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Creating More Options for Student Class Attendance

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Abstract

As higher education adapts to the diverse needs of students, providing flexible attendance options has become a priority, particularly for those facing professional or personal scheduling conflicts. However, the shift toward asynchronous delivery often encounters obstacles due to faculty concerns regarding student engagement, time management, and the potential for passive learning. This study explores the use of interactive video technology as a pedagogical bridge to address these challenges by mandating active participation through embedded control questions. Utilizing a comparative research design between two different undergraduate course levels, the paper examines student perceptions of flexibility and interactivity along with actual attendance behaviors when provided with asynchronous alternatives. The findings indicate that interactive elements can significantly enhance student satisfaction and provide a sense of instructional effectiveness comparable to traditional formats. Furthermore, the results suggest that the success of such interventions is influenced by student maturity and self-regulation skills, leading to varying outcomes in attendance patterns between academic cohorts. I conclude by offering recommendations for the selective implementation of interactive video tools to balance academic accountability with the increasing demand for educational flexibility. This paper contributes to IS/CS education by demonstrating how interactive video technologies, such as H5P, can preserve instructional rigor and engagement while accommodating modern demands for flexible course delivery.

Keywords: interactive videos, asynchronous learning, student engagement, class attendance, flipped classroom.

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1. INTRODUCTION

Modern higher education increasingly demands flexibility, as many students face significant work conflicts with traditional synchronous class schedules. Students like to have access to class recordings because their professional obligations directly conflict with scheduled meeting times. However, offering these asynchronous options is often met with long-standing faculty concerns that they may lead to poor time management, lack of meaningful engagement, and neglecting to use these materials. To address these competing needs, I am using H5P technology as a pedagogical bridge. This tool facilitates asynchronous delivery while ensuring student "attendance and attention" through the use of embedded, required quizzes that must be completed to progress through the lecture content. My primary goal in using these questions is not to test performance, but to ensure that students actually watch the videos attentively. This approach also allows me to have students study critical material in advance, providing assurance that they have actually completed the assigned work before a synchronous lecture begins. As such, interactive videos can be a tool for the flipped classroom.

This paper is organized as follows. In the next section, I will discuss the relevant literature. Next, I will discuss research questions and hypotheses, the methodology of the study, data collection, and data analysis. The paper ends with conclusions and recommendations.

2. LITERATURE REVIEW

The transition toward more flexible and technology-enhanced delivery models is underpinned by a significant body of research exploring how various instructional environments influence student performance. In this section, I present the literature that justifies the use of interactive technology to balance the student need for flexibility with the faculty requirement for academic accountability. The review discusses literature regarding the foundational predictors of academic success, the shifting landscape of synchronous and asynchronous delivery, and the specific pedagogical impact of using video materials with embedded questions to foster the active learning required for conceptual mastery.

2.1 Importance of class attendance and preparation

The fundamental relationship between student engagement and academic success is discussed by Credé et al. (2010) whose comprehensive meta-analysis of over 80 years of research identifies class attendance as the strongest predictor of college grades. According to their findings, the correlation with individual class grades ($r = .44$) and overall GPA ($r = .41$) is robust. Class attendance outperforms predictors like SAT scores, high school GPA, and study habits. Even for highly motivated and well-performing students, missing classes significantly lowers GPA (Bijsmans & Schakel, 2018). "Attenders" outperform "Low Engagers" who don't attend in person nor use alternative attendance like class recordings(Lewohl, 2023).

The link between student engagement and academic outcomes is further established by Bekkering & Ward (2021), who used a composite participation score of the product of attendance and attentiveness (i.e. percent of time the instructor's desktop remained in focus). The analysis revealed a statistically significant relationship with the score on the final exam, with the participation variable explaining 64% of the variance in student performance.

Preparation for class is another important factor for academic success. While the academic introduction dates back to 2000 (Lage et al., 2000), the concept was popularized by Bergmann & Sams (2012) with their book "Flip Your Classroom: Reach Every Student in Every Class Every Day." At its core, the flipped classroom is a pedagogical model that turns traditional teaching on its head. Instead of showing up to a lecture blank-slate, students get their first introduction to a new topic at home. They study foundational concepts through watching videos, watching articles, listening to podcasts, or reviewing slides. Classroom time is freed up for active learning through discussions, hands-on work, solving

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problems, or peer tutoring. Rama Devi et al. (2022) describe this "flipped review" approach with interactive content to prevent information loss between chunk memory and long-term secondary memory.

