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'Communication Among Cultures' as Taught Through Game Based Learning

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ABSTRACT

In their first year at university in Canada, students are likely to experience large lecture style classes where the instructor stands at the front of the room and gives a talk about a particular topic relevant to the learning outcomes of the course. While students in these lectures may complete various in-class activities or participate in small group discussions, they are unlikely to get significant opportunities to communicate with their peers. From a pedagogical perspective, it has been suggested that a lecture style approach promotes passive learning, which is not always ideal for student engagement or empowerment. Further, students often find lectures 'boring' and have difficulty maintaining focus for several hours. In an attempt to encourage communication, stimulate learning, and provide an entertaining environment for students, a course was constructed that used board games as tools for learning. In three different weeks, a board game was used to 'teach' a particular course concept, specifically intercultural negotiation, cross-cultural business, and cultural wellness. The rationale for this study was to determine whether students could apply what they had learned in the games to the theories from the course textbook. An assessment was created consisting of multiple choice and short answer questions to determine the impact of the games on students' understanding. Findings from the study suggest that students were able to draw connections between the game outcomes and the course content, indicating that using board games in the classroom was not only enjoyable but a sound pedagogical strategy. Completion of this study adds additional evidence to the body of literature that suggests that game based learning can offer benefit in the university setting.

Keywords: Game Based Learning, Assessment, ELL students, higher education

Introduction

In a class on the communication among cultures and with a diverse student population enrolled, it would seem obvious to incorporate in-class tasks that encourage participation, discussion, and, at the very least, some dialogue. While it is acknowledged that this type of course was never designed to be taught in the traditional university lecture style format because of its design as a small first-year seminar, challenges still existed surrounding how to get the students to communicate with each other in a way that was less about enforcement of tasks and more about giving students the opportunity to speak.

This research project was the culmination of my own personal beliefs of the university experience. At present, the majority of students in higher education are taught through a lecture style approach, even though research has indicated that this passive style of knowledge transfer is not as effective as an active approach to instruction (Al-Zahrani, 2015). It is recognized that many university classes have large numbers of students, where the use of board games may not be practical or affordable, but in the cases where class

sizes are relatively small and manageable, the game based approach seems to be one possible option to engage students in the class. Furthermore, there are many types of game based learning (GBL); this might include using a simulation game to teach concepts in stock market investment, or the use of online games where all students can participate in the same role-playing environment. While technology does offer some useful opportunities for GBL, there is much more basic gameplay that can also offer value. For this, the idea of traditional board games is introduced. While individuals may be aware of the iconic board games (e.g. *Monopoly*, *Snakes and Ladders*, *Scrabble*, etc.), there are literally thousands of other options. While this may make selecting an appropriate game challenging, it might also mean that there is a board game already available that can suit the particular need in a course. This is a much faster and simpler option than trying to design a unique board game for personal use in a course (though this would also constitute GBL).

The word ‘game’ typically implies fun. When we think about a university lecture, the idea of ‘fun’ is generally absent. Instead, when we tend to think of a university class, we might picture a professor standing in front of a long stream of presentation slides transferring knowledge through a one-way soliloquy. The outliers to this teacher-centred approach might advocate for ‘tasks’ or ‘activities’; they might advocate group projects or discussion, or they might incorporate certain skills that make the class more engaging. Yet as soon as the word ‘game’ is suggested, university professors seem to shut out this idea completely. This begs the question, what is the difference between an activity and a game? The answer is not entirely clear cut. It certainly does not have much to do with the notion of ‘fun,’ as it is entirely possible that certain activities completed in a class could be construed as ‘fun’. The challenge seems to be the very idea of a game in the class; this is simply seen as ‘non-academic.’

GBL as a concept, differs from gamification. Gamification adds game elements to a non-game situation. In the university context, gamification might exist as a type of rewards structure. Under this type of system, students could earn rewards and/or points based on the completion of certain tasks. Contrastively, GBL uses games to introduce course content. The purpose of GBL is to use games to make the learning experience more engaging. In order for GBL to be achieved, it typically includes the following:

- Learning outcomes are achieved through the games
- Learning comes as a result of playing the game
- Games include either commercial or education oriented games
- Critical thinking is promoted

Using the above points as a foundation for study, GBL became a foundational component in the lives of students taking a first-year undergraduate course at a Canadian university. The purpose of this study was to assess the impact of the games. There was an understanding that these games were fun and that students were enjoying the games, but there were also questions as to whether the game play was actually meeting the learning outcomes of the course. As a result, two research questions were established:

1. How do students perceive the use of GBL in the classroom?
2. To what extent does the use of GBL assist students in their understanding of a particular course topic?

