Digital Game Based Learning: Using Kahoot! in an Intermediate English Language Learning Classroom

by

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Scholarly Essay

2016S1-2-ETEC511-66A-Foundations of Educational Technology-FENG

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August 14, 2016

Comment [1]: I enjoyed reading your paper. Well written paper. I appreciate how you have narrowed your thesis. I appreciate how your drew on your experience with your students with Kahoot as one of your case studies, how your approach is nuanced. Work on your APA. Begin sentence, with “since” rather “because”. Overall, excellent paper. Keep working on on paper towards presenting and/or publishing.
In the last decade, educational technology has emerged rapidly onto the scene and educators are beginning to utilize it to maximize students’ learning. It is transforming the way teachers teach and the way students learn. As teachers and students embrace more and more technology into the classroom, new approaches to teaching and learning are generated such as the incorporation of digital games. Traditional game-based learning is not a new concept but the change to utilizing online games as a way of learning is. Granic, Lobel, & Engels, (2014) describe both formats to be very similar, both utilizing cooperative and competitive objectives in environments that allow players to be immersed in the game. According to Erhel & Jamet (2013), “digital game-based learning (DGBL) is a competitive activity in which students are set educational goals intended to promote knowledge acquisition.” As cited in All, Castellar & Looy (2016),

Juul (2003) defines a digital game as a rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable (p.91).

The potential of DGBL is unparalleled to most traditional ways of learning due to the level of engagement it can have for students and the many benefits that have been found for learners who learn through digital games. The focus of this paper is to examine how technology through game-based learning is critical in an intermediate English Language Learning (ELL) elementary classroom today by addressing factors teachers need to consider when choosing these games and the level of students’ engagement through their behaviour when playing the digital game, Kahoot! It will also look at how Kahoot! can be used to support teachers in creating more individualized learning opportunities for ELL students. Furthermore, the various
implications of student ability, privacy and assessment over time when incorporating the game Kahoot! will also be discussed. It is also imperative that solutions are proposed to ensure the implementation of game-based learning in the classroom is successful.

Initially, research on digital games have been more concerned and focused on the potentially negative impact it has on children due to the violence that is often portrayed and encouraged in games like Grand Theft Auto IV and Halo 4 (Granic et al., 2014), but more and more research have shown the benefits of using digital gaming in an educational context (Kim, Park, & Baek, 2009). Granic et al. (2014) found that students who play digital games experience cognitive, motivational, emotional and social benefits like improved attention, focus, mood and reaction time. Their article argues that the cognitive benefits of digital games depend on the complexity of the game itself. For instance, problem-solving skills can be improved through playing games with open-ended issues that allow players to explore possible solutions through trial and error and through action games like first-person shooters such as Counter Strike, show an improvement in students’ spatial skill.

Kim et al. (2009) also noted that game-based learning creates a natural environment for students to improve their social skills with a focus on developing problem solving abilities. They found the meta-cognitive strategy of ‘thinking aloud’ to be the most effective factor in affecting problem solving ability in social settings when students were given time to discuss game play with their peers. Furthermore, Bellotti, Kapralos, Lee, Moreano-Ger & Berta (2013)’s findings suggest that game-based learning is effective on students’ motivation and their ability to reach the learning goals of the lower levels of Bloom’s taxonomy such as knowledge and comprehension. Bloom’s taxonomy is a framework that indicates the level of understanding students have based on six cognitive levels of complexity (Krathwohl, 2010). In addition,
Bellotti et al. (2013) suggest that digital game-based learning leads to short-term changes in creating a most positive student outlook towards education and career. These benefits of digital game-based learning demonstrate the potential it has in an educational setting. Thus, making it a critical part of how students should be learning in the twenty-first century classroom.

Teachers of the twenty-first century are utilizing technology such as SMART Boards, Apple TVs and videos to create engaging and innovative lessons but from in my own school, rarely are digital games used to further student learning. Students are choosing to demonstrate their knowledge of curricular materials and skills through multiple facets of technology including websites, blogs, video and visual presentations. It is critically important that teachers are aware of the various learning needs of their students and used appropriate teaching strategies that will best suit and keep up with their students’ needs. “Also, twenty-first century learners prefer to learn information utilizing twenty-first century methods” (Schaaf, 2012). In addition, as a classroom teacher, student engagement is of the utmost importance. Lessons not only need to meet prescribed learning outcomes but without student engagement, there would be no ‘buy in’ of activity, which would impact students’ retention of curricular content and skill acquisition. (Rankin, Gold & Gooch, 2006)

