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**Attitudes towards Digital Game-based Learning of Chinese Primary
School English Teachers**

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Abstract

As a result of technological advancement, the educational landscape in the field of language education has been experiencing a significant evolution. Educational gaming, as a newly emerged paradigm of online learning, has been explored for its potential in language teaching. Teachers' attitudes and needs are crucial in the implementation of digital gaming into the classroom. However, few previous attitude studies have focused on English Language Teaching (ELT) and young learners, with even less conducted in the context of China, where the potential market for ELT is massive. Having identified the potential of Digital Game-based Learning (DGBL) in China, the *Knowledge Transfer Partnership (KTP)* project was undertaken, in order to develop a DGBL platform to help Chinese young learners to learn English. This current study, focusing on the attitudes of teachers, constitutes a part of a large scale needs analysis regarding the implementation of DGBL in the context of China.

In aiming to broaden the scope of understanding, a mixed methods design was employed to measure the attitudes of teachers in both a qualitative and quantitative manner. A total of 76 Chinese primary school English teachers completed the survey, and 3 of them were interviewed. The results revealed that, generally, the teachers hold positive attitudes towards using digital gaming to assist their English teaching. The potential of DGBL in motivating students and teaching vocabulary was highlighted in the investigation. Parallel with potential barriers identified, teachers also suggested a number of facilitative approaches for the implementation, among which the integration of digital games with the syllabus was raised as the first concern by most of the teachers. It was also concluded that administrative and financial support is a prerequisite for the implementation of DGBL, and that equality of participation in the games is a key factor in ensuring the efficiency of DGBL in classroom practices.

Key words: Digital Game-based Learning (DGBL); English Language Teaching (ELT); China; young learners; teachers' attitudes;

Chapter 1: Introduction

The scene of children being absorbed by digital games is common to us all. Over the past few decades, attempts at exploring the educational value of technology have been manifested in educational literature. Meanwhile, the global proliferation of integrating technologies into the classroom has given rise to the revolution of the educational landscape from conventional textbook-oriented pedagogy to a technology-enhanced teaching approach (McLoughlin & Lee, 2010). Not only does this new development in education capacitate students to access information, regardless of temporal and spatial restrictions, but also stimulates the transformation of the knowledge delivery mode with better efficiency and greater diversity. Digital gaming is one of the common technological tools, as the medium of knowledge delivery in the field of education, primarily due to its great potential in motivating and engaging students. The potential of educational gaming has also been explored for language education purposes, and digital games have been gradually introduced into English classrooms worldwide.

China, as one of the biggest ELT markets around the globe, had already reached an astonishing number of 400 million English learners by 2010 (Wei & Su, 2012). However, educational gaming in China is a newly emerged phenomenon in the educational domain, but turns out to be an uninvestigated area in literature. Having clearly identified the potential in the Chinese ELT markets, a software development company, *Nosebleed Interactive Ltd. (UK)*, is currently cooperating with researchers from the KTP project, in order to develop a digital game to support Chinese primary school students in their learning of English. This project was advertised to MSc students for dissertation projects, and developed in a three-way partnership manner, with Dr. Nicola Galloway, Ruby Rennie and Sihan Zhou leading and organising the investigation. The present study constitutes a part of the group project with a specific focus on attitudes of teachers. The objectives of this study are to bridge the literature gap regarding teachers' attitudes towards digital game-based English learning in China, and to provide a general framework of the needs of Chinese primary school teachers for the project to inform the development of the digital game.

1.1 Rationale of the study

A list of specific research areas concerning digital game-based English learning were provided by the KTP project, such as Global Englishes, online materials, teachers' needs and young learners, among which needs analysis of teachers was selected for the present study. According to Richards (2001), needs analysis is crucial for implementing changes into the curriculum. It is necessary to be mindful of the context, the situation, the school or even the country when implementing curriculum innovation. If we want to introduce DGBL, we need to, firstly, do a needs analysis, and part of this is to investigate attitudes of teachers.

