large lecture math courses: a graphic syllabus and a video version.

RESEARCH QUESTIONS

- 1) Which components of a video syllabus do students access the most frequently?
- 2) What are students’ attitudes toward an undergraduate math course after reviewing its syllabi?
- 3) How does the syllabus modality (graphic or video) impact students’ posttest performance on syllabus content?

CONTEXT/METHOD

Two sections of students in Precalculus College Mathematics (N=172) participated in the study. All students were first-semester School of Engineering students in a one-semester Precalculus course.

One section was assigned a graphic syllabus, whereas the other was assigned a video syllabus. After engaging with the syllabus, 107 students consented to take the syllabus survey, which represents 62% of the 172 students enrolled in the class. Sixty-one (57% of the sample) of these students had been assigned the graphic syllabus and 46 (43% of the sample) the video syllabus.

ANALYSIS

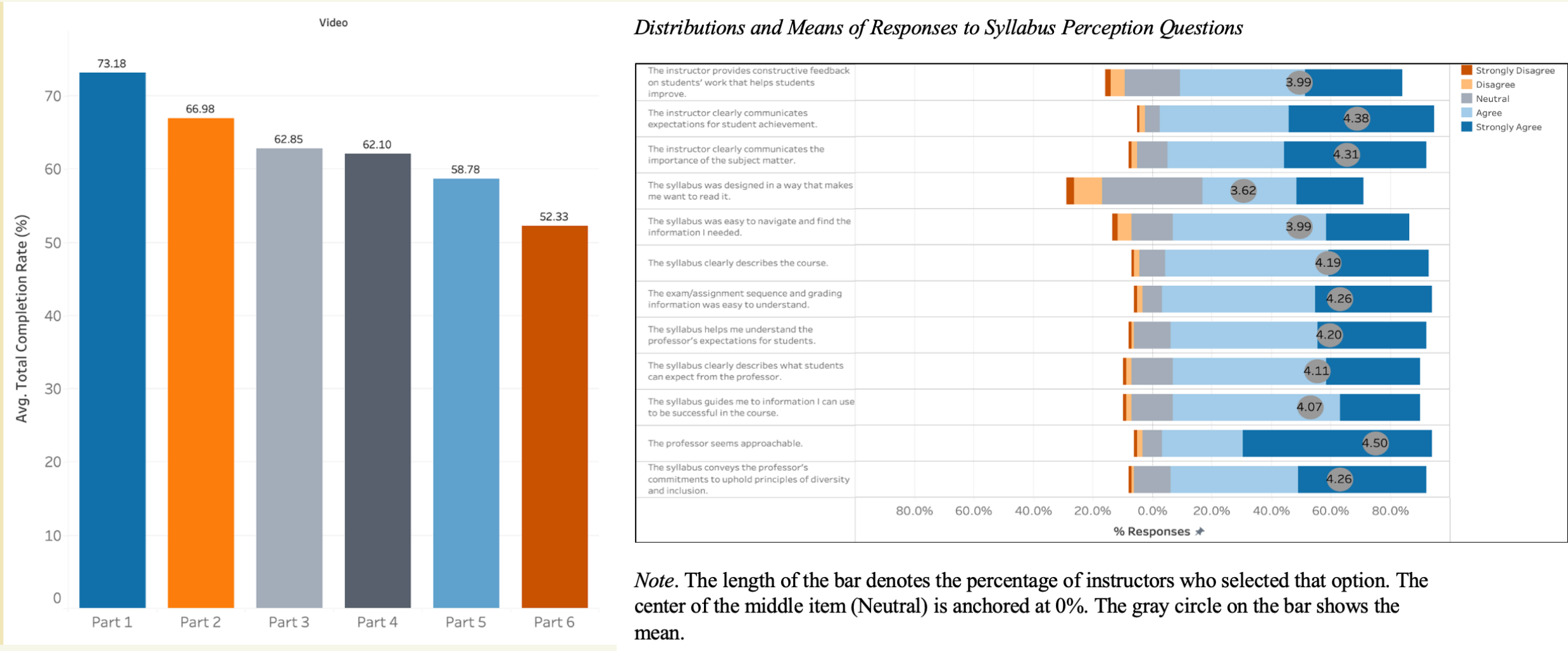
As most of our data was quantitative, we ran descriptive statistics for each of our survey and quiz questions to describe the data set. We also ran a t-test between groups to see if having either syllabus experience resulted in a significant difference in overall syllabus quiz score or a difference between each quiz or survey item. For the two survey questions that had qualitative responses, we used open coding to determine whether any themes emerged from the students’ responses. For example, we classified both positive and negative reactions to the syllabi based on the one-word descriptions used to describe the syllabus. Video-watching data was extracted from Kaltura and organized into charts for ease of interpretation.

RESULTS

Findings indicate no significant difference between students' syllabus quiz performance and overall survey responses between groups.

Students responded favorably to the survey regardless of syllabus type (100% positive on graphic syllabus, 91% positive on video).

Last, there was no observed relationship between the length of each syllabus segment video and the frequency at which students watched each segment.



IMPLICATIONS

The results of our study indicate that first-semester college students may need additional explicit instruction on what a syllabus is, how to use it, and why it is important. Through our data analysis, we uncovered that there could be more effective ways of engaging students with the syllabus. When looking at this data coupled with some students’ desire for a paper-based syllabus, we suggest offering students the option of viewing a graphic syllabus or video syllabus to accommodate learning preferences. To increase implementation fidelity and ensure students engage with the syllabus, we offer two suggestions for implementing a video syllabus and a graphic syllabus: a video-based syllabus quiz with embedded prompts and socially annotating the syllabus. Our next study will investigate this implementation.

Related literature

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