Schaaf’s (2010) study found that “digital game-based learning is a sound instructional strategy that promotes students engagement” (p. 61). But, there are multiple factors to consider when choosing a suitable digital game. Shapiro (2014) points out three major components of finding a game that maximizes students’ learning and is engaging at the same time. Teachers need to have an understanding of how the digital game works to be able to assess if it can be used in the classroom. Then teachers need to assess its ‘playability’ to determine whether the game is at the students’ level of ability. If the game is too complicated, students are likely to
spend more time trying to figure out how to play the game than use it as a tool to enhance learning. If the game is too simple, students lose interest. Through Rankin et al.’s (2006) study, they found that ELL students shown an increase in their English vocabulary by 40% as a result of playing the digital game Ever Quest 2 and a 100% increase in their chat messages which improved their conversational skills. By choosing a suitable game, students have a greater chance of retraining and transferring the concept or skill into new settings.

In an English Language Learning classroom, the primary focus is to help students with their English Language acquisition skills of reading, writing, listening and speaking. Through digital game based learning, ELL learners can gain a context for communicating, help them actively use English and to practice what they have learned (Dodgson, 2015). Digital game-based learning is also a safe and cost effective way for students to acquire skills that may be difficult to achieve through rote learning (Bellotti et al., 2013). Unlike digital game-based learning, traditional rote learning through worksheets is more limiting in how it helps students acquire and practice their skills (Bellotti et al., 2013). English Language learning worksheets can reply on formulas that are repetitive as ways of helping students retain the information and grammar to improve their language skills. However from the ELL learners that I have worked with, those skills often do not translate beyond the worksheet. According to Tsai (2012), “DGBL should be used as a learning tool that supports a traditional class or as a stand-alone e-Learning course based on the complexity of subject matter or students’ characteristics.”

In addition, digital game-based learning has the ability to create more authentic environments for students to practice multiple skills at the same time and increase the likelihood of transferring that skill beyond the game itself (Rankin et al. 2006). However, not all digital games are suitable and engaging for ELL learners largely due to the language barrier of
instructions and/or the language involved in understanding the mechanics of the game play. As an ELL teacher, finding a suitable digital game that is not heavily language driven but still engaging is the key to my ELL students’ success. Rankin (2006) described four factors that contribute to an effective digital learning environment:

1. Freedom to explore an immersive, virtual environment that adapts to player’s skills
2. Clear goals and objectives that determine game progression
3. Resources that enable players to complete game tasks
4. And visually displayed feedback that informs players’ decisions and outcomes

The digital game, Kahoot! meets all the above criteria through its simple yet engaging game design which made it an ideal game to use with my group of intermediate ELL students.

Kahoot! is a digital game-based platform designed to create meaningful and fun learning experiences through an inclusive environment that all students can take part in. It is a game based classroom response system where students answer questions created by their teacher or peers in real time. During my use of Kahoot! with my intermediate ELL students, they exhibited more vocal and engaged behaviour when we used it as a tool to review the use of prepositions compared to when we played a game of bingo reviewing the same concept. Each student had an iPad and participated by answering multiple-choice questions in a quick and timely manner. The game can also be setup in teams for students to work collaboratively. The game is based on a competitive nature where students received points depending on their accuracy and speed of which they answer the questions. The game shows a leaderboard after each question to encourage and motivate students to try to be in the top spot. As we played the game, the students who were usually less engaged were actively participating and showing more excitement.
especially if they were able to answer the questions correctly. Bellotti et al. (2013) have found that students favoured games and stimulations in comparison to alternative classroom activities. The ELL students in my group were more inclined to be an active participant when it is a preferred activity and Schaaf’s (2012) study established that students were more focused and attentive during DGBL compared to alternative strategies used in the class. Therefore, teachers need to embrace the use of digital game-based learning as a way to engage and bring their teaching to the twenty-first century.