Earlier preparation (2-3 days before class) directly improves performance. As cognitive demands rise, earlier engagement leads to deeper processing (Martín-Alguacil et al., 2025). In another study, active class participation is used by Dawar (2023) who found that by having students review code and asking questions first, called Student Driven Probe Instruction, participation increased by 69% and quiz scores by 11%.

While the link between class attendance, preparation, and participation with academic success is clear, the shift toward modern delivery models requires a closer look at how traditional face-to-face instruction compares to increasingly popular virtual and digital formats.

2.2 Synchronous vs. asynchronous delivery

Traditional face-to-face instruction is currently being replaced or combined with virtual and digital campuses (Gil-García et al., 2023). Current studies suggest that online and distance learning can be viable replacements for face-to-face learning (Abusalim et al., 2024; Ilozor et al., 2023; Lewohl, 2023; Nieuwoudt, 2020). Noetel et al. (2021) published a large-scale meta-analysis of 105 studies that validated the effectiveness of video-based learning. Swapping traditional teaching for video leads to small improvements in learning ($g = 0.28$), while adding video to existing instruction provides strong learning benefits ($g = 0.80$). Videos allow students to manage their own cognitive load by pausing to take notes, rewinding difficult sections, or accelerating easy ones (Noetel et al., 2021; Rahmi et al., 2024). Trenholm & Marmolejo-Ramos (2024) argue that these findings are not fully generalizable across higher education, and that for higher-level cognitive processing, such as abstract reasoning in Computer Science, video may prime students for a "weakened cognitive investment" leading to rote memorization rather than deep conceptual understanding.

While the flexibility afforded by digital recordings is frequently requested by students, research suggests that passive lecture review can pose significant risk if used as a substitute for class attendance. Edwards & Clinton (2019) provide a cautionary tale by reporting that the mere availability of recordings was associated with a substantial decline in physical attendance, with the proportion of absentee students nearly doubling to 40%. The negative relationship between recording availability and final grades was directly mediated by the decrease in physical presence. This suggests that passive viewing is an inadequate replacement for class attendance.

Another potential problem is the need for time management. In asynchronous courses, students are "mostly responsible for monitoring, judging, and controlling their learning" and time efficiency may be at odds with depth of understanding (Trenholm & Marmolejo-Ramos, 2024). The isolating nature of online learning makes it difficult for students to stay engaged and motivated, as they have to be "self-directed as they navigate(d) through the course content" (Jacob & Centofanti, 2024, p. 473). This self-discipline is difficult but crucial (Tipple & Linden, 2026). Tools like H5P promote this self-directed learning (Mutawa et al., 2023). To mitigate the risks of absenteeism and poor self-regulation associated with asynchronous delivery, educators are increasingly turning to interactive tools like H5P to transform passive video consumption into an active, question-driven experience.

2.3 Using video materials with embedded questions

Sharmin et al. (2024, 2025) demonstrate that H5P technology helps students to become active learners by integrating interactive elements. Faculty use accessible tools such as PowerPoint to create instructional videos to provide an additional layer of engagement. Within dental hygiene and medical programs, 94% of students reported that the interactive videos helped to clarify complex concepts and made the learning experience more enjoyable. Furthermore, Sharmin et al. (2024) found that students performed better on summative exam questions when supplemental H5P artifacts were provided. By enabling students to receive immediate feedback, these tools support active and constructive levels of engagement.

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Higher education textbooks are frequently accompanied by YouTube playlists that run concurrently with the material in the book. These playlists provide variety in learning styles (Beleno, 2025) , and increase student engagement (Giesen et al., 2022). When there is no YouTube playlist, textbooks always come with PowerPoint files which can serve as basis for easy video creation (Sharmin et al., 2025).

Addressing the significant logistical barriers to transitioning towards asynchronous or flipped classroom delivery with videos, Wehling et al. (2021) propose a "fast-track flipping" (FTF) framework by using H5P to efficiently convert pre-existing videos such as recorded lectures and YouTube videos, in to structured digital content. The time commitment can be mitigated by outsourcing the additional content to staff, so faculty only have to make a "keep or discard" decision. Thus, the production of content becomes much more scalable. Once the scalable framework for content production is established, the focus shifts to how these interactive artifacts specifically function to support personalized learning pathways and verifiable academic achievement.