Teachers, as the true change agents in schools, are closely related with the success of any forms of technology incorporation project in any educational institutions (Teo, 2008). That is, it is the teacher who plays a pivotal role in determining in what ways and to what degree technologies can be exploited to support teaching and learning (Albirini, 2006). Bullock (2004) stresses that the teachers' perceptions are the chief enabling, or disabling, factor in the adoption of technology into education. In a similar vein, Kersaint et al. (2003) assert that teachers who hold positive attitudes towards technology generally feel more comfortable with using it as a tool to facilitate teaching. Another factor that entails the inquiry of teachers' attitudes is that teachers are believed to have tremendous possibility of transmitting beliefs and values to their students. Hence, it is essential to understand the potential biases and stereotypes teachers hold that might influence their positive usage of technology (Teo, 2008). Furthermore, educational gaming, as a newly emerging technological tool in education, has drawn much scholarly attention and sparked severe debate in academia. Teachers, as the practitioners in the front-line of education, are of significant value in examining the advantages and disadvantages of digital games in education. Teachers' attitudes, therefore, are overarching in incorporating educational digital games into the classroom. Whereas a myriad of research studies have delved into using technologies to support classroom teaching, a relatively less explored area lies in investigating teachers' attitudes towards DGBL (Hsu & Chiou, 2011). This current study could, therefore, potentially contribute to filling this literature gap and provide empirical data for further research.

The rapidly growing ELT market in China has opened the door for resources of all kinds for English teaching and learning. Digital gaming has been justified to be of great effectiveness in enhancing creativity, critical thinking, and problem solving skills (e.g., Beedle & Wright, 2007; Sánchez & Olivares, 2011; Yang, 2015), as well as in the cognitive, behavioural and motivational development of learners (Connolly et al., 2012). The potential of educational gaming in helping English learners in China is, thus, tremendous. However, research conducted in China investigating the perceptions of English teachers towards educational gaming is rare. On the theoretical side, this research could bridge this scholarship, and construct upon findings from previous studies conducted in other contexts worldwide (Table 2.1), and extend the investigating scope to English teachers in China and direct the subject to young learners. On the practical side, this study could provide an analysis of teachers' needs for the KTP project, and could also provide empirical information for other further studies from the dimension of general attitudes of teachers, potential barriers and facilitative approaches to the implementation of educational gaming, which, ultimately, could help Chinese young learners to learn English. Therefore, three research questions are developed to guide the investigation:

1. What are the attitudes of Chinese primary school English teachers towards digital game-based learning?
2. What are the potential factors that prevent Chinese primary school English teachers from integrating digital gaming into classroom teaching?
3. What are the possible approaches that could facilitate the incorporation of educational gaming into English teaching?

1.2 Structure of the dissertation

Literature is reviewed in Chapter 2 by laying out theoretical and empirical developments surrounding DGBL. The overview begins with a wider scope of online language learning before a critical analysis of computer- and mobile- assisted language learning. The scope of review is then narrowed down to DGBL to supply a contextual backdrop for the study. Studies examining attitudes of teachers towards

educational gaming in various contexts are then reviewed, followed by a summary of factors influential to the implementation of DGBL.

The methodological design is described in Chapter 3. The overall aims and research questions of this study are firstly stated. The research setting is then introduced before the adoption of mixed methods is justified, followed by a description of research background and participants. The research instruments for the data collection are then discussed with justification of the interview and survey methods. The approaches for the data analysis are then presented before ethical issues are detailed.

The presentation of the results and findings in Chapter 4 begins with an overview of the participants. The quantitative data from the survey is then displayed in relation to the first two research questions, followed by a thematic analysis of the qualitative data from the survey, in order to address research question three. The interview findings are presented on the basis of the themes generated and in an order that corresponds to research questions.

A discussion of the findings is undertaken in Chapter 5 to address research questions with reference to previous research and literature. The attitudes of teachers are firstly compared with existing studies in terms of general attitudes and the effectiveness. The influential factors and facilitative approaches to the implementation of educational gaming are then discussed from the angle of schools, teachers, parents, students and software developers.

This dissertation is concluded in Chapter 6. The rationale and methodology are re-stated before a brief summary of the findings. This chapter then moves on to the theoretical and practical implications before the analysis of the limitations of this study, and the avenues for future research.

Chapter 2: Literature review

Research literature is reviewed in this chapter. The review starts from a broad scope of online language learning, with a critical analysis of computer- and mobile-assisted learning in the field of second language education. The review, secondly, narrows the scope down to DGBL. Thirdly, previous studies investigating teachers' attitudes towards educational gaming are discussed. The factors that may affect the implementation of DGBL are then summarised before the summary of this chapter.

