Title: I Didn't Understand the Assignment: Mitigating Technology's Impact on Student Cognition

Abstract

Our students are not just distracted, they struggle to read and process information deeply and think critically. Technology and social media affect more than students' ability to focus, they also impact cognition and learning. There are many studies on learning and technology published outside of the business education arena that could assist us in reinventing how we engage the next generation of students. Participants in this session will work together using findings from current research on cognition and learning to redesign our favorite assignments and activities so as to compensate for these changes and better insure that students learn.

Key Words: critical thinking, cognition, impact of technology

Introduction

Participants in this session will be provided with a brief overview of how technology affects cognition, specifically smart-phones and access to the internet (Carr, 2010; Wilmer, Sherman & Chein, 2017). If possible, a brief (< 5 minutes) video will be shown that overviews the topic before additional information is provided.

Learning objectives:

- understand the impact of technology on cognition, specifically the ability to read and process information
- consider how these changes affect students' ability to effectively learn
- identify class activities or assignments that could be updated to account for students' changing abilities
- develop concrete suggestions for redesigning activities or assignments
- discuss further applications of these suggestions (if time)

Theoretical Foundation / Teaching Implications:

Recent research has found a negative impact of smartphones and digital media on analytical thinking, information processing and comprehension (Barr, Pennycook, Stolz, & Fugelsang, 2015; Loh & Kanai, 2016; Singer & Alexander, 2017). The use of social media and hyperlinks within digital texts promotes or reinforces the habit of frequent task switching (Rosen, Carrier, & Cheever, 2013), which is itself linked with poorer information processing and retention of information (Sparrow, Liu, & Wegner, 2011; Uncapher, Thieu, & Wagner, 2016). The research will be drawn from the fields of education, psychology, and cognitive and computer science fields. Annotated citations will be provide as a useful resource after the conference.

Session Description

This Roundtable Discussion will be 60 minutes in length

- 2-3 minutes Introduce topic, differentiate from recent focus of technology's impact on students' attention span
- 5 minutes Participants will be asked to list learning situations they believe have been impacted by this; we will jointly prioritize which we will try to problem-solve in groups
- 15 minutes I will provide a brief overview of recent research on technology's limiting impact on cognition, specifically students' ability to read deeply and research topics, comprehend readings, and link new information to deeper memories.
- 25 minutes Participants will work in self-selected subgroups focused on the prioritized items. Discussion will focus on using the information about learning/cognition to suggest changes that redesign courses or assignments to compensate for decreased ability to focus and process information.
- 10 minutes Share redesign insights and suggestions across groups. If time remains, participants will be asked if they have other ways they might use the suggestions provided by the groups (i.e., multiple ways to use one suggestion).

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