

Social media inspired visual distractions: A case study in pharmacy education

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Abstract

Description of the Problem: Digital tools such as hybrid learning models, messaging apps, and social media are increasingly embedded in education, but often introduce distractions that can impair learning.

Statement of the Innovation: While platforms such as TikTok use continuous visual stimulation to sustain user attention, it remains unclear whether such techniques can be repurposed to support meaningful student engagement in academia.

The Innovation: This research integrated non-auditory, low-arousal visual distractions common on social media platforms, into an online pharmacy lecture with the goal of examining the impact on student attention on the lecture material and reducing external multitasking. A 50-minute recorded lecture in a first-year pharmacy course incorporated short, "oddly satisfying" video clips displayed alongside lecture slides. Twenty-eight students completed a post-lecture survey assessing their social media use and perceptions of this novel lecture format.

Critical Analysis: Findings revealed three major themes. First, most participants (~75%) reported that the visual distractions disrupted their focus rather than enhancing it, with several noting they actively avoided looking at the visual distractions. Second, while Gen Z students are often thought to be more accustomed to multi-stimulus environments, survey responses suggested that pharmacy students did not find these distractions beneficial even if familiar with similar content on social media. Third, the format primarily captured attention at a superficial level, initially drawing eyes to the screen but not for a meaningful duration. These results suggest that techniques designed to maximize engagement in purely entertainment settings do not directly translate to effective academic learning.

Next Steps: Future research should explore how attention-sustaining features of social media can be adapted for academic settings without compromising comprehension or long-term retention.

Keywords: visual distractions, online learning, social media, split-screen content

Description of the Problem

Today's society places a significant emphasis on digital platforms, such as hybrid learning models, messaging apps, games, and social media. While these tools are designed to promote active engagement, they often introduce distractions directly to the learning environment.¹ Existing literature demonstrates that distractions in an academic setting have a negative impact on students' performance. For example, after an online lecture with and without various types of distractions, an average of a two-letter grade drop was observed in student's test scores when there was a distraction.² Different types of distraction had different effects on students learning. While watching a low-arousal video (images of swimming animals with calming music) was the least distracting, unsurprisingly, a high-arousal video (action-packed sword-fighting scene with quick banter) was one of the most distracting.²

Distractions can be especially present in online learning environments. In a study from 2006, it was found that 60% of students prefer online learning over traditional classroom learning.³ However, these sentiments have shifted away from online learning, especially following the COVID-19 pandemic where online classes were unavoidable. Several studies conducted post 2020 showed that ~40-65% of students believed they learned more in face-to-face settings and preferred in-person over online courses.^{4,5}

To enhance engagement, there is potential in using successful features of social media in the classroom. One example is a phenomenon called "split-screen content," which has gained popularity especially on TikTok.⁶ In these videos, one side of the screen presents the main content (e.g., storytelling, tutorials, or educational content), while the other side features visually stimulating but unrelated clips, such as "oddly satisfying" videos like slime-making or soap-cutting. This method is designed to enhance viewer engagement by maintaining their attention through distraction and continuous simultaneous stimulation.⁷

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Statement of the Innovation

While the negative impact of distractions on academic performance is well known, little is known about the potential benefit of using distractions in the classroom as a way to improve attention and engagement as seen in social media. This study implemented low-arousal videos with no audio, such as those commonly found on platforms like TikTok, in

one 50-minute online pharmacy lecture and evaluated the student learning experience.

The Innovation

Lecture Design

A single lecture was designed for *PHRM 161: Technology in Healthcare*, a mandatory 2-credit course in the PharmD program, with the aim of identifying a novel strategy to enhance student engagement. We borrowed elements of digital and social media pedagogy to construct a 50-minute synchronous online lecture that incorporated visual distractions with the goal of capturing and sustaining student attention. This lecture was also recorded for the option for students to watch it asynchronously. While low-arousal videos are known to negatively impact learning, the effects are less pronounced than other types of distractions and thus were chosen in this study.² Visual distractions were provided for the full 50 minutes and they included short 3-10 second clips of randomly assorted videos found on [YouTube.com](https://www.youtube.com) by the account “Oddly Satisfying”⁸⁻¹¹ (Figure 1). The lecture was given by the course teaching assistant and was approved by the course instructor.

