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Using Kahoot! to increase exam scores and engagement

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ABSTRACT

Instructional games in the classroom help to facilitate student engagement and utilize technology to help students prepare for exams. The purpose of this experiential learning exercise is to increase student engagement and understanding of course content using technology as a game in the classroom to increase exam scores. Human resource information systems is a technology course on human resources systems and tools that combine human resources services, processes, and data for operational efficiencies. Human resource information systems include payroll, open position postings, applicant processing, benefits, training, timekeeping, succession planning, and performance management. Using Kahoot! as a trivia game review in the classroom allows students to develop a deeper understanding of vocabulary, course concepts, and provides immediate feedback. Kahoot! trivia games allow students to connect course topics and learning paths while pointing out learning gaps to instructors.

KEYWORDS

Classroom technology; HRIS; Kahoot!; mobile devices in classroom; student engagement activity; technological pedagogy knowledge

Introduction

Student engagement in the classroom is important for student learning. Student engagement is also considered to be a major indicator of the quality of postsecondary education (Kuh, 2001; Lutz & Culver, 2010). Student engagement benefits the student, institution, and education partners. It helps to build better relationships with other students and increase communication, as well as helps students to acquire and practice new skills. The nature and extent of student engagement is considered to be an important factor for student learning and personal development (Hu & Kuh, 2002; Kuh, 2001; Chih-Yuan Sun & Rueda, 2012).

Learning environments that are more student-centered rather than teacher-centered, combined with motivation and support, are more likely to provide students with the autonomy and independence needed to engage in more self-regulated learning activities, thereby developing their self-reliance (Gebre, Saroyan, & Bracewell, 2014). When students engage, they commit to the knowledge process, understand the learning objectives and goals, and maintain motivation toward learning. Learning technology research suggests that computer-related tools can successfully facilitate constructivist-oriented teaching and student learning

(Jonassen 2000; Jonassen & Carr, 2003; Kim & Reeves, 2007). “College students are increasingly integrating digital devices into their academic activities as professors adopt new technologies and web-based applications in the classroom” (McGovern, Luna-Nevarez, & Baruca, 2017, p. 90). Students learn in different ways and are motivated and engaged in multiple methods.

Technological pedagogy knowledge

Technology in the classroom is one of the biggest changes we have seen in the past decade (Collins & Halverson, 2018). Researchers have studied various technologies to understand their impact on the classroom. Technology in the classroom provides professors the opportunity to explore pedagogy, provides every student a voice in the classroom, and better engage students (Dana & Yendol-Hoppey, 2020). However, it is equally important to understand student’s reactions and perceived benefits to technology in the classroom. Hall-Newton, Rudkowski, Lee, Hogue, and Ratnichkina (2019) investigated students’ feelings and thoughts as they related to mobile device usage in the classroom. Integrating technology into the learning environment and classroom increases the exposure to different methods, expanding the

opportunity for students. While Zhaung and Xiao (2018) investigated factors influencing student active learning and the subsequent class learning experience by applying technologies in the classroom. Technology is not a standalone component in the classroom. Researchers have argued that successful technology integration for teaching classes necessitates knowledge of not only content, technology, and pedagogy, but also their relationship to each other (Koehler, Mishra, & Cain, 2013). One of the most recent advancements in area of teaching pedagogy is technology, pedagogy, and content knowledge (TPACK). TPACK emerges from the conception idea of interactions among content, pedagogy, and technology knowledge (Koehler et al., 2013).

Koehler, Mishra, and Yahya (2007) developed integration efforts to bring technology to the curriculum using interactions among content, pedagogy, and technology knowledge. TPACK combines teaching with technology helps increase student engagement (Koehler et al., 2013). TPACK breaks down to the instructors knowledge of the subject content, knowledge of technology, and knowledge of teaching to integrate the three components onto a lecture or classroom environment to increase active learning. Gaming technology incorporates course content materials into review topics and questions to increase active learning. Active learning has a positive impact on student retention, and student involvement is one of the most important predictors of success in college (Astin, 1993). Active learning creates opportunities to reflect, participate, and communicate, which are all tied to student engagement (Kitchens, Means, & Tan, 2018). Kahoot! (Kahoot!, Oslo, Norway) makes using technology in the curriculum simple and creates opportunity for student engagement, active learning, and collaboration in the classroom.