2.4 Interactive videos as support for learning

Building on the shift toward student-centered and flexible learning, Tipple & Linden (2026) demonstrate how H5P technology can be used to implement personalized learning. They found that engagement with optional activities, especially presented as scaffolded practice with embedded feedback, was a significant positive predictor of final academic performance across multiple cohorts. H5P completion functions as an additive form of engagement and showed a strong association with student success.

In a study using multiple quiz types, Rahmi et al. (2024) found a significant linear relationship and correlation (r = 0.503) between student perceptions of the H5P activities and actual learning outcomes on final exams. This suggests that it supports "concept maturity" by providing students with self-assessment that clarifies misconceptions and reinforces understanding through feedback.

The improvement in academic outcomes is supported by Abusalim et al. (2024) who found an estimated 15% performance increase. Their research emphasizes that interactivity does not allow students to be mere passive viewers but requires them to pass embedded checkpoints to progress through the material. Not only does this ensure attendance and attention, but it prevents students from bypassing critical instructional content. The mandatory questions mimic the accountability of a face-to-face classroom, which can alleviate concerns about lack of engagement in non-synchronous formats. Dampil (2024) reported an increase of mean scores in final grades between interactive (73.64) and traditional instruction (58.10). The study also found a high engagement rate of 86.89% and a high level of student satisfaction (4.39/5.00), with participants strongly agreeing that the interactive elements helped to clarify questions and answering tasks.

Emotional and behavioral engagement is validated by Doran & Briggs (2024) who used interactive workbooks and videos in a flipped learning environment. Their findings indicate that 76% of students rated the materials as "very" or "extremely" engaging, with a significant majority (86%) expressing a preference for the interactive tools over traditional pre-class assignments. The study also found significantly more time spent on enhanced tasks, and that pausing for interaction created active learning and immediate feedback.

Students' preference for interactive materials is also reported by Kakish et al. (2024), who reported an 85.4% preference. Again, they observed that students using interactive materials achieved higher grades on summative assessments.

The motivational benefits of integrating interactivity are also empirically supported by Huff & Tseng (2026) who used a randomized between-subjects design to compare a static digital textbook with one enhanced with interactive elements. Using 294 participants, they found that students using the enhanced version reported significantly higher overall motivational levels. The immediate feedback and active participation created a more rewarding learning experience.

3. RESEARCH QUESTIONS AND HYPOTHESES

In this section, I describe the research questions for the study and the hypotheses to be tested. As discussed in the previous section, it is generally accepted that a combination of class attendance and

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participation/ preparation is associated with higher academic success. This study does not aim to measure a direct relationship between the use of H5P technology and academic success, but merely student perceptions of its effect on flexible attendance and preparation for class.

Since attendance and preparation are two separate issues, I considered two research questions:

RQ1. How do student perceptions and satisfaction with H5P differ between a synchronous Zoom-based course and an asynchronous video-based course?

RQ2. Does the use of H5P lecture recordings as alternative attendance increase class attendance?

Initial hypotheses, as defined in the Institutional Review Board approved application, were as follows:

H_1: Students will report higher levels of satisfaction with interaction for synchronous delivery.

H_2: Students will report higher levels of satisfaction with perceived flexibility with the instructional videos.

H_3: Students with higher scores for satisfaction with interaction will prefer synchronous delivery.

H_4: Students with higher scores for satisfaction with flexibility will prefer instructional videos.

H_5: Student attendance will be higher when instructional videos are added to Hyflex classes.

H_1, H_2, H_3, and H_4 address RQ1, RQ2 is covered by H_5.

