



# Gamification in large EFL classes: a preliminary investigation

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## Abstract

Gamification is a growing trend in education that aims to take a principled approach to the use of games in classrooms. It is aligned with student-centered ideologies and is primarily based on increasing student engagement and motivation. At the same time however, exam oriented, teacher-centered classes continue to dominate many Asian countries. The reasons for this lag are undoubtedly varied, but almost certainly include culturally defined expectations regarding teacher-student roles, as well as issues related to large classes, among others. This paper reports on a project aiming to gamify large General English classes in provincial China, both as a way to engage students and develop teachers. Although the use of games is common, few studies explore the use of games as a central component of classes, and there is scarce information regarding the use of games in the Chinese context. Thus, both the logistical and attitudinal issues involved in the introduction of gamified classes are addressed. The findings indicate that the project was generally met with positive reactions by students and teachers, but that refinements, greater adaptation to prevailing conditions, and better preparation are needed to more effectively gamify classes. The paper concludes with the implications of gamifying large EFL classes.

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## 1 Introduction

### 1.1 *The use of games to stimulate learner motivation*

Lack of motivation, and attendant feelings of disinterest, and lethargy are perennial issues in EFL classes, especially when students enrolled in non-language majors are reluctantly compelled to undertake English studies due to, for example, educational policies and/or for graduation requirements. This problem can be compounded when such students are placed in large classes, which create the conditions that allow for greater student passivity, disengagement and less teacher-student or student-student interaction. Yet educationalists and researchers have long observed that motivation is important to success in second and foreign language acquisition (Dimitroff, Dimitroff and Alhashimi, 2018) and, as common sense may subsequently dictate, that more activity-based, student-centered classes are conducive to stimulating such motivation.

One long-used strategy to generate student participation has been the use of games. Indeed, games have been used for decades and continue to be a common practice in ESL/EFL classes at all levels and for various purposes, ranging from building character (Astuti, Fadhilaturrehmi and Yanti, 2019) to test preparation (Chubko, 2016), whether as warm-up activities or as part of larger class objectives. However, an emerging and more theoretically grounded development in education regarding the use of games is that of gamification (Furdu, Tomozei and Köse, 2017). Adopted from the world of computer games, and initially used in corporate training (Deterding, Khaled, Nacke, and Dixon, 2011b), gamification incorporates principles of competition in the design of class activities.

However, as promising as gamification may sound as an approach to appeal to contemporary students, questions remain as to its applicability, viability and relevance in various teaching and learning situations, such as those under investigation in this report.

## 1.2 *The challenge*

The College of Arts and Sciences (CAS), in Yunnan Normal University is situated in the city of Kunming in Yunnan province of Southwest China. Although a mid-size city, by Chinese standards, of more than 6.6 million, with a storied history as part of the ancient Silk Road, the city is provincial not only geographically, seeing relatively few foreigners, but also economically, as one of the poorest provinces in China in terms of per capita GDP (National Bureau of Statistics, 2013). Additionally, a sizeable proportion of its population comes from so-called minority cultures from around the Himalayan foothills, of which most have their own distinct languages.

These factors, among others, raise a number of challenges for university foreign language instruction at CAS for incoming students. For one, without tangible or immediate need to communicate with foreigners, many non-major students see no practical purpose to studying English. Secondly, because students throughout their education have had very little natural exposure to foreign languages or teachers, the potential not only for practice, but also exposure to various pedagogical approaches and logics has been essentially non-existent. Finally, the challenge to learn English is compounded for students from minority cultures, who have a more pressing and immediate need to learn Mandarin fluently as they attend university. The majority of General English students at CAS then, are false beginners, who despite numerous years of 'study' are essentially incapable of any form of communication in English.

Other conditions that factor heavily in the setting is that classes are typically large numbering in excess of 50 students per class, which are characterized by grammar study, (teacher) translation and rote learning. Students, motivated or otherwise, are also predominantly silent (non)participants in class, and it is well established that Chinese students tend to be highly passive, a trait commonly argued to be the result of a cultural tradition emphasizing a strong hierarchical relationship between teacher and student (Wen and Clément, 2003).

