Learners’ perceptions of using technology in the foreign language classroom: a case from China

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Abstract. The popularity of using information technology in class has consistently drawn a great deal of attention from researchers; however, few have focused on learners and explored this phenomenon from learners’ points of view. This paper reports research which aimed to investigate university students’ perceptions of using technology in foreign language lessons. 289 Chinese tertiary students’ views on using technology were collected through Padlet promptly after they had experienced the use of a series of technology tools in class, which ranged from multimedia to tools for communication with students’ mobile devices. The data were mainly qualitative and analyzed with thematic coding analysis. The results indicate technology’s numerous pedagogical benefits to these learners and the findings from this study could be of reference to teachers who wish to attempt technology-implemented classes.

1. Introduction
Along with the rapid development of information technology, especially in the sphere of learning applications, various learning tools and multimedia have reached classrooms over the last two decades [1]. In particular, attention has also been paid to mobile phones’ potential for learning in the classroom [2] and the foreign language classroom is no exception [3]. Meanwhile, the popularity of the pedagogic applications of technology has drawn a great deal of attention from researchers. According to Li, in the area of foreign language teaching, the most commonly addressed issues have been teachers’ beliefs about—and attitudes towards—technology and technology uptake [4]. However, few studies have focused on learners and attempted to explore the effectiveness of these applications from their point of view.

Learners play a critical role in determining how technology should be used, as students should be the focus of classroom activities and their views determine learning outcomes [5,6]. Thus it is important for teachers to understand learners’ expectations and seek reconciliation [5]. This study was set up to understand English as a foreign language (EFL) learners’ perceptions of technology-integrated lessons in a university in China. In analyzing 102 published Mobile Learning projects, Frohberg et al. conclude that teachers have mostly used mobile devices as a reinforcement tool, to stimulate motivation and strengthen engagement, and have rarely used them for cooperative or team communication [7]. In this study, 289 Chinese tertiary students’ views on using technology were collected promptly after they had experienced the use of a series of technology tools in class, which ranged from multimedia tools to tools for communication (e.g. Padlet) with the students’ mobile devices. The findings of this research shed some light on Technology-Enhanced Learning (TEL) in a variety of similar teaching contexts, and could be useful for educational policymakers, practitioners and teacher educators.
2. Method

2.1 Research aim
This research aimed to understand foreign language learners’ perceptions of teachers' practice with educational technology. Holding an interpretivist position, I aimed to seek knowledge from participants’ interpretations, and thus took an inductive approach [8]. I held an open attitude, in the hope of gaining insights from participants, and of allowing data and theories to emerge from these insights, rather than confining the data to presumed research questions.

2.2 Research setting and participants
In China, English is taught as a foreign language and College English is a required course for tertiary students in their first two years of study. Chinese university teachers have commonly used the Internet and computer to present media such as text, graphics, video or sound. However, apart from multimedia, other tools such as collaboration tools (e.g. Padlet) or assessment tools (e.g. Kahoot!) have not been familiar to Chinese teachers and learners. PowerPoint was the most frequently used in the observed secondary school classroom and it was mainly used as a presentation tool [4].

In this research setting, each classroom was equipped with a computer connected with the Internet and a projector. However, WiFi was not provided, so students would need to use their own data on their smart phones.

The 289 student participants were drawn from four classes–three freshman and one junior class–at a university in East China. They were my students for College English modules, and were studying for different majors, including Civil Engineering, Social Work, Public Service, Media Design, Business and Accounting. The number of student participants in each class is summarized in the table below.

| Class code | Year    | Department       | No. of participants |
|------------|---------|------------------|---------------------|
| Class 1,4  | Freshman | Humanities       | 65                  |
| Class 2,5  | Freshman | Construction Engineering | 65                  |
| Class 2,4  | Freshman | Arts & Design    | 77                  |
| Junior     | Junior  | Business         | 82                   |
|            |         |                  | Tot. = 289          |

2.3 Instrument
This research aimed to explore in-depth thoughts from the participants. Open-ended questions better served this purpose [9]. Available data collection instruments range from more traditional paper-and-pen to online survey tools such as SurveyMonkey and Surveybuilder. For this study, Padlet was utilized as a data collection method, as it has the advantage of allowing users to add anything (e.g. words, pictures) from any device (e.g. computers, tablets, Mobile phones). Padlet can save, generate and export results in the forms of PDF, CSV or Excel spreadsheet [11], and these allow researchers to copy and paste the results to their data analyzing tools with ease.

The following questions were displayed on Padlet:
1. What are you happy about in our English class?
2. What are you NOT happy about in our English class?
3. Do you have any concerns about our English class?

The participants were required to answer these questions regarding their perceptions of a particular technology-integrated lesson, along with other questions such as their personal information and their expectations of the English class.
2.4 Procedure
The data were collected promptly after the 90-minute introductory lessons in which I used multimedia, PowerPoint, Padlet and Kahoot!. The main language I spoke in these lessons was English. Hereby I describe the procedure in one of the research classes.