Literature Review

Game based learning is not a topic that often is associated with university and as a result, there is a paucity of research on the subject. Mentioning games in the tertiary setting is often looked down upon as lacking the academic rigor that is expected in the

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university classroom. This can be paired with the notion that university courses often have very large numbers of students that make GBL using board games logistically impossible. Yet while there are numerous reasons why games may not work in the typical university classroom, there is another line of thinking that sees GBL as particularly beneficial. For this notion to be accepted, it is first imperative to consider what outcomes are expected from the implementation of games in the classroom.

There is a whole different approach that exists within the realm of teaching and learning; one that focuses entirely on GBL. GBL uses certain gaming principles to real life settings in order to engage the learners (Pho & Dinscore, 2015). It has been shown in the literature that students are more engaged with the material in an active learning setting (Mok, 2014). Active learning, in this sense, meaning that students are being asked for participation in classes. They are participants in knowledge acquisition. This contrasts passive learning, which is most commonly experienced when students obtain material aurally in situations where an ‘expert’ tells a student what they need to know. If active learning is the preferred option, GBL has the potential to achieve this. One must consider both parts of the phrase however. The active component is generally achieved through the game play itself. During game play of a traditional board game, students are not only engaging with the game, but also with each other in either a collaborative or competitive manner. Justifying the ‘learning’ piece is more challenging. In order to achieve the learning element, the impact of the games must be assessed. This element has been much less clear in the research and thus warrants the need for further investigation.

In order to conceptualize learning, it is important to consider it as a multi-dimensional construct. Educators might suggest that learning involves skill development, cognitive learning outcomes (which could include procedural, declarative and strategic knowledge) and attitudes.



Figure 1: A model of Game Based Learning (adapted from Garris et al., 2002)

Many different scholars tell us what good game characteristics are. For some it is interactivity (e.g. Thornton & Cleveland 1990), for others it is the game visuals or the rules (e.g. Gredler, 1996; de Felix & Johnson, 1993), while for others the challenge or risk is the appealing characteristics. In actuality, the characteristics of a game are only as valuable as the overarching learning outcomes. A game that is visually stimulating, with a clear set of rules and an overarching challenge is only useful if it also addresses the concept that it is intended to address.

Educational Use

There are multiple goals initially planned when implementing GBL into a classroom. These can be initially divided into primary and secondary objectives. Primary objectives include:

- Increase unique student-to-student interactions

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- Increase in-class communication, in English, and encourage active participation
- Enhance student understanding of the course concepts, including the main themes, terminology, and perspectives.

On a secondary level, the inclusion of GBL was designed to:

- Stimulate interest and motivation on the topic
- Provide a positive game experience

Key Educational Principles

This research is based upon the foundation of social constructivism, as initially outlined by Vygotsky. Under this theory, social interactions in the classroom are linked with the personal critical thinking process. Fundamentally, GBL and the link to higher level skills is particularly well suited to align with Vygotsky's Zone of Proximal Development (ZPD). The ZPD is often described as a situation where a student is helped with learning a particular concept in the classroom that is specifically targeted to an appropriate level (Powell & Kalina, 2009). The 'help with learning,' in this case is often achieved when other participants are involved. As such, once students are able to effectively demonstrate the concept being taught, their zone widens, thus allowing them to do more (Powell & Kalina, 2009). This parallels the GBL framework, as the game acts as the initial 'learning concept' from which further related topics can be introduced.

In order for the ZPD to be widened, Vygotsky highlights the need for scaffolding. This scaffolding, which is effectively a support system for students, assists these students within the ZPD by helping them to get to the next level of understanding. In his research, Vygotsky noted that scaffolding is much more effective when it becomes part of a cooperative learning approach. Vygotsky (1962) suggested that much more can be gained from the work that happens with other students versus those situations where there is only communication between the teacher and student.

The theoretical premise that underpins this study is that GBL is a scaffolded approach that is well suited to encourage the learning of course concepts. Using GBL to achieve the (x+1) of Vygotsky's ZPD will demonstrate a link between theory and practice.

