The PowerPoint Dilemma: When Should Professors Make their Class PowerPoint Presentations Available to Students?

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Introduction/Need for Research

As a professor I have wrestled with the simple question of when to share PowerPoint presentations with the students. If I share them in advance of the class the students might skip class **or** they could use them to take notes during the class; thus having a more complete set of notes. If I make them available after I teach perhaps students will pay better attention in class and concentrate more on what is being taught. What is a professor to do? Which is best from a learning standpoint? While this might seem like a minor question, if it is found that one approach results in even a slight gain in student learning or a more positive attitude toward the class, then professors should seriously consider adopting that practice.

The literature is somewhat unclear as to when to make PowerPoint presentations available to students. Babb and Ross (2009) and Nouri and Shahid (2008) found no difference in student learning based upon when the PowerPoint notes was made available. However, Marsh and Sink (2009) and Chen and Tsui-Fang (2008) found that students who had access to lecture slides before class performed better on examinations. Conversely, Worthington and Levasseur (2015) found that prior distribution of the PowerPoints adversely affected student performance. It should be noted that none of these studies were conducted with agricultural students.

Because of the conflicting findings and the fact that agricultural students were not involved in the studies, it would be reasonable to inquire further into this matter.

Conceptual or theoretical framework

This research, conducted in the spring of 2017, was to determine the desires of agricultural students in regards to when they prefer access to the PowerPoint presentations used by professors in teaching their classes. Student opinions were then compared with the views of college agricultural professors.

The theoretical framework for this study is based on Heider's (1958) Cognitive Consistency Balance Theory. If two entities (teacher and students) do not have similar views regarding a construct or teaching practice, such as when to distribute PowerPoints, then tension and feelings of unpleasantness will exist which will have a negative impact on the teaching-learning situation.

This study addresses AAAE Research Priority 4 Meaningful Engaged Learning in All Environments; specifically the Research Priority 1 question – How do digital technologies impact learning (Roberts, Harder & Brashears, 2016).

Methodology

An instrument to assess the student's preference as to when to receive the PowerPoint presentation along with ten Likert-type statements regarding the advantages and disadvantages of receiving the presentations prior to and after the class was developed. The items came from the literature. The instrument was field tested with 29 diverse undergraduate agricultural students.

No changes in the instrument were made after the field test. A parallel version of the instrument was developed to be used with agricultural professors.

A sample of undergraduate agricultural students were randomly selected from the student population in the College of Agriculture and Life Sciences at North Carolina State University. A nationwide sample of university agricultural professors were also selected. The instrument was distributed to both groups via Qualtrics. Usable data were received from 109 undergraduate students and 61 professors.

Results/findings

Students indicated that PowerPoint was used regularly in 62 percent of their classes. Sixty-eight percent (68%) of the students would like the PowerPoints used in class to be shared with them prior to the class.

Fifty-six percent of the professors disclosed that they regularly use PowerPoint but only 23% of the professors distribute the PowerPoint in advance of the class while 16% distribute the presentation after the class. However, 46% percent of the professors say the distribution of the PowerPoint varies according to the particular concept being taught and the class.

The comparison of student and professor responses to the 10 Likert-type statements found that there was considerable differences in the views of the two groups in regards to the benefits or issues associated with the timing of the release of the PowerPoint presentation. For example on the statement "Learning is improved when students have PowerPoint presentations prior to the class" the student mean score was 6.1 (on a 7 point scale, 4 is the midpoint) while the professors had a mean score of 4.0. On the statement "Students take more complete notes in class if they **do not** have the PowerPoint in advance." the professors' mean rating was a 4.05 while the students had a mean score of 3.07. The difference in ratings for all items varied by 1-2 points with professors being uncertain about the advantages of distributing the PowerPoint in advance while the students strongly believed it to be beneficial with no drawbacks.

Conclusions

The students clearly want the PowerPoint presentation in advance of the class while the professors express reservations. The students do not believe they are more likely to skip class or pay less attention in class if they have the PowerPoint in advance. They believe it will help them focus on what is important and be able to take better notes. The professors are not so sure.

Implications/Recommendations/Impact on Profession

Professors might consider making their PowerPoint presentations available to their students in advance of teaching the class. According to Heider's Cognitive Consistency Theory, this would lead to cognitive consistency which could result in a more positive learning climate.

References

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