4. METHODOLOGY

The study was conducted in two classes over two semesters. Previously, no classes in the CS major had been offered in asynchronous format due to faculty concerns about poor time management and lack of engagement with educational materials. The first class, CS2014, is the introductory programming class in the CS and cybersecurity programs. The CS version is offered in hyflex format, where all students attend over Zoom, but can switch seamlessly between classroom and remote participation. The cybersecurity version is fully asynchronous offered over Blackboard. The second class, CS3173 Basic Computer Architecture, is offered in Virtual Class Meeting (VCM) format, where all students participate synchronously over Zoom. There is no classroom scheduled and students cannot participate asynchronously. Before the study started, missing attendance in both classes could not be made up, though the instructor might consider bumping up final course grades for extenuating circumstances. Since attendance counted for 450/1,000 or 500/1,000 points, this could significantly influence students' grades and was a strong incentive for coming to class.

To study these research questions, I added the use of H5P videos with embedded questions for two semesters. My goal in using the questions was not to test performance, but merely to make sure that students actually watched the videos attentively. For longer videos like the 75-minute lectures, questions would be spaced at approximately 5-minute intervals. For shorter videos, the interval might be about 3 minutes. The question format was binary Correct/Incorrect pairings rather than multiple choice questions with more options. In the first semester, fall 2025, this was done in the hyflex and asynchronous versions of CS2014 as well as the VCM CS3173. In Spring 2026, only the hyflex CS2014 and VCM CS3173 were offered. In the CS3173 class, the textbook came with parallel YouTube videos created by the authors. These videos were ideal for class preparation, and students were instructed to complete them with at least an 80% score before class. In the asynchronous version of CS2014, the textbook did not come with author videos. I created short (2-5 minute) videos, loaded these up to YouTube, and used them to create H5P videos with control questions. In all classes except the asynchronous class, I recorded the lectures, loaded them up to YouTube, and created the H5P videos by inserting the control questions. The videos would be paused for the questions to avoid split-attention effects (Ploetzner, 2024). In the first semester, I used student assistants to insert the questions similar to Wehling et al.'s path B (2021). Students would be recruited from the class for which the material was intended, so they would always be familiar with the content and helping with the study would support their own learning. In the future, using artificial intelligence to create questions for YouTube videos should also be considered. Currently, this will only work if a video has an associated closed captioning file.

Links to the videos from the Blackboard course management system require the use of an LTI plugin so the results are recorded in the students' gradebook. Links for the preparation videos were inserted in the appropriate subject modules, and links to the lecture recordings were placed in their own section labeled "Class Recordings as Alternative Attendance." Showing all scores allowed students to check which videos still needed to be reviewed.

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5. DATA COLLECTION

Data for the study was collected in two ways. For student perceptions of the use of H5P videos, a survey was developed. Initial design of the items was with assistance of Gemini, but I created the final version. For CS2014, each item was only scored once (in the hyflex version for attendance replacement, in the asynchronous version for instruction by video). In CS3173, the author's videos and lecture recordings were scored separately. The survey was administered in the last week of class before Finals Week. To encourage participation, all students in the class received 25 extra credit points (equivalent to a quarter letter grade) if at least 80% of the class participated. The content of the survey is included in Appendix A and the number of participants is below in Table 1.

semester	course	comment	total	participated
Fall 2025	CS2014	async	15	9
Fall 2025	CS2014	hyflex	18	7
Fall 2025	CS3173	VCM	26	12
Spring 2026	CS2014	hyflex	22	9
Spring 2026	CS3173	VCM	14	11
		totals	95	48

Table 1. Survey Participation

To compare types of attendance between synchronous and asynchronous, the Zoom meeting statistics for class days were compared with the completion of the lecture videos. For each day, I counted the number of attendances in Zoom, the number of completions of the lecture videos, and the number of absences.

6. ANALYSIS AND DISCUSSION

The 48 participants had a variety of course deliveries in the past. Table 2 shows the results.

f2f	35
online	40
VCM	28
hyflex	24

Table 2. Previous Class Types

Since the survey items reflected assumed factors of satisfaction with the videos, I averaged the scores by factor. Existing validated scales for this type of research do not exist. I was unable to check for actual factor groupings, since the low number of returns does not allow factor analysis

	lecture		preparation	
	average	p-value (one tail)	average	p-value (one tail)
Convenience	3.95	2.27E-07 ***	4.11	1.14E-07 ***
Effectiveness of Instruction	4.15	4.58E-10 ***	3.94	7.57E-06 ***
Instructor Communication	4.13	5.80E-10 ***	3.86	1.71E-05 ***
Collaboration and Communication	3.87	1.33E-05 ***	3.41	0.041 *
Workload and Effort	3.99	9.84E-08 ***	3.95	1.53E-06 ***
Technology tools	4.08	1.08E-09 ***	4.07	1.16E-07 ***