2.1 Online language learning

The rapid development of technology in recent decades has sparked a worldwide proliferation of information and communication technologies into the domain of education (Albirini, 2006), which has potentially transformed the educational landscape from the conventional textbook-orientedness to technology-mediated learning and teaching (McLoughlin & Lee, 2010). New technologies, digital communication tools and web-based applications, for instance, make the information and knowledge accessible to learners, regardless of time constraints and geographical proximity (Sun et al., 2008). These technologies have also gained immense popularity among both practitioners and students in the field of language education (Alberth, 2011). Online Language Learning (OLL), as Blake (2011) indicates, generally occurs in the form of blended, or entirely virtual classes. Fully virtual classes refer to “a distinct field of education in which learners and education providers are physically separate from each other, and learning is essentially supported by online education technologies” (Wang & Chen, 2013, p.17). Rather, blended learning includes both face-to-face and online learning experiences (Hockly, 2015). Traced as far back as two decades ago, OLL through networked computers was available, coinciding with increased access to hardware and to the Internet, particularly in the form of using the Internet for teaching English for such specific purposes as translation (Connel, 1999), vocabulary (Fitze, 2006), writing (Mehlenbacher et al., 2000), reading and listening (Suh et al., 2010)

teaching. Computer and mobile devices are two primary platforms on which online learning is built, and on which two branches of OLL emerged in literature.

2.1.1 Computer assisted language learning

It was not until the 1970s that computers were widely explored for linguistic purposes (Gündüz, 2005). The utilisation of text, audio and video makes multimedia a suitable format for language learning materials, which has resulted in the advent of an industry in computer-assisted learning (Ayres, 2002). Computer Assisted Language Learning (CALL) refers to a mode of language education, in which the computer is employed as a tool to deliver the knowledge, assist students, present and evaluate the materials (Jafarian et al., 2012). Research examining the effectiveness of CALL has been ongoing for decades across various contexts and with different languages worldwide (Jafarian et al., 2012). Some researchers have documented a number of its critical factors that could degrade the educational quality, such as: the cost of the hardware and facilities that CALL inherently demands (Gündüz, 2005); the time demanded for the instructor to familiarise with the programs (ibid.); less potential in encouraging communicative learning (ibid.); the variation of computing ability of teachers and students (ibid.); incompatibility of computer software with linguistic proficiency of students (Higgins, 1988); and high rates of non-participation, attrition and procrastination (Nielson, 2011).

Duly noting these limitations of online learning, Means et al. (2009) conducted a meta-study systematically reviewing over 1000 empirical researches into online versus conventional face-to-face learning that were carried out between 1996 and 2008. The results of this research reveal that, on average, students involved in online learning situations perform better than those who are taught in a conventional face-to-face classroom. This finding corroborates that of Kulik (1991), who conducted a meta-analysis of 254 relevant studies covering a wide range group of learners, from kindergarteners to adults, revealing that computer-based instruction generally produces positive effects on students. Numerous studies have identified the benefits of CALL, one of which is Warschauer (1995) in which it was found that computer-mediated interaction can lead to more equal participation among students in

the second language classroom, and that the language used by students through CALL is more lexically and syntactically complex than in face-to-face communication. This feature of CALL could potentially be conducive to the development of the linguistic, especially writing, skills of students. Its potential in increasing students' motivation is another primary aspect that has been stressed by many proponents of CALL (e.g., Adair-Hauck et al., 1999; Wang, 1993; Warschauer, 1996). The potential of individualisation (Relan, 1992) and providing opportunities for student-directed learning (Williams, 1993) are two facets of CALL that could be beneficial to the engagement of students in their language learning, regardless of the differences in their personality. In addition to CALL, another paradigm of OLL worthy of noting is mobile assisted language learning.

2.1.2 Mobile assisted language learning

The increasing ubiquity and accessibility of networked mobile devices have been transforming the landscape of technology-enhanced learning, enabling learners to be in a position to engage in learning activities based on their personal needs and the circumstances of use (Pettit & Kukulska-Hulme, 2007). That is, learners are able to schedule and direct their learning process without time or geographical restrictions. The use of mobile devices in assisting language learning is now ubiquitous. According to Kukulska-Hulme & Shield (2008), Mobile Assisted Language Learning (MALL) differs from CALL in its utilisation of such portable and wireless devices as Smart-phones and tablet computers, featuring spontaneity and continuity of access and interaction beyond a certain context.