The Chinese education system is also heavily test oriented with centralized administration of all aspects of a course and program. Teachers at CAS are thus obliged to use prescribed, government approved texts, which must be completed during the semester. These conditions ultimately undermine instructional innovation to the point that teachers generally make no changes to traditional teaching styles. Finally, classrooms at CAS feature immovable rows of desks and, critically for the purpose of gamification, have no computers or internet connectivity. In sum, the teaching and learning conditions at CAS are very common in China but also many other nations, leading to the question as to whether gamification has potential for uptake, development and adaptation in such conditions.

Thus, in an attempt to commensurately 'modernize' their teaching approach and stimulate student engagement and motivation, the General English (GE) program at CAS initiated a project to gamify some of its classes in order to assess the feasibility of gamification and its impact on student attitudes. The research questions were:

RQ1. How do students respond to gamified classes, in terms of attitude and perceived benefits?

RQ2. How do teachers respond to gamified classes, in terms of attitude and feasibility of its application?

RQ3. What logistical and pedagogical challenges are encountered in trying to gamify large classes?

In this paper, the researchers first trace the development of gamification in education and then recount the implementation of a locally adapted version of gamification, as well as student and teacher responses thereof during a pilot project in a provincial university in China. Ultimately, the paper hopes to contribute to the discussion surrounding the gamification of EFL classes by exploring its theoretical and practical feasibility in real world contexts in which access to technologies and other ‘conveniences’ are unavailable.

## 2 Literature review

### 2.1 Defining gamification

Gamification has “become a popular technique used across a variety of contexts to motivate people to engage in particular targeted behaviors” (Landers, 2014, p. 753). Related to, but distinct from serious gaming, game design and game-based learning, gamification resists singular definition (Gressick & Langston, 2017). (For a comparison between gamification and game-based learning, see Al Azawi, Al-Faliti, & Al-Blushi, 2016.) However, it is most commonly defined as “the use of game design elements in non-game contexts” (Deterding, Dixon, Khaled, & Nacke, 2011a, p. 2). Approaching it primarily with computer-based applications in mind, Detering et al. (2011b, p. 11) consider some main elements to include: self-representation with avatars; three-dimensional environments; narrative context; feedback; reputations, ranks, and levels; marketplaces and economies; competition under rules that are explicit and enforced; teams; parallel communication systems that can be easily configured; time pressure.

Other main features of games are that they are designed so that players overcome some form of obstacle or problem and are rewarded in some way for overcoming it (Buckley & Doyle, 2016). Gamification is also characterized as a system “in which players engage in an artificial conflict defined by rules that results in a quantifiable outcome” (Salen and Zimmerman, 2004, p. 11). Others include “completing quests ... fighting monsters ... and crafting” as meaningful aspects of games (Landers, 2014, p. 753), while at a more basic level “points, levels and badges” (Hung 2017, p. 58) are accepted as part of the definition of gamification.

As these broad descriptions indicate, the variety of types and categories of games is considerable. (For a thorough review and ‘systematic mapping’ of gamification, see de Sousa Borges, Durelli, Reis & Isotani, 2014). Nonetheless, proponents consider gamification distinct from ‘merely playing games’ primarily in that gamified classes impact student outcomes in terms of grades, while at the same time mitigating the negative associations and effects of assessment.

Although its origins lie in the digital media industry (Deterding et al. 2011a), and many pedagogical applications continue to focus on computer-based and online courses for today’s so-called digital natives (Figuroa Flores, 2015; Gressick and Langston, 2017), the use of technology is not a prerequisite for gamification. For the purposes and limitation of the current research then, the researchers focused on the simpler game elements, such as awards and points, as these were the most feasible given the conditions outlined above.

### 2.2 Gamification in education and ELT

In English Language Teaching (ELT), gamification seems currently to have a nebulous status. This may simply be because, as noted earlier, games have been a staple of English teaching for decades, meaning that to many practitioners it may simply seem to be a reformulation of an old idea. But there have been some attempts to explicitly link the principles outlined by gamification to classroom practices. Girardelli (2017) for example, gamified impromptu speeches in Chinese EFL classes, by simulating a talent show based on a televised format. Other practitioners have reported on

the gamification of flipped classes (Alsowat, 2016; Hung, 2018; Singh & Harun 2016), gamifying argumentative writing classes (Lam, Hew & Chiu 2018) and developing vocabulary (Taheri, 2014).