Methodology

When implementing this model, it was imperative that we selected a course that was both relatively small and unattached to other courses (i.e. one that was not a prerequisite/co-requisite). This was important to ensure that if the games were not deemed to have the desired impact, students would not be adversely affected in upper years. There were also a limited number of board games, and it was important that each student had the opportunity to individually interact with the game. A first year class with an enrollment cap of 55 students was selected. In total, 52 students of diverse cultural backgrounds took this class and of those, 35 agreed to participate in this project. The class was held in an 'Active Learning Classroom,' meaning that instead of the traditional rows of seats facing a podium, students sat at round tables consisting of 6 spaces. While the 10 tables form a rectangle along the edge of the room, a podium exists in the centre of the room where an instructor has access to projectors and other technological equipment that can be disseminated to each table around the room. An active learning classroom, such as the one used in this project, generally is not conducive to lecturing, but instead incorporates task based activities into the learning environment to create more engagement with the learning materials.

The topic of the course focused on intercultural communication and was structured to have two hour lectures and a one hour tutorial each week for a total of 12 weeks. The

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textbook assigned to the course was *Intercultural Communication* (7th edition) by J. Neuliep. Each week, approximately one chapter of the textbook was assigned as homework and students were responsible for undertaking this reading individually, understanding the material, and asking questions on any topics and/or concepts that remained unclear after the corresponding lecture was given.

In three of the 12 lectures, games were used as a means to review and discuss the weekly course topics. In game 1, which focused on cultural negotiation, the game *Chinatown* was used. Not only did *Chinatown* aim to enhance the communication among students, but it incorporated the concept of stereotypes (from a previous lecture) into the discussion. The second game used was *Power Grid Deluxe*, which had a competitive focus with an economic/business theme. The final game used in this course was *Pandemic*, which corresponded with the health and wellness of culture lesson and required collective gameplay strategy to save the world from a deadly virus. While each of the games took between 60-90 minutes to play, students were required to watch a video on game instructions prior to the lecture. If time permitted, a discussion on the game was held in the classroom, and there was also a debriefing in the tutorial following the lecture. Students were allocated to groups based upon the number of players who could sit at a table and were instructed not to play with the same people each lesson.

Assessment of this intervention had several components. There was a discussion after each game finished for the remaining part of the lecture where students were encouraged to consider their own experiences and how these tied into the course. There were also multiple choice questions and short answer questions on the final exam that linked game strategies to course topics. These were compared to more standard questions that only considered the textbook material from classes and readings.

Data for this research were not reviewed until after students’ final marks were submitted. When students were asked to participate in the study during the course, they were provided with an information and consent letter by a Research Assistant. Students’ decisions on whether or not to participate were received, placed into a sealed envelope, and were not opened until final marks had been published. Once marks had been finalized, the Research Assistant correlated student information and it was anonymized prior to analysis by the primary researcher.

Findings

During the gameplay, students were engaged with the material. Every student in the class participated, as without participation, the game would not function. Communication in all games was essential, as the course was designed around cultural communication and game-play meant that even the quietest students had to say something when it was their turn in the game.

The most impactful game was *Chinatown*. This game functions somewhat like monopoly in that a player obtains money from building an empire of different businesses. *Chinatown* is set in a New York City community and caters to the cultural stereotypes associated with this type of locale. Students can buy Dim Sum restaurants, tropical fish stores, tea houses, and dry cleaning businesses (among others) and they must negotiate with their peers to collect enough tokens to build in a specific location. While the type of businesses fosters a useful post-game discussion on stereotypes, the game itself asks students to use different tactics to gain the tokens they seek. Because the class is comprised of students from different cultural backgrounds, strategies for negotiation were significantly different. Some students were very forceful, while others somewhat reserved. At the end of the game, the ‘pushy’ students may have been victorious, but when the quiet students were asked if they would play the game again, they unanimously responded that

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they would play as long as the ‘pushy’ student was excluded. This translated into a useful post-game discussion about international business opportunities and being able to navigate long-term relationships based upon different cultural contexts. This topic was highlighted in the textbook, and so students were clearly exposed to the reality of negotiation and business in the cultural context.

While the above is one example of a situation where we saw significantly increased student-to-student interactions and active participation, the outcome was largely similar for all the games. In *Pandemic* where the game requires players to participate collectively to ‘save the world’ from a deadly disease, we saw increased communication, because multiple different options had to be explored. This was particularly useful for a culture class, as students suggested different outcomes based on their belief systems. Furthermore, the notion of collective versus individualistic perspectives was a core course theory.