MALL made an appearance in the domain of ELT in the form of mobile applications in 2009 (Hockly, 2012), and followed with various stand-alone and textbook-oriented apps developed in supporting classroom teaching (Dudeney & Hockly, 2012). In addition to the characteristics of portability and immediacy attributed to MALL as aforementioned, its potential in encouraging both independent and collaborative learning is one of the catalysts in adopting mobile technologies to assist language learning (Attewell, 2005). MALL can help to remove some of the formality from learning experiences, and sequentially reduce the anxiety that may exist among students and raise their self-esteem and self-

confidence, which could, consequently, enhance their awareness of collaborative and autonomous learning, and help to build learners' social capital in their learning process (Naismith et al., 2004). Similar to CALL, there could be challenges in the use of mobile technologies in the classroom. Professional development of the teachers and suitable software are two factors essential to the incorporation of MALL (Van Praag & Sanchez, 2015). 12 out of the 30 faculty surveyed in Corbeil & Valdes-Corbeil (2007) reported that teachers are not ready for mobile learning, in spite of their own familiarity with mobile technologies. This study also revealed that the variation of the familiarity with technology amongst students could give "tech-savvy students an advantage over non-technical students", which "requires an additional learning curve for non-technical students" (ibid., p.54). Thus, principled approaches are paramount in the integration of any form of mobile learning.

2.2 Digital game-based learning

Another new development over the past few years in the field of OLL is the use of digital games in assisting learning (Becker, 2007). The considerable amount of time that children and adolescents devote to digital games is the chief factor contributing to the popularity of digital learning games (Papastergiou, 2009). Beck & Wade (2004) term this group of people as the "gamer generation" to describe how closely they associate with digital games in their leisure time. The Pew Internet and American Life Project (2008) interviewed 1102 parent-teen pairs in the U.S. in investigating gaming experiences of the children (Wu, 2015). The results revealed that 97% of the children, aging from 12-17, play digital games every week, and approximately half play on a daily basis. The potential gains of introducing educational gaming to young learners are, thus, enormous.

Digital Game-based learning (DGBL), according to Erhel & Jamet (2013), refers to a genre of electronic games, in which learners are set educational goals intended to promote learning, or to develop the cognitive skills or knowledge of learners, in an entertaining fashion. These games, as Wu (2015) adds, often engage one or more players in a set of gaming elements, such as goals, mechanics, rules and a scoring system. The use of digital games in supporting language learning has now become a trend.

Games of various kinds, such as action, strategy and adventure games have been explored for their potential for linguistic purposes, such as teaching vocabulary, speaking, writing and listening (Appendix 14).

Of all the benefits of DGBL discussed in the literature, motivation and engagement are the two most salient factors that are most frequently mentioned by numerous scholars, such as Annetta et al. (2009), Hays (2005), Lee & Peng (2006), Lieberman (2006) and Moreno & Mayer (2007). As Moos and Marroquin (2010) indicate, motivation is associated with the set of physiological processes relating to the direction, vigour and persistence of learner behaviours. The entertaining and educational dimensions of DGBL can stimulate learners to focus on their performance on the scores, and to prompt their desire to develop new knowledge or skills (Erhel & Jamet, 2013). Evidence supporting this claim can also be found in Liu et al. (2011), in which a mixed methods design is used to examine the relationship between intrinsic motivation and learning scores in such games, revealing that the niche between challenges encountered by the players and the skills needed to address these challenges can intrinsically motivate students to engage in the learning process. Two meta-analysis studies conducted by Randel et al. (1992) and Vogel et al. (2006) provide more theoretical support for this aspect. They systematically reviewed 68 and 32 studies respectively from different phases across various contexts, and justified the effectiveness of digital games on learning performance and cognitive gains of learners over conventional classroom instruction. The results also revealed that the learners displayed considerably more positive attitudes towards DGBL than conventional instruction.