Not only does Kahoot! engage and motivate students, it also provides teachers with the opportunity to create individualized learning opportunities for students. Devlin-Scherer & Sardone (2010) have found that providing hands-on experiences that allow students to work through problems increases student engagement and motivation. Students are often driven by their curiosity to figure out how something works and by providing authentic opportunities such as creating their own questions with curricular content allows them to increase their understanding. Through Kahoot! both teachers and students can create quizzes, surveys and discussions. These questions can include the use of videos, pictures, diagrams and/or just words. By giving students freedom of creating their own quiz, they can demonstrate their understanding through the questions they ask and the type of answers they provide. This can also be used as a way to empower students and to move them from “learner to leader” (How should you engage, 2010) and give them ownership of their learning. Tsai (2012) noted that students who start with a low level of learning motivation did not gain a high level of knowledge acquisition. Therefore “students’ learning motivation to learn new knowledge in game could positively influence whether they can acquire correct knowledge concepts through game play” (Tsai, 2012, p. 246). Through the creation of their own quiz, students are able to work at their own level. For
instance, my ELL students who had a higher level of English language ability were able to add more complex ideas and incorporate a greater variety of questions. Whereas, my ELL students who were just beginning to learn English were able to ask simple questions with one-word answers. The game allowed each student to work at their own ability and “the Kahoot! platform was uniquely designed to ensure that all students can participate in the classroom in a way that they are comfortable with” (How should you engage, 2010, p. 1). Teachers who create their own quizzes are also able to tailor the questions that are asked to suit their group of learners. Devlin-Scherer et al. (2010) explain that games are "a logical choice for teachers who want to make their instruction interactive, digital simulations and simulation games can often capture the attention of less eager or uninvolved students" (p. 138).

One concern teachers may face when using Kahoot! is that not all students may be ready for this quiz-like game and it could be setting them up for failure. However, it is unlikely for an entire class or group to all be at the same level of understanding. In most classrooms, there are usually a few students who need more support in grasping concepts and there are students who have an excellent understanding of what was taught. Teachers may worry students who are unable to correctly answer the multiple-choice questions on Kahoot! feeling discouraged and therefore, become disengaged in the activity. However, Granic et al. (2014) have found that students learning in a digital game-based environment are not put off by failure. They often are extremely optimistic and are highly motivated to continue trying until their goal has been reached (Granic et al., 2014). This was evident through my ELL students during their Kahoot! games. Even the students who struggled with understanding the use of prepositions repeatedly asked for more questions so they can continue playing to try and get on the leaderboard. Those who demonstrated their understanding wanted to continue as well so they maintain their position
on the leaderboard. According to Granic et al. (2014), games provide a sense of control but with enough unpredictability that students experience a deep sense of satisfaction and pride when they are able to reach their goal which makes them want to continue playing.

Another issue of incorporating digital games is that many online games require students to create accounts and/or provide personal information as a means of signing up. This presents as a privacy issue that teachers need to be aware of. Students and parents in British Columbia need to provide written consent because the Freedom of Information and Protection of Privacy Act (FIPPA) requires all personal student information to be stored and accessed only within Canada. Without the consent, it is difficult for teachers to setup student accounts and utilize programs like PowToon or Nitro Type. The benefit of using Kahoot! is that students do not need to sign up with an email or to create an account. They simply need a tablet, smartphone or computer to be connected to an Internet network to join a game through a game pin/number. However if students are creating their own Kahoot! games, an account still needs to be made and written consent needs to be collected from parents.

For teachers, having a way to assess students whether it is summative or formative is crucial for planning and knowing how to help their students grasp or acquire new skills. Unfortunately, Kahoot! does not provide a reliable way for teachers to assess a group of students. Because the quizzes on Kahoot! are based on multiple-choice questions, students may choose to guess in order to be the quickest to obtain the most amount of points and the leaderboard only shows the top five players. However, if teachers choose to let students create their own quizzes, it may provide a quick snapshot of the students’ level of ability. As an ELL teacher, grammar and proper use of sentence structure can be assessed through the questions that students generate.
The potential and benefits of digital game-based learning have yet to be fully explored and it is in the midst of being researched and studied. However, educators can be weary of the reliability of using these games because of the fast pace at which technology is advancing. “Technology is not a strategy in and of itself; rather, it is an adaptable and powerful tool for providing appropriate personalized learning activities and adaptations” (Ministry of Education, 2011, p. 38). Even though there are challenges and obstacles to face when incorporating digital game-based learning into classrooms, it is important to understand “games can supplement time-tested pedagogical practices with new technological solutions to long-term problems” (Shapiro, 2014, p. 6) With proper planning, resources and practice, teachers utilizing multiple facets of digital game-based learning like Kahoot! can create powerful learning environments in the classroom that benefit students greatly.
References