I began the class by greeting the students and introducing myself, and then the students were asked to take out their mobile phones. They were instructed to use Kahoot! in order to access questions which I had designed with the purpose of introducing them to some class rules. I walked around to check on their progress in accessing the platform and provided help when needed. I did not wait for everyone to join before starting the “game”, given the time constraints. Whenever checking the answers, students made some loud noises, suggesting excitement.

Next, students introduced themselves in groups of six. After that, they were required to post the group lists onto Padlet. I gave them step-by-step instructions from searching for Padlet on their cell phones to posting on the platform. Having logged in to Padlet, I could monitor their posts. I assigned group numbers and included them when editing their posts. Scanning another QR code, the class then proceeded to the next group activity, in which they discussed the question, “What are the purposes of learning English?” and then put their discussion results on Padlet (Fig. 1 below).

2.5 Data analysis
The data from the open-ended questions were treated as qualitative and analyzed with thematic coding [11]. The analyses followed an inductive, bottom-up approach to allow codes and themes to emerge which would then be allocated to appropriate categories. The coding processes were iterative, and I aimed to avoid cherry picking bits that would fit, and to take an unbiased stance in developing codes from these data.

3. Results
In analysing the data, I tried to rule out data that was less specific to the relevant technology, such as “I am satisfied with this lesson”, “I don’t understand the teacher” or “I don’t have any concerns”. The parentheses indicate the number of students’ responses.

3.1 Perceived pedagogical benefits
From the data regarding what the learners were happy about, 44 codes emerged with a total of 181 responses. The first theme to emerge was the students’ satisfaction with learning by means of this novel approach. 24 students pointed out that they had not experienced this teaching method before. They described it as “novel” (3), “modern” (1) and “attractive” (2). Two of the students claimed that they had learned greatly from this approach and another two students believed that their English could be improved with it. As one of them commented, “It’s my first experience of this new method, and I...
think it can improve my English level”. Without specifying that the approach was new to them, another eleven students believed that they could learn from this method, learn more (4) or have the confidence to learn well (1).

The second theme to emerge was the feeling that this had been an interesting approach to learning, which had the most codes and responses. 55 students thought the lessons interesting. Among them, eight students specified that it was interesting because of games (7) and activities (1). One student gave another reason: “It is very interesting for me to attend this English class because the English teacher combines textbooks with the internet; this makes class interesting” (Junior). Another eight students expressed that the lesson was interesting and that they learned/improved greatly while another two commented that the lesson was both interesting and helpful. Also, the lesson increased students’ interest in learning English (1) and students stated that they were happy to learn in this class (4). Additionally, their interest was set to grow (2).

The third theme to emerge relates to the advantage of learning with the good atmosphere brought about by the approach with a total of 51 responses. 32 students thought that a lively, happy, good, pleasant atmosphere was created with these lessons. Another six students felt the atmosphere relaxing. They enjoyed this atmosphere (10): as one student commented, “In class, our teacher created a great environment for learning English, and we really enjoyed the class” (Class 1,4). “Everyone is active” (Junior).

The fourth theme, the association of the lessons with games, was also believed to have promoted learning (23). The lessons were perceived as “combining learning with games” (11) so that they were “game-like” (1). Meanwhile, the students thought that they were learning and playing at the same time (2). They enjoyed games (4), and this way effective learning was promoted (1). As a student commented, the result of the “game-like” lesson for him was that “the teacher played games throughout the class, [this way] my English can be improved” (Junior). Also, the use of games can increase enthusiasm (1). One student appealed for more games.

The fifth theme relates to greater involvement with a total of 12 responses. Nine students were aware that they were more involved, and this made them feel like active learners (2). As a student commented, “The class is so lively and interesting that we immerse ourselves in it” (Junior). Another three students believed that this teaching mode increased their enthusiasm.

Another theme was the belief that there were opportunities to present ideas (3). A student pointed out that “it gives us more opportunities to present our own ideas. In the meantime abundant teaching methods allow us to join in the classroom more actively” (Junior). It was also felt that there were opportunities to better communicate with others (1) and thus to improve communication ability (1). A few codes, such as “learning how to use Apps” and “useful and helpful lesson”, were applicable to the response of only one student.

Although the codes are organized into these themes, there are unavoidably overlaps. For example, games made the lesson interesting and also drew students’ attention to the learning. The merits of this technology-integrated lesson can be summarized by a student’s words:

“It is different from our previous model of class. It is very interesting and helps to improve our English. The most important thing is to create an active atmosphere. I like this kind of class model” (Junior).

3.2 Problems and concerns

The majority of the participants were “happy” or “satisfied” with the English lessons. Problems and concerns raised by a few students generate six codes with 17 responses, mostly related either to the Internet or to their mobile phones.