Studies conducted by Sánchez & Olivares (2011) and Yang (2015) threw more light on the merits of DGBL. By comparing the results of the experimental groups who received digital games treatment and their counterparts, both studies found that DGBL could also be useful in enhancing the problem-solving and creative skills of the learners. These claims are consistent with Connolly et al. (2012), in a meta-study was conducted examining the literature on computer games with reference to the potential benefits for learning, skill enhancement and engagement. The results gleaned from 129 papers reveal that computer games are conducive to “knowledge acquisition, and perceptual and cognitive, behavioural, affective, motivational, physiological and social outcomes” of the players (Connolly et al., 2012, p.671).

However, some studies also express reservations (e.g., Girard et al., 2013; Gredler, 2004; Lee & Peng, 2006; Lieberman, 2006). The possibility of causing distraction and classroom management issues, the lack of a reliable and valid rubric to assess the educational value of the games, and the mismatch with the standard of the course are three critical issues cited in the aforementioned studies that need to be considered when implementing DGBL. Moreover, some scholars believe that digital games show less potential in developing students' awareness of communicative and collaborative learning (cf. Hsu & Chiou, 2011). One of the studies questioning the effectiveness of DGBL is Kebritchi et al. (2010), in which 16 studies were reviewed and only 9 of them point to an improvement in learning outcomes, in comparison with conventional teaching; and 5 of the 16 studies identify only a weak benefit of DGBL on students' motivation and achievement. The existing studies do not allow us to conclude that educational digital games have a positive effect on the learning outcomes and motivation of students (Ak, 2012), which necessitates investigation into the teacher, as the practitioner of teaching, to examine the merits and demerits of digital games on students' learning.

2.3 Teachers' attitudes towards DGBL

An attitude, according to Oppenheim (2000), refers to "a state of readiness, a tendency to respond in a certain manner confronted with certain stimuli" (p.174), and can manifest itself "in a variety of emotions, behaviours, verbal statements, facial expressions, stereotypes, and so forth" (Galloway, 2017, p.23). As aforementioned, compared with general technology-enhanced learning, the attitudes of teachers towards DGBL is an area that is relatively less investigated in literature. Among the studies measuring attitudes, the questionnaire turns out to be one of the most often used methods (Table 2.1).

Sandford et al.'s (2006) year-long study in the U.K. employed survey and case study methods, and found that the majority of teachers surveyed believe that digital games would be conducive to the development of cognitive and higher order thinking skills of young learners. The teachers generally hold positive attitudes, agreeing that digital games could motivate students to engage with learning. These findings accord well with a study conducted by Cam & Cagiltay (2006) in Turkey, in which both

a questionnaire and interviews were used as the instrument for investigation. The results show that more than 80% of the prospective teachers (N=116) indicate their intention to use digital games in their future teaching practice, and agree with the idea that educational digital games can exhibit cognitive and affective learning opportunities. The majority of the teachers in this study express that they would regard these games as additional teaching materials, rather than a primary tool. However, the exclusion of in-service teachers in this study might restrict the generalisability of the findings. With regard to higher education, 190 academic faculty were investigated in Northern Ireland through an online survey in Beggs et al. (2009). The results from this study reveal that 63% of the participants endorse educational games as a facilitative tool for teaching and learning, and 53% agree with the potential in suiting the different learning styles of the students. Nevertheless, 41% of the participants report that they have never used digital games with their students. Even though both qualitative and quantitative data was yielded from the survey in this study, the adoption of a single method design could, however, potentially generate skewed and unreliable results, and the nature of a self-reported online survey might affect the validity of the data.

Table 2.1 Studies investigating attitudes of teachers towards DGBL

Year	Study	Context	Methods	Sample size	
2006	Sandford et al.	U.K.	Primary and secondary school	Questionnaire Case studies	924
2006	Can, G., & Cagiltay, K.	Turkey	Prospective teachers	Questionnaire; Interview	116
2009	Beggs et al.	North Ireland	Higher education	Online questionnaire	190
2009	Klemetti et al.	Finland	Comprehensive school (grades 1-9)	Questionnaire; Interview	400
2010	Pastore & Falvo	U.S.	In- and pre-service teachers in university	Questionnaire	98
2011	Hsu & Chiou	Taiwan	Pre-service teachers in university	Questionnaire	125