Of course, gamification is not without criticisms. Many of the critiques center on the dynamics implied in the giving of rewards. Nicholson (2012) for example, argues that employing games should not be used to imply an automatically engaging experience, and cites Deci, Koestner, and Ryan (2001) who found that internal motivation was actually reduced by the giving of any kind of reward. Kim, Son, Lockee and Burton (2018) also raise the problem of *pointsification*, wherein awarding points inadvertently and/or misleadingly becomes the main feature of and reason for playing games. Other also suggest that a 'reward loop' is established in gamified classes in which students do not wish to participate when rewards are no longer given (Zichermann and Cunningham, 2011).

However, in sum, gamification may offer some hope for teachers aiming to create a more positive yet genuinely educational class atmosphere, if their situation allows its utilization.

### 3 Research Methodology

#### 3.1 Participants

The project included 243 students (215 female, 28 male), from 18 various majors, enrolled in the General English course at ESL level 6 at the university. The ESL courses at CAS cover 9 levels, covering students from those without any English foundation at all to students who have the English equivalence of IELTS 6.5 or B2 (Up) in the European Language Framework. ESL 6 is equivalent to IELTS 5 or B1. As the students are admitted solely based on their English proficiency with a standardized placement test, each class consists of students from all different majors and years. In total there were 16 groups in ESL 6, with 4 groups being selected for the trial. These 4 groups, each comprising approximately 60 students, were taught by 2 teachers who co-designed the games and collected student responses.

#### 3.2 Games

In creating the gamified classes, the instructors had to conform with course requirements, the most important of which was the completion of a prescribed course book (which was essentially a book of readings with comprehensions questions), published in China. With the teachers thus pressured to ensure students completed the book, the gamified classes were designed to run for 4 weeks, running from weeks 8 to 11 in the 16-week semester, and were developed from 2 units of their course book. As they completed the tasks, marks were given as 'rewards' or deducted as 'punishments' for each task. At the end of the 4 weeks, scores from each of the games were tallied to identify the winning groups and individuals.

Writing, translation and vocabulary and reading were the course components around which the games were designed and games had to be simple in terms of not being able to access technology or use props/paraphernalia. The games chosen therefore included adaptations of charades, *Chinese whispers*, a short story writing competition and presentations.

##### 3.2.1 Vocabulary & reading games: story telling

There were 3 descriptive reading texts in Unit 3 of the textbook. In the first vocabulary task students were asked to learn and define 38 selected new words from the texts. In the second step, the game of charades was played in class in small groups. For the reading task, students were taught to identify topic sentences and supporting details in the texts, which was a skill developed as preparation for the later writing task.

There were 3 argumentative texts in Unit 4. In the vocabulary task, students first studied 54 selected new words from the texts. Then, from those new words, they had to choose 4 or 5 words to make up a short, simple and humorous story in Chinese. For the second stage, the learners had to

rewrite the story in English, paying attention to appropriately using the new words. In step 3, they presented their stories to the class. For the reading task, students created outlines of the reading texts and then in the second step retold main contents of the texts based on the outlines. Students were rewarded or punished based on the timely completion and quality of performance of the tasks.

### 3.2.2 Translation game: Chinese whispers-type games

A version of Chinese whispers was developed as the game for translation related classes. In the first step, a member of a small group of students was required to translate an English or Chinese sentence from the coursebook. Then, without seeing the original sentence, the rest of the group members worked together to back-translate the sentence within a limited time. In step 3, the groups wrote their back-translated sentences on the blackboard and compared them with the original sentence while the teacher judged the quality of the translations. Groups were rewarded with scores based on their completion and performance of the task.

### 3.2.3 Writing game: Try to be a good reader and teacher

For the writing game, students were asked to compose a short story; each group then read the compositions from the other groups and wrote feedback. Following this, each group shared with the whole class their opinions on which story they thought was the best and which one needed the most improvement, justifying their choices. Students were rewarded or punished in groups based on their completion and performance of the task.

## 3.3 Instruments

Data were collected in the form of an online questionnaire comprising of eight, 6-point Likert-type statements concerning students' feelings and responses to the gamified sessions (1= strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree). Instructors also conducted follow-up interviews from a random selection of participating students (N = 40). During the 4-week trial, the 2 teachers also made reflective notes.