Figure 1a. the layout of what students would see during the lecture with the lecture content, visual distractions (taking up ~1/3 of the screen) and lecturer

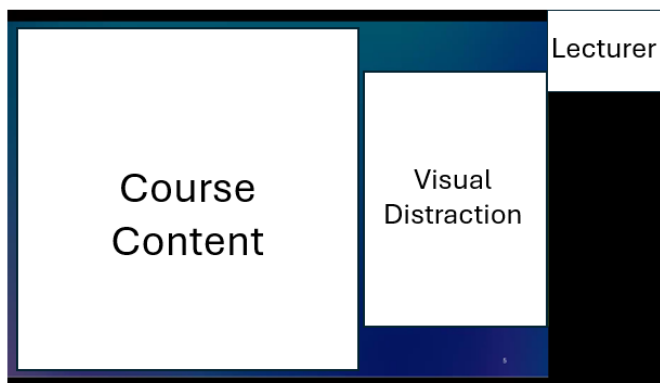


Figure 1b. an actual slide, with the lecturer box removed, showing course content and a visual distraction.



Survey Design

Twenty-eight first-year students (12.3% of the class) opted-in to participate in an optional survey after the online lecture. The participants consisted of a mix of individuals who attended synchronously and those who watched the recording asynchronously at a later date. The survey consisted of 10 questions, targeted to draw information about students' age and social media habits, using a mix of open-ended and close-ended questions. The survey also asked about their personal experience with the new lecture format, their attention to the lecture versus external distractions, and their preference for implementing similar low-arousal videos into subsequent lectures via a five-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). Students were also asked to write a short statement of what they believed worked well and did not work well with the visual distractions provided. This was an electronic online survey facilitated through QualtricsXM (Qualtrics, LLC, Provo, UT), which collected all data anonymously.

This project was reviewed and approved through the Behavioural Research Ethics Board at the University of British Columbia (H25-00214).

Table 1. Demographic data of study population

	Count (n=28)	% (n=28)
Age		
19-24 (Gen Z)	15	53
25-28 (Gen Z)	5	18
29+ (Millenials)	3	11
Average age	24.5	
Social media platforms used		
Discord	19	68
Instagram	24	86
Facebook	19	68
Reddit	10	36
TikTok	9	32
Twitch	1	4
Twitter	3	11
YouTube	22	79
Other	3	11
Estimated daily average hours spent on social media platforms (combined)		
Less than 1 hour	1	4
1-3 hours	19	68
4-6 hours	7	25
7+ hours	1	4

Data Analysis

Open-ended survey responses were analyzed using thematic analysis, as described by Braun and Clarke.¹² Two researchers independently familiarized themselves with the data and

generated initial inductive codes. Codes were compared and discussed to reach agreement, and an Excel-based code book was iteratively refined.

Codes were then grouped into categories based on conceptual similarity. Through iterative discussion and review of the dataset, categories were examined for patterns of shared meaning and developed into themes. Themes were defined as patterned responses capturing meaning across multiple participants. This process involved moving between coded data and the full dataset to ensure coherence and alignment.

Through this approach we were able to identify three major themes: *visual distractions are not optimal for pharmacy students (Theme 1)*, *No generational differences (Theme 2)*, *visual distractions only promote surface-level engagement*. Quantitative data were summarized using descriptive statistics.

Critical Analysis

The top social media platforms reported by participants in this study were Instagram and YouTube, which are both predominantly visual focused, as opposed to text heavy platforms, such as Discord and Reddit. However, the majority of participants (~75%) reported the use of visual distractions during online lectures to be unhelpful. Many participants expressed frustration, stating that the distractions disrupted their focus on lecture content. Several respondents actively avoided looking at the visual distractions, indicating that the presence of these visuals detracted from their ability to engage with the material. Comments included:

“It was very distracting for me and really stressed me out. I ended up tuning out of the lecture and picking up my phone. I ended up covering the side of my screen so I could focus on the lecture.”