Overview of human resource information systems

Human resource information systems (HRIS) are a set of specialized systems designed to improve the management of human resource processes and performance (Qaisar, Shahzad, & Arif, 2018). HRIS were developed to automate and create efficiencies with human resources processes for hiring, job posting, applicant selection, talent management, performance, succession planning, payroll, benefits, and timekeeping to name a few. The HRIS course is designed to introduce students to system configuration, setup, implementation, access, and maintenance. The course was

designed to increase awareness of technology choices, development, design, database structure, data integrity, security, risks, support, and management.

Most people as they advance through a career will be exposed at some level to HRIS. The course is designed to introduce students on how systems operate, connect, and function to help them in a future role or career. As an applicant, students will have to apply for positions online, and when hired they may need to complete onboarding forms electronically, or as a supervisor or manager in an organization they may need to use the system to post a position for hire, complete an employee's performance evaluation, or sign off on a time card. The course content for HRIS is filled with vocabulary and many concepts that some students struggle to grasp.

Traditional college instruction has been almost exclusively centered on lecturing, which involves formal presentation of the material while students try to assimilate the content in order to pass examinations (Muro & Terry, 2007). The education focus has always been centered on student success; however, it has grown to contain engaged learning and student involvement, which requires more innovative methods of instruction. Traditional lecturing does not always create an active, engaged, learning environment. The fast pace of technology creates distractions and often competition in the classroom, and instructors are forced to contend with the distraction. As most students have access to a smartphone, using smartphone technology as a classroom tool can eliminate distractions and increase engagement. Technology has advanced in quantity and quality and is recognized as a requirement of 21st century learners (Swart, 2017). McGovern et al. (2017) completed a study of qualitative research that examined the learning experience of students with a focus on how students could benefit from using technology in support of classwork and learning. The study resulted in an overwhelming amount of positive feedback gathered revealing that it is evident that the adoption of apps can help faculty navigate the current turmoil in digital pedagogy more successfully and increase student learning outcomes and success (McGovern et al. 2017). Tools like Kahoot! have increased exam scores and learning outcomes.

Classroom exercise

Online learning tools like Kahoot! are growing and becoming accepted in the classroom as the e-learning merits of student engagement and immediate feedback

are recognized (Plump & Larosa, 2017). The online tools provide for real time feedback of student learning, understanding, gaps, and create opportunity for student participation. The use of Kahoot! creates an energetic competitive environment similar to a trivia competition using course vocabulary, learning outcomes, and materials for a live interactive review experience.

1. Instructors create a free Kahoot! account by logging into <https://create.kahoot.it>.
 - a. Select Create, New, Quiz
 - b. Add a title such as Midterm Review, add school logo, click OK go
 - c. Add Questions and set a time limit
 - i. Questions are usually multiple choice or true and false
 - ii. 10 seconds for time usually gives the class time to respond
2. Have projector and sound enabled to play the Kahoot! for class
3. Click play to launch the quiz you created which is a live trivia game
4. Choose classic, which allows students to use personal mobile devices, PC's, laptops, or hand held device to log on to the game
5. The game will show a game pin unique to your class
6. Students will go to Kahoot.it, enter the pin, and participate in the review
7. Once all students have logged in the instructor will click play
8. Each review question will play across the screen for all students to see
9. Students will select responses
10. Once the question has been responded to by all participants the system will show the results allowing students to see the correct response and the percentage of the class who responded correctly
11. The instructor has an immediate feedback on the response rate and has the ability to address the topic at that point prior to moving to the next question or make a note for the future
12. Students are scored on response rate for accuracy and timeliness with the 1st, 2nd, and 3rd participant name shown across the screen
13. Students engage and work to have the highest score while reviewing the content