## 4 Findings

The findings yielded from questionnaires, student interviews and teacher reflections are presented as follows.

### 4.1 Questionnaire results

The results of the questionnaire indicated generally, but not uniformly or strongly positive student responses to the gamified classes, as shown in Table 1.

**Table 1. Questionnaire responses**

Statement	n=	mean	std. dev.	median	mode
1. I feel I learned the lesson when playing games.	243	3.88	1.176	4	4
2. I enjoyed playing games.	243	3.94	1.206	4	5
3. The games were confusing.	243	3.85	1.059	4	4
4. The games didn't help me learn.	243	3.55	1.165	3	3
5. I enjoyed playing translation games.	243	3.78	1.163	4	4
6. I enjoyed playing writing games.	243	3.47	1.147	3	4
7. I enjoyed playing reading games.	243	3.59	1.176	4	4
8. I was willing to join the games.	243	3.9	1.203	4	4

The median of the responses for the statements ‘I feel I learned the lesson when playing games’, ‘I enjoyed playing games’, ‘I enjoyed playing translation games’ and ‘I enjoyed playing reading games’ was 4 (‘somewhat agree’). The internal consistency of the results was reflected in opposing statements, so that the median response for ‘The games didn’t help me learn’ was 3 (somewhat disagree). However, there were also some generally negative, albeit weakly so, responses. Thus, the median response for the statement ‘I enjoyed playing writing games’ was 3 (somewhat disagree), while responses to ‘The games were confusing’ was 4.

The questionnaire thus indicates that the gamified classes on the whole were positively received, but not with a strong enthusiasm. This could be attributed to the not only the novelty of the approach, but perhaps because the set-up and preparation of the games, in particular concerning instructions were confusing, as indicated by the response to item 3. This is further discussed below. The writing games were least enjoyed, though this may possibly be the result of a general dislike of writing.

## 4.2 Interviews

40 students were selected for interviews, which were recorded and thematically analyzed by the researchers by mutual agreement. The interviews were subsequently categorized into four main themes: perceived learning effectiveness, motivation, the most popular games and critique. Interviews were conducted in Chinese and translated by the researchers who validated the translations by mutual agreement.

### 4.2.1 Perceived effectiveness.

A number of students indicated that the games aided their memory, attentiveness and concentration, or had positive responses in terms of their ability to learn by playing the games:

*“I can concentrate for the whole class.”*

*“I think I learnt more from gamification classes.”*

*“I can still remember stories I made during vocabulary games.”*

These responses correspond to positive results in questions 1 and 4 of the questionnaire and reflect a broad perception that the games were effective in terms of learning, rather, say, than a waste of time. Indeed, if the games had been received in a negative light in terms of student’s personal learning objectives this may present a major hurdle for future attempts to introduce and develop gamified learning in this context. In this instance however, it would appear that there is an in-principle acceptance of gamification as a genuine teaching-learning approach.

### 4.2.2 Motivation

The games appeared to promote interest, active participation and subsequent motivation to study English among a majority of students:

*“I think we feel we are involved in the class, instead of solely being a listener in traditional classes.”*

*“When I started to make up my own stories with given words, I found English was interesting, and I can still do [story] creation in English.”*

*“Our classmates, including me, are quite active in the class, particularly if bonus points are given, no matter how much the bonus points would be.”*

As increased motivation is one of the central aims of gamification, these responses are likewise promising. Students were clearly able to positively compare the gamified classes to their traditionally teacher-centered ones and considered them sufficiently interesting to hope for a continuation of the gamified approach. The response to receiving points for participating in games was generally accepted, and, if the quotation above reflects a wider sentiment, somewhat allays fears regarding *pointsification*.

### 4.2.3 *Most popular games*

Although it would be erroneous to attribute cause-effect relationships between the games played and skills learned playing them, it appears that the translation game (Chinese-whispers) was most popular, followed by the vocabulary game (charades):

*“I hope we can keep the translation and vocabulary games in future classes.”*

*“The vocabulary games were really helpful.”*

*“In translation games, you can appreciate more than one version of translation, that is how I found English interesting.”*

Reflecting question 5 in the questionnaire, student interview responses largely indicate a preference for the vocabulary/reading and translation games. Although a deeper analysis as to why this is the case is beyond the scope of this paper, two reasons may be suggested. First, translation and vocabulary learning are familiar practices for students, meaning that there may be a degree of ‘safety’ involved. At the same time, it is interesting that these were the games with the most student-student interaction, suggesting that a higher level of communication and physical activity is perceived as more enjoyable.