Table 3. Satisfaction with both types

Did the students see the videos as a favorable alternative? Each item was scored on a scale of 1 (strongly

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disagree) to 5 (strongly agree) with an indifferent score of 3 (neither agree nor disagree). I compared the average scores for each type of video (lecture recording vs preparation video) for each factor. Compared with an indifferent average of 3.00, all factors for both types scored significantly higher. The lowest significance of 0.041 was, unsurprisingly, for collaboration and communication with peers for the preparation videos. The full results are shown in Table 3.

For most factors, the satisfaction was higher for the lecture recordings, with the exception of convenience. However, none of the factors scored significantly higher for one of the types as is shown in Table 4. H_2 is not supported by convenience, even though the average score is higher, because the difference is not significant. H_1 and H_3 are not supported by Instructor Communication and Collaboration / Communication with peers, and H_4 is not supported by convenience, again due to the statistical insignificance.

	lecture	preparation		
	average	average	result	P(T<=t) two-tail
Convenience	3.95	4.11	preparation higher	0.50
Effectiveness of Instruction	4.15	3.94	lecture higher	0.37
Instructor Communication	4.13	3.86	lecture higher	0.23
Collaboration and Communication	3.87	3.41	lecture higher	0.11
Workload and Effort	3.99	3.95	lecture higher	0.86
Technology tools	4.08	4.07	lecture higher	0.97

Table 4. Comparison between Lecture and Preparation

How do the proportions of attending synchronously and watching lecture videos change over the course of the semester? Figure 1 suggests that in the lower-level class, more students still prefer to attend synchronously and that a larger proportion of students still don't attend either way. For the upper-level class, the large majority of students prefer to work on their own time.