Instructional experts Gagné and Driscoll (1989) explained that one of the first elements needed for

learning is to gain students' attention. Kahoot! can be used as a midterm and final review, and additionally, each class can begin with a Kahoot! refresher. This allows students to transition to a learning position, gauge what they retained from the previous lesson, and become active learners prepared for new materials by the end of the game. Each Kahoot! trivia game can take from 3 to 10 min depending on the amount and length of questions being reviewed. The music, colors, and excitement brought by Kahoot! encourage student focus and creates excitement in the classroom (Plump & Larosa, 2017). Kahoot! is a visual graphics of the responses, correct versus incorrect, creating the opportunity for the instructor to readdress and review content the questions that were missed by over 20% of the class. Using gamification in education supports learning, knowledge acquisition, short-term memory recall, and metacognitive abilities (Kapp, 2012). Students generally enjoy reviewing and competing via Kahoot!.

Debriefing and assessment

Understanding the benefits gained from the use of new technologies like Kahoot! will depend on the extent to which they are used in ways compatible with the learning process (Clark & Mayer, 2008). Playing the game twice encourages students to rethink questions that were missed in Round 1. It also provides the competitive game-like environment with energy and engagement. Students have reported that using Kahoot! is fun, interactive, engaging, and enjoyable. They have stated that they are retaining material at a higher level than without Kahoot!. Students are asking more questions as they respond incorrectly and feel that they getting clarification on content that was confusing the first time around. Students like the immediate score and ranking against other classmates. Students have stated that the game is a great transition from work to the classroom. As an instructor, setting up Kahoot! takes about 15 min of prep time per review exam and can be reused in seconds over and over. The traditional PowerPoint lecture style is nowhere as interactive as the Kahoot! environment.

Conclusions

Games like Kahoot! are an excellent choice for teaching university students given the access to mobile devices, availability of wifi, and students' affinity for computer games (Plump & Larosa, 2017). The grades

for students in my course have increased with use of Kahoot!. Adaptations to the course have occurred as a result of the Kahoot! participation pointing out weakness in material understanding and retention, which have improved from course to course. As the subject of the course is HRIS, technology using newer cloud software as a learning tool shows how systems can create opportunities for efficiencies and improved learning. Using a real-time overview of participation gives lecturers an opportunity to make reviews more engaging by acting like the moderator (Mader & Bry, 2019). Improving the quality of teaching to produce students that possess the problem-solving skills that are required in today's job market requires knowledge and understanding of the learning needs of the new generation of millennial students (Muro & Terry, 2007). With the student success initiative working to increase student learning outcomes, roadmaps, and retention, Kahoot! helps in all of these areas. The use of technology in the classroom can create better learning opportunities to increase student engagement.