### 4.2.4 *Critique*

A number of students were constructively critical of the games, with comments ranging from questioning the novelty of the approach, its time consumption, to expressing skepticism concerning the ability of gamified classes to cover stipulated course content:

*“I think it is the same as traditional classes, we need changes and innovations all the time, instead of keeping the same style for the whole time.”*

*“I have some confusion about the book some time, but the teacher would have no time to explain it to us in detail anymore. The whole time was given to gamification.”*

*“Implementing gamification may reduce the number of language points shown compared to traditional classes.”*

The above quotations reflect a range of issues that students perceived with regards to gamification. The first quotation suggests an awareness that a wholly gamified approach would not necessarily represent an improvement, and that interest and motivation could only be sustained with constant variety. The second and third quotations suggest that the gamified approach did meet with some resistance among students who expected to receive more teacher input and feedback and wanted to continue to some extent with more ‘concrete’ itemized learning of ‘language points’

## 4.2 *Teacher reflections*

On the positive side, teachers felt that there was a definite improvement in participation levels in

each game, that students were more focused in these classes, and that the class atmosphere was much improved.

Although the games represented a novel approach for both students and teachers, and time was limited, the instructors nonetheless had the opportunity to experience numerous issues, of which 3 seemed more significant: students' confusion with instructions; attitudes regarding evaluation in the sense that students wanted a score for 'raw' linguistic performance rather than participation in games and; (new) problems related to class size namely noise and difficulty in monitoring students especially with group presentations,

The confusion regarding instructions resulted perhaps primarily from the teachers' inexperience in setting up games and therefore not being aware as to students' similar unfamiliarity and attendant needs. Instructions needed a higher degree of detail in terms of student roles, and the awarding of points, especially with clear rubrics and expected outcomes. Additionally, attention to instructions needed to be improved, and, rather than providing verbal instructions, it may have been more effective had they been distributed in paper form, in Chinese.

Resistance to the games was seen mostly in terms of expectations regarding scoring and obtaining points. Again, students are more familiar with 'right' and 'wrong' answers and thus the more subjective evaluation by peers made some students feel as though they could not be confident in any results or learning progress. This does suggest a re-oriented design for games, namely that while they should continue to be interactive, that points be more clearly awarded by external criteria.

For the instructors, the most significant issue was the logistical one of creating a game-based dynamic in large classes. When gamified, the large classes created a degree of chaos that the instructors had not previously had to cope with, and with activities occurring around the classroom, there was a strain for them to try to attend to all the students.

The above listed problems can be addressed in future iterations and development, but the instructors ultimately realized that gamification demanded a heavy workload in terms of preparation, designing efficient means of giving feedback, and giving rewards/punishments for each game performance. Finally, as instructors still had to complete a pre-determined course outline, they felt a good deal of pressure to cover all the course units.

## 5 Discussion and implications

The preliminary attempt to gamify large classes, using simple non-technology dependent games demonstrated that, while logistically and conceptually challenging, gamification is possible and yields generally positive results in terms of student participation and interest. This was the primary aim of the trial. While it was not unexpected that students would enjoy the games, the main questions concerned how the games would be perceived by students and teachers who were accustomed to the expectation to have traditional test-oriented classes and the attendant necessity to cover requisite materials. In this light, the trial indicated that the introduction of games in large classes can succeed, but with some caveats.

It appears from the interview data that games with a physical component (charades, Chinese whispers) were perceived as more 'game' like and therefore fun. But it also suggests that student to student interaction – so frequently absent from large classes – was met with enthusiasm and that games, as opposed to, say dialogue practice, indeed reduced student anxiety and reticence. This could be attributed both to the redirected attention and the fact that the games encouraged genuine, spontaneous and consequential communication.

Some of the reservations expressed by students and the instructors provide guidance in terms of future implementation and development. For example, the study indicated that delineating games by skill may not be effective, as games (at least those selected) are not easily designed to specifically address or target individual skills, while the course materials do represent learning targets as such. By the same token, the instructors felt that gamified classes may work better in lower-level classes, in which course content maybe easier to gamify in this context. In this way, students lacking experience in any form of in-class (English) games, can become more familiarized with the 'non-serious', less teacher-centered approach.