“I found it highly more distracting for me personally, since when I focus on that I end up listening to the speaker less.”

“Good for brainrot [T]ik[T]ok videos that don't actually matter but if I'm trying to engage with the material the distraction occupies that part of my brain.”

While social media platforms use visual stimulation to capture fleeting attention spans, it does not appear to translate into an academic context.

We also aimed to assess if students' perspective of visual distractions would be different based on age. The student population for this pharmacy course consisted of millennials born between 1981 and 1996 (29-44 years old) and Gen Z born between 1997 and 2012 (13-28 years old). Statistics compiled from 2017 indicate that, on average, Gen Z spends

more daily time online.¹³ Gen Z tends to spend time online for entertainment purposes, whereas Millennials will access online for a specific answer or need. These differences may arise due to Gen Z being the first generation to have access to the internet from birth,¹³ with the world wide web becoming main stream by the mid 1990s and social media platforms emerging in the early 2000s.

The majority (71%) of our study population falls under the Gen Z generation. Most participants (64%) reported that they did not find the use of visual distractions helpful, and this pattern was observed across age groups. As well, only 32% of students reported that they engage on TikTok, which is largely where split-screen content is currently popular. However, it is possible that students who did not participate in the survey may have more familiarity with split-screen content and might respond differently to visual distractions.

While visual distractions might initially capture student's attention, they appear to have limited effectiveness in prolonged engagement of lecture material. Engagement, in the context of social media, often focuses on surface-level interactions, such as keeping viewers entertained or intrigued. However, in an academic setting, engagement should support deeper comprehension, critical thinking, and application of knowledge. The students' feedback supports this disconnect, with comments such as:

“[The visual distractions] made me look at the lecture screen for the first few minutes.”

“It made me dizzy after few minutes so I had to avoid looking at the lecture screen and instead focus on the slides on my own device which didn't have the visual distractions.”

“The whole time there would be movement that caught my attention, realize that it wasn't actually relevant to the material and then get slightly more frustrated.”

While the visual distractions may have temporarily drawn participants' attention to the screen, they often diverted focus away from the lecture content itself. For example, participants noted that their attention shifted entirely to the distractions, leaving them less attuned to the lecturer or the course material. This indicates that the presence of unrelated visual stimuli may fragment cognitive resources, reducing the mental capacity available for learning.

Key Issues

Using an inductive reasoning approach, we were able to derive these themes directly from students' comments, which underscore the complexity of leveraging visual distractions as a tool for engagement. While social media platforms are largely successful at capturing and sustaining user attention,

these techniques do not immediately translate into academic engagement. While social media platforms aim to prolong attention spans through continuous stimulation, academic success may require alternative strategies. Social media has expertly maintained user attention across a wide demographic with carefully engineered feedback loops, visual stimuli, and algorithmic personalization. Academia should be actively exploring what elements of these designs can be effectively integrated into education.

Limitations

This study did not differentiate between students who watched the lecture synchronous versus the recording. We did not account for each students' social media habits, attention spans, prior academic performance, or personal learning preferences. This information may be beneficial to gain insight into what types of students might benefit from visual distractions, e.g. students who engage with split-screen content more frequently may find the visual distractions in lecture more helpful. Furthermore, this study did not tailor the content in a way that fully matches social media formats, such as time-limited reels, no subtitles/captions, etc. This was also a single-event intervention in one course, with only 28 participants. Exploring these variables in future studies could help clarify which aspects of social media engagement are worth adopting and which are detrimental in academic settings.

Next Steps

There is a great need to further understand today's learners and how to engage them in more effective ways. Future studies should explore larger, more diverse populations, investigate personalized engagement methods, and attempt to control for variables like digital literacy. This might involve incorporating alternative social media pedagogy elements such as breaking up the lecture into short clips and the strategic use of trending audio. Alternatively, looking at longer video essays on platforms like YouTube may also offer additional insight. Instructional designs must focus on cultivating environments that support both, ensuring that attention is sustained in a way that fosters meaningful learning.

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