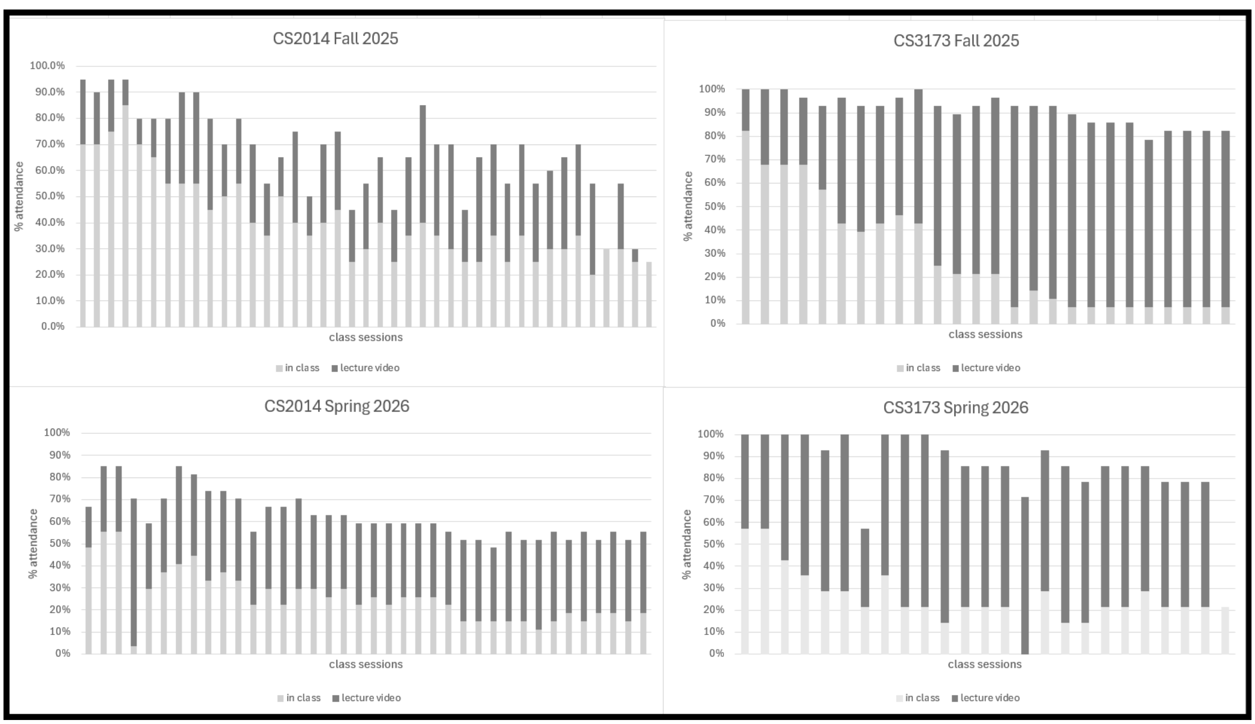

Figure 1. In Class vs. Using Lecture Videos

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Does the use of H5P lecture recordings as alternative attendance increase class attendance? To answer this question, I compared average attendance during the study semesters with the previous two semesters. As Table 5 shows, the results are mixed, and H_5 is only supported by the results for CS3173. Whereas attendance in the sophomore level class clearly declines, attendance in the junior level class appears to increase. The "cautionary tale" of Edwards & Clinton (2019) about a decrease in attendance caused by availability of lecture recordings comes to mind. Another potential explanation may be that at the lower level, students do not have enough maturity or self-regulation to keep up with independent work, whereas students in the next year are better able to take advantage of flexible scheduling. Another explanation may be the difference in class composition. The programming class is a mix of CS majors and other majors. The architecture class only contains CS majors, and it is a major course required for graduation.

	Fall 2024	Spring 2025	Fall 2025	Spring 2026
	before		study	
CS2014	78.6%	75.6%	66.7%	62.4%
CS3173	83.4%	81.0%	91.2%	86.0%

Table 5. Average Attendance

Finally, the survey respondents expressed a strong preference for the new video format. More than half (69%) preferred videos with embedded questions over all other delivery options as shown in Table 6. This confirms the findings of Kakish et al. (2024) who found an 85.4% student preference for interactive materials. It could also be seen as indirect confirmation of H_2 (Satisfaction with flexibility) and H_4 (Preference for Instructional Videos).

face to face, real time in class	7	15%
videos with embedded questions, on your own time	33	69%
virtual class meeting, real time over Zoom	5	10%
no answer	3	6%

Table 6. Future Preferences

7. CONCLUSIONS AND RECOMMENDATION

The findings demonstrate that H5P interactive videos can serve as a highly effective pedagogical bridge for students who require non-traditional attendance options. The survey results indicate that students perceive both lecture recordings and preparation videos with embedded questions as highly effective, with all satisfaction factors scoring significantly above the neutral threshold. Contrary to expectations, I did not find any significant differences between the two use types. Most notably though, 69% of students reported a preference for interactive videos on their own time over traditional face-to-face or synchronous Zoom meetings. This aligns with the work of Kakish et al. (2024), confirming a strong student desire for interactive, flexible materials.

However, the impact on actual attendance was nuanced. While the junior-level architecture class (CS3173) saw an increase in average attendance (from approximately 82% to nearly 89%) when given the H5P alternative, the sophomore-level programming class (CS2014) saw a decline (from approximately 77% to 64%). The success of asynchronous attendance options may be dependent on student maturity and time management skills. Upper-level students appear better equipped to handle the self-regulation required for independent study, whereas lower-level students may still require the structured accountability of synchronous sessions.

There are several limitations of the study. Attendance records and survey responses are not linked due to the requirement of anonymous submission. This precludes analysis of perceptions in relation to attendance choice. Not all students participated in the survey, but all students' attendance was included in the actual attendance. The sample size is small (N = 48) which prevents validation of the survey scales; and no existing validated scales exist. The response rate of 50% introduces nonresponse bias

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and limits the representativeness. Finally, the study only uses one technology that allows faculty to insert control questions into videos. Other technologies, such as Panopto or Yuja, are not considered.