With regards to more clearly reflecting actual learning progress, future games may need to be designed around more apparently objective targets rather than subjective peer evaluation. In that way students could engage in games while aiming for personal achievement rather than being rewarded in more abstractly framed terms. This could alleviate fears of missing out on covering more itemized and exam-oriented learning.

Likewise, for teachers it was a steep learning curve, and more training is needed. It was a challenge for them to conceptualize gamification both as different from merely playing games and as independent of computer/online games. And in the absence of, say, guides or 'ready-made' teaching kits, there was some trepidation as to whether the games devised 'qualified' as iterations of gamification. In the process of conducting the gamified classes, the instructors encountered difficulties in providing clear instructions as well as clear guidelines for monitoring the students' participation and involvement. These challenges provided useful data for future teacher development and in sum, therefore, the experience was positive and fruitful.

Another important thing to note concerns the rather limited choice of games in class. Most universities in Yunnan, partly due the region's poverty, do not have full internet or WiFi coverage, and most of the students meet their internet connection demands by using relatively slow 3G/4G mobile data. This, coupled with the fact that many non-Chinese websites are unavailable in China reduces the range of games that can be used in classrooms. (One example of this is the popular internet quiz-based website Kahoots.com, which the teachers at CAS could not use due to the lack of internet connected classroom computer and slow loading time for mobile devices.) However, the teachers in this project have been able to identify newly released software available in China, such as Motesoach, that can be used on mobile devices to facilitate game playing. Further exploration is being conducted in this regard.

One of the key takeaways from the project was the need to clearly conceptualize gamification. In the conditions described herein, however, where students did not have access to games replete with virtual worlds, quests, and monsters a perhaps more mundane but significant distinction between games and gamification emerged, namely, that gamification entails the design of games with an evaluative component. That is, more than a way to have fun or pass the time gamification introduces real stakes in the pursuit of playing games. It is from this point (though mindful of potentially negative repercussions – see below) that foreign language programs that are less fortunate in terms of modern technology might embark on gamifying their classes.

Finally, as with any approach or technique in education, gamifying classes should not be seen as a magic bullet, which in this case was as a means to solve the issue of poor engagement and motivation. Indeed, these problems speak to much larger issues than can be addressed here.

## 6 Limitations

The purpose of the project recounted here was to address the many existing limitations of context in light of the desire to adopt what may be a promising approach to foreign language learning and teaching. As such, one main limitation of the implementation of games is that the games played were principally designed around the awarding of points, thus leaving the exercise susceptible to Kim et al.'s (2018) criticism regarding 'pointsification'. However, one difference in the games played at CAS was that students were also awarded points by their peers, arguably making this a more interactive and in a sense reflective approach to awarding points.

As much as instructors would like that their students enjoy classes, enjoyment in and of itself is of course not the final objective for teaching English. It is only if the games contribute to greater extrinsic and intrinsic motivation which concomitantly leads to advancement in English competence that an approach or technique may be said to be effective. As this research was not experimental in the sense that it did not conduct an evaluative comparison using control groups, it remains unknown if the games led to any impact in the development of skills in English, or indeed even the content that was covered during the 4-week project.

## 7. Conclusion and recommendations

This paper has reported on an initial pilot project aiming to incorporate gamification in one course of a General English program in a provincial university in China. Evaluation of the project found that limited success could be replicated to some extent in large EFL classes. However, the conditions present in this research (e.g., large classes, limited access to technology) are not limited to just Chinese ELF education. Classroom conditions in many cultures are similar. Thus, as gamification is relatively new in ELT, at least in its current iteration, it is hoped that this paper can contribute to this area of investigation by illuminating some of the challenges faced in contexts similar to that described here.

One of the most obvious recommendations is that any attempt to gamify classes requires adaptation to local environments. Future efforts in exploring gamification more intensely in universities like CAS therefore hinges on the will of the leadership, the creativity of teachers, the attitudes of students and the improvement of infrastructure.

Finally, inasmuch as the project to introduce games into large classes in a technologically unconnected classroom recounted here represents an exploratory step, the experience was valuable for the longer-term development to gamify large classes.

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