Two students mentioned the slow speed of the Internet in the classroom. Three students stated out that accessing these online tools wasted too much time. A student suggested that “we should download Apps” (Class1,4). However, not all of the students were happy about using mobile phones. One student thought that it was troubling to use a mobile phone to access these online tools. Another student pointed out that he/she could not take part in the game because of some mobile phone problem.
Two students worried about keeping up with the class when they are required to use a mobile phone. Due to the difficulty of using mobile phones in class activities, a student suggested that “we should use books rather than this learning system in the future” (Junior).

Another theme that emerged was the noise (8), mostly from my second largest class—Class 2,4 with 77 students. I speculate that these noises were probably generated in Kahoot! time. Three students shared their concerns as to whether they, as freshmen who had just entered university, would be able to cope with “this kind of teaching method”. However, the unspecified “this kind of teaching method” may refer to learning English monolingually, which they had never experienced, either.

In summary, six codes (17) are related to problems and concerns, two codes (2) pertain to suggestions. Table 2 below summarizes the distribution of pedagogical benefits, problems and concerns, and suggestions.

| Themes | Codes | Pedagogical benefits | Problems & concerns | suggestions |
|--------|-------|----------------------|---------------------|-------------|
| (response) | 44 (181) | 6 (17) | 2 (2) |
| Percentage | 88% (91.4%) | 12% (8.6%) | -- |

4. Discussion

The major findings revealed that most students perceived the technology-integrated lessons as novel, interesting and game-like, as contributive to learning. These features, along with another two striking themes (pleasant atmosphere and involvement) were all considered to be pedagogical benefits. Teaching with novel, interesting, game and pleasant atmosphere elements are strategies used to promote learners’ motivation; involvement is a prerequisite for learning [11]. Engagement, enhanced motivation and facilitation of learning were also found in many studies, such as Schmid which investigated the adoption of a multimedia-oriented approach to teaching English for Academic Purposes (EAP) courses [3]. This finding is congruent with Sung et al.’s conclusion from their meta-analysis of 110 published papers that “mobile learning was able to facilitate students' affective learning outcomes” (p. 258)[2].

However, fewer students pointed out some other commonly addressed advantages in the literature. For example, only a few of the students could recognize the intention/potential of integrating teaching materials with technology. In addition, one merit of collaboration tools (e.g. Padlet) is enabling students and teachers to see and discuss each other's work [1], was mentioned by only three students. My inference is that the aforementioned features, such as interesting and pleasant atmosphere, were more appealing to them.

As can be seen from the data, the students’ problems and concerns resulted from the technology which was supposed to support the technology tools. Thus, apart from the requirements of knowing how to deal with the technology itself, it is necessary to check the capacity of technology devices such as computers and the Internet in the classroom. The problem of noises may be due either to the teacher’s poor classroom management, or to the commotion made by students excited to begin playing. Although Kahoot! is an assessment tool, it is “a game-based platform”, and so it also “has the potential to make learning awesome” (kahoot.com). The eight out of 289 participants who reacted to noises account for only 2.8%. I suggest that teachers who integrate technology into the classroom should observe the cause of such a phenomenon if it occurs and speak to the students concerned if necessary.

The lessons were a hybrid of technology with other methods such as teacher talk and group activities. Therefore, it is not always easy to distinguish which methods the students were referring to. However, as the data reveal, learners’ perceptions are more about a psychological factor, which is not always congruent with reality. For example, some students felt that “the teacher played games throughout the class” while there were actually only three activities associating with Kahoot! and
Padlet and there were no other games in these 90-minute lessons. Furthermore, second/foreign language learning is situated in complex nonlinear systems [13]. In addition, for a technology-integrated class to be effective in learning, it takes teachers’ knowledge of technology (hardware and software), teaching context and teaching materials, process, methods, students and so on as well as the skills to orchestrate these components [2]. All this suggests that it means little to study the parts of the whole by controlling variables; rather, the investigation should be done in a natural environment [13]. In this study, students’ views were collected in such a way as could reflect their perceived realities as a whole. Students’ perceptions collected under such circumstances should be valuable to teachers and should be treated as parameters associated with teaching. Therefore, the findings from this study could be of reference to teachers who wish to attempt technology-implemented classes.

5. Conclusion
This study set out to understand the integration of technology from learners’ viewpoints and the results lead to the discussions of its potential pedagogical benefits and problems. Drawing from the data, the former appears to outweigh the latter (90% as opposed to 9%). However, the potential problems can serve as precautions for teachers’ reference. Learning students’ views can feed back into teachers’ knowledge. This is important as teachers and the decisions they make matter to successful implementation of technology-integrated class [1].

A drawback of this study is that it relies on a single data collection method. It is therefore suggested that interviews and co-observers be included in future studies. Also, this study only related to one lesson; longer interventions are suggested to observe the effect of Technology-Enhanced Learning (TEL) in physical classrooms.

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