Debriefing

During the debriefing discussions that occurred directly after the games, students became very animated in expressing their opinions and reflections on the game. Compared with non-game based discussions, there was a much more diverse group of participants.

Students were encouraged by the course instructor to think about the comparisons between the game, their own game play, and the course materials. All students were able to make at least rudimentary connections between the pieces. It was evident, however, that in some instances, it was clear that students had not completed the course readings, as they were unsure of some of the course-specific terminology that was required for this type of discussion.

All students suggested that they liked the idea of game play. In the final Course Evaluations, they suggested:

I enjoyed the lecture settings as they are really engaging. Unlike my regular lectures, I am actively participating in events and activities (anonymous student)

Impact

In assessing the impact of the inclusion of games, the final exam provided insight into student outcomes. The overall course average of the class (for students participating in this research) was 63% on the final exam, but higher scores were achieved by students in both the multiple choice component and the short answer questions that related to the game questions. In the multiple choice, students scored 78%, whereas in the short answer questions, the average was 69%.

An example multiple choice question which linked the games to the textbook was:

Using the game ‘Chinatown’ as your source for this question, what negotiation strategy would NOT apply when considering intercultural communication in the business setting?

- (a) Ensure you have researched about your supplier’s culture
- (b)* Maintain consistent eye contact so that you are perceived as honest
- (c) Be aware of how others may perceive your culture
- (d) Find ways to bridge the culture gap

In this question, 78% of students were able to make the connection between the non-verbal cues of eye contact and the strategies discussed in class related to *Chinatown*.

Furthermore, in the short answer questions, students responded to the game-based question with answers such as:

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Pandemic involves a collectivistic approach on eradicating a disease...someone from an individualistic culture might struggle more with the teamwork...someone from a high context culture may not have direct communications skills ...or their voice may not be heard.

Not only does this answer highlight the collectivistic/individualistic theory from the class, but it links what students actually experienced in the game to their responses.

Finally, in their final Course Evaluations, students were asked if they found the course to be 'intellectually stimulating' which received an average score of 3.4/5. Students were also asked whether the course provided them a deeper understanding of the subject matter, which averaged a score of 3.7/5.

Based on the above indications, it was clear that students were able to understand and discuss course concepts, including the main themes, terminology, and perspectives, thus meeting the objectives initially set for this project. These outcomes suggest that GBL is having the desired impact in the classroom. In relating this back to Vygotsky's ZPD, the games that were used for this course allowed students to engage with the material and to make connections with the textbook. At the time, we do not yet know whether students would have been able to make these connections through a lecture-only method, but it is clear by the outcomes from the exams that GBL was an acceptable method to achieve the (x+1), and acted as the support structure necessary to successfully achieve the course outcomes in these instances.

Conclusion

This study set out to answer two research questions. The first asked how students perceived GBL in the classroom. The most common response to this question was that it was fun, and that students saw the games as enjoyable. This is an acceptable outcome. While the purpose of the games is to promote active learning of course content through game play, the fact that it is also something that students are able to enjoy comes as a bonus. Active learning, through examples such as GBL can promote the type of engagement with course material that leads to better overall retention (Roehl, Reddy, & Shannon, 2013).

The second research question relates to whether GBL assists students in their understanding of course concepts. It has been demonstrated that there is a connection that occurs. Students did better overall in the questions related to GBL on the final exam. There were also obvious instances in their qualitative responses where they were clearly able to link game play to course content.

GBL is likely to be difficult to implement in the wider university setting for a number of reasons. It is still seen a method that is challenging among larger classes and one that appears to value 'fun' over learning. This study, though small in scale, has attempted to suggest that there is much more to the inclusion of games than a simple element of fun. It suggests that games can facilitate learning if implemented appropriately. Working in an Active Learning Classroom certainly helps facilitate the ability to play the games, and students who enroll in such a course are already inclined to want to participate. Attempting this research in a larger more 'typical' classroom may offer further insight into whether impact is being achieved.

As a result, it is acknowledged that further research needs to be conducted. This small scale study, while valuable, is only the first step in examining whether GBL might work in other disciplines. However, this study has made exciting advancements into the area of GBL, which may offer more engaging opportunities for students in the future.

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