Based on these results, I recommend the following for faculty considering similar implementations:

- Selective Implementation by Course Level: Asynchronous interactive videos should be offered selectively. While they are a powerful tool for upper-level majors, educators should be cautious when implementing them in lower-level courses where students may lack the necessary time management skills to keep up with independent work.
- Use Interactivity for Accountability: To address faculty concerns regarding "attendance and attention," use interactive checkpoints. Spacing questions at 3- to 5-minute intervals ensures students remain attentive and prevents the "passive viewing" pitfalls identified by Edwards and Clinton (2019).
- Use Existing Resources for Scalability: Faculty can mitigate the time commitment of content creation by using "fast-track flipping" (Wehling et al., 2021). Converting pre-existing YouTube playlists or author-provided PowerPoint slides into H5P modules allows for a scalable transition to interactive delivery. Use of staff or student workers allows faculty to limit their time through "use or discard".
- Foster Engagement through Immediate Feedback: Educators could prioritize H5P tools over non-interactive materials because they provide immediate feedback, which students find clarifying for complex concepts. This support for "concept maturity" is essential for technical subjects like Computer Science that require deep cognitive investment.

In summary, while interactive videos provide a viable and highly desired alternative to traditional attendance, they must be implemented with a clear understanding of students' ability to self-regulate their learning.

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APPENDIX A

Survey Items

Item Type	Item	response
Previous Experience	First some background questions. Which course delivery methods have you had in previous semesters? Check all that apply.	1
Convenience	It was easy to access the course materials in this format.	2
	The format was user-friendly.	2
	The format allowed me to study at times that were most convenient for me.	2
	This format provided sufficient flexibility to manage my other responsibilities (e.g., work, family, or other courses).	2
	The format made it easy to organize my study schedule.	2
	The format allowed me to manage my time effectively.	2
	I was able to stay on track with deadlines and tasks due to the structure of this format.	2
	Overall, this format was a convenient way to learn.	2
Effectiveness of instruction	The course materials and instructions were clear in this format.	2
	The instructor effectively communicated the key concepts in this format.	2
	The format helped me stay engaged with the course content.	2
	I felt that the instruction in this format helped deepen my understanding of the material.	2
	In this format, the instructor was accessible and responsive to questions or concerns.	2
	The format allowed me to receive timely feedback on my progress.	2
	The instruction in this format helped me to learn what I wanted from the course	2
	The format supported my ability to apply the course concepts effectively.	2
	Overall, the instruction in this format was effective in helping me learn.	2
Instructor Communication	In this format, the instructor provided clear and concise explanations of course materials.	2
	In this format, the instructor was accessible when I needed help or had questions.	2
	In this format, the instructor responded to my inquiries in a timely manner.	2
	The format fostered an environment that encouraged interaction and participation.	2
	In this format, the instructor effectively addressed questions and concerns raised by students.	2
	In this format, the instructor provided constructive and helpful feedback on my work.	2
	In this format, the feedback from the instructor helped me improve my understanding of the material.	2
	Overall, I am satisfied with the quality of communication from the instructor in this format.	2
Collaboration and Communication with Peers	This format provided sufficient opportunities to collaborate with my peers.	2
	I was able to communicate effectively with my peers in this format.	2
	This format supported effective collaboration with my peers.	2
	Overall, the level of collaboration in this format met my expectations.	2
Workload and Effort	The workload in this format was manageable.	2
	In this format, the time required to engage with the course materials was reasonable.	2

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	This format required an appropriate amount of effort to understand the material.	2
	The format made efficient use of my time and effort.	2
Technology Tools	The technology tools used in this format were easy to navigate.	2
	I was able to access and use all necessary tools for this format without significant difficulty.	2
	The technology tools used in this format were reliable and functioned as expected.	2
	I experienced minimal technical disruptions while engaging with the course in this format.	2
	The tools and platforms used for this format were compatible with the devices I own.	2
	The technology tools for this format enhanced my understanding of the course material.	2
	The tools in this format provided meaningful support for my learning process.	2
	I received adequate guidance and support for using the technology tools in this format.	2
	Overall, I am satisfied with the technology tools used in this format.	2
Other	How satisfied are you with this format?	3
	What aspects of this format do you find the most beneficial?	3
	What challenges, if any, have you experienced with this format?	3
Future Preference	If you had to pick one, which instruction format would you prefer for this course? Pick one.	4

1. Choices: Face to face (in class); online (over Blackboard); virtual class meetings (over Zoom); hyflex (combination of face to face and over Zoom); other (specify)
2. Likert scale from strongly agree to strongly disagree
3. Essay question, open-ended
4. Choices: face to face; real time in class; virtual class meeting; real time over Zoom; videos with embedded questions, on your own time.