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References

- Astin, A. W. (1993). *What matters in college? Four critical years revisited*. San Francisco, CA: Jossey-Bass.
- Chih-Yuan Sun, J., & Rueda, R. (2012). Situational interest, computer self-efficacy and self-regulation: Their impact on student engagement in distance education. *British Journal of Educational Technology*, 43(2), 191–204. doi:10.1111/j.1467-8535.2010.01157.x
- Clark, R., & Mayer, R. (2008). *eLearning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning*. San Francisco, CA: Pfeiffer.
- Collins, A., & Halverson, R. (2018). *Rethinking education in the age of technology: The digital revolution and schooling in America*. Teachers College Press.
- Dana, N. F., & Yendol-Hoppey, D. (2020). *The reflective educators guide to classroom research: Learning to teach and teaching to learn through practitioner inquiry*. Corwin.
- Gagné, R. M., & Driscoll, M. P. (1989). *Essentials of learning for instruction*. Prentice Hall.
- Gebre, E., Saroyan, A., & Bracewell, R. (2014). Students' engagement in technology rich classrooms and its relationship to professors' conceptions of effective teaching. *British Journal of Educational Technology*, 45(1), 83–96. doi:10.1111/bjet.12001
- Hall-Newton, K., Rudkowski, J., Lee, S. H. (Mark), Hogue, J., & Ratnichkina, P. (2019). Mobile devices in the lecture hall: Into it, indifferent, or intrusion? *Journal of Education for Business*, 94(6), 390–399. doi:10.1080/08832323.2018.1541853
- Hu, S., & Kuh, G. D. (2002). Being (dis)engaged in educationally purposeful activities: The influences of student and institutional characteristics. *Research in Higher Education*, 43(5), 555–575.
- Jonassen, D. (2003). Using cognitive tools to represent problems. *Journal of Research on Technology in Education*, 35(3), 362–382. doi:10.1080/15391523.2003.10782391
- Jonassen, D., & Carr, C. S. (2000). Mindtools: Affording multiple knowledge representations for learning. In S. Lajoie (Ed.), *Computers as cognitive tools: No more walls* (Vol. II, pp. 693–719). Mahwah, NJ: Lawrence Erlbaum Associates.
- Kapp, K. (2012). *The gamification of learning and instruction: Game-based methods and strategies for training and education*. San Francisco, CA: Pfeiffer.
- Kim, B., & Reeves, T. C. (2007). Reframing research on learning with technology: In search of the meaning of cognitive tools. *Instructional Science*, 35(3), 207–256. doi:10.1007/s11251-006-9005-2
- Kitchens, B., Means, T., & Tan, Y. (2018). Captivate: Building blocks for implementing active learning. *Journal of Education for Business*, 93(2), 58–73. doi:10.1080/08832323.2017.1417232
- Koehler, M. J., Mishra, P., & Cain, W. (2013). What is technological pedagogical content knowledge (TPACK)? *Journal of Education*, 193(3), 13–19. doi:10.1177/002205741319300303
- Koehler, M. J., Mishra, P., & Yahya, K. (2007). Tracing the development of teacher knowledge in a design seminar: Integrating content, pedagogy and technology. *Computers & Education*, 49(3), 740–762. doi:10.1016/j.compedu.2005.11.012
- Kuh, G. D. (2001). Assessing what really matters to student learning. (cover story). *Change*, 33(3), 10. doi:10.1080/00091380109601795
- Lutz, M. E., & Culver, S. (2010). The National Survey of Student Engagement: A university-level analysis. *Tertiary Education & Management*, 16(1), 35–44. doi:10.1080/13583881003629814
- Mader, S., & Bry, F. (2019). Fun and engagement in lecture halls through social gamification. *International Journal of Engineering Pedagogy*, 9(2), 113–132.
- McGovern, E. F., Luna-Nevarez, C., & Baruca, A. (2017). Utilizing mobile devices to enrich the learning style of students. *Journal of Education for Business*, 92(2), 89–95. doi:10.1080/08832323.2017.1281213
- Muro, P. D., & Terry, M. (2007). A matter of style: Applying Kolb's learning style model to college mathematics teaching practices. *Journal of College Reading and Learning*, 38(1), 53–60. doi:10.1080/10790195.2007.10850204
- Plump, C. M., & Larosa, J. (2017). Using Kahoot! in the classroom to create engagement and active learning: A game-based technology solution for elearning novices. *Management Teaching Review*, 2(2), 151–158. doi:10.1177/2379298116689783
- Qaisar, N., Shahzad, K., & Arif, M. (2018). Extent of Hris adoption and its impact on organization's performance: Moderating role of HR staff expertise. *Abasyn University*

- Journal of Social Sciences*, July(7), 1–11. Retrieved from <http://proxy.ulib.csuohio.edu:2066/login.aspx?direct=true&db=a9h&AN=131549385&site=ehost-live>.
- Swart, R. (2017). Critical thinking instruction and technology enhanced learning from the student perspective: A mixed methods research study. *Nurse Education in Practice*, 23, 30–39. doi:10.1016/j.nepr.2017.02.00
- Zhuang, W., & Xiao, Q. (2018). Facilitate active learning: The role of perceived benefits of using technology. *Journal of Education for Business*, 93(3), 88–96. doi:10.1080/08832323.2018.1425281