Klemetti et al. (2009) is one of the few studies that utilises both questionnaire and interview methods and directs the investigating scope to young learners. The results of this study show that 99% of the Finnish teachers (N=400) agree with its motivational function in learning, and 92% would use digital games to assist their teaching. The results from this study also reveal that inadequacy of the resources

and financial support are two critical issues in the process of integrating DGBL. Pastore & Falvo (2010) used a questionnaire as the instrument and included both pre- and in-service teachers for the inquiry. The results provide further support for the motivational effectiveness, and highlight teachers' perception of DGBL as a general trend for future learning. Nevertheless, the descriptive statistics as the only approach for the data analysis in this study could potentially constrain the generalisability of the data.

Similarly, a questionnaire was used in Hsu & Chiou (2011) as the instrument. The respondents in this study generally demonstrate positive perceptions concerning digital games for education. 93.6% of the teachers think educational games could promote students' motivation, and 85.6% hold that digital games can enhance the academic performance of students, and voice out their desire to use digital games in their future teaching. Additionally, a considerable proportion of the participants agree with the idea that digital games can improve such skills as critical-thinking and problem solving of the students, whilst more than half of the teachers doubt its potential in promoting communicative and collaborative skills. Again, the exclusion of in-service teachers and a single method design in the study could possibly limit the generalisability of the findings. Overall, the findings from the empirical studies investigating teachers' attitudes are generally resonant with the benefits summarised from studies examining the effectiveness of DGBL, with stress on the motivational, psychological and cognitive features. However, there seems to be relatively less studies shedding light on teachers' perceptions of potential barriers in the implementation of DGBL.

2.4 Influential factors to the implementation of DGBL

According to the literature reviewed, educational digital games are of great value in, especially, motivating students and sequentially enhancing their academic performance, and the majority of the teachers across different educational contexts hold positive attitudes towards DGBL. There are, however, a number of influential factors that may limit practitioners from integrating digital games for instructional purposes. Therefore, despite the fact that digital games are potentially advantageous to students' learning, it is vital to delve into potential barriers that may impede the implementation of

DGBL. One of the seminal studies focusing on the barriers is Rice (2007), in which he qualitatively analysed a broad range of current scholarly papers and summarised six major inhibiting factors: a) negative perceptions of such as schools, teachers or parents; b) difficulties of providing state-of-the-art graphics in the games; c) the inadequacy of computing hardware to run up-to-date digital games; d) inflexibility of school curriculum; e) the insufficiency of current software sophistication for highly advanced affordances; f) the lack of alignment to the standards. These factors are corroborated in Baek (2008) in which he surveyed 444 elementary and secondary school teachers in South Korea, and suggests that limited budgets could be the most critical factor impeding the incorporation of DGBL. In addition, the lack of teacher professional development is also highlighted in the aforementioned study Klemetti et al. (2009) as another challenge for the implementation of DGBL into the classroom curriculum.

2.5 Chapter summary

This chapter has outlined the concept of OLL and provided a critical discussion on CALL and MALL, as two primary platforms upon which OLL is built. Recent technological developments have led to the advent of DGBL in the field of OLL. The effectiveness of DGBL has been often discussed in research in comparison to conventional classroom instruction. However, critiques are present as well, which necessitates the investigation into practitioners for more empirical insights as to how DGBL could benefit students with their learning. The results from a number of studies reveal that the majority of the teachers in various contexts generally hold positive attitudes towards DGBL. The benefits of digital games on students' cognitive, affective and higher order thinking skills and motivation are highlighted by the teachers investigated. There are, however, several potential challenges present, including such internal factors as the quality of both the software and the hardware, and a number of external factors such as the perceptions of stakeholders, suitability with the school curriculum, and professional training of the teachers. Nevertheless, the adoption of a single method design in most of the studies is subject to skewed and unreliable results. The exclusion of in-service teachers in many of the studies reviewed may restrict the generalisability of the findings. Moreover, few studies have been conducted in the ELT

context, and, also, few studies have shed light on the facilitative approaches to the implementation of DGBL, in spite of a number of potential barriers having been examined. Future research is thus clearly needed.

Chapter 3: Research design

This chapter aims to discuss the methodology that grounds this study. The objectives and research questions of this study are firstly outlined, followed by an introduction of the research setting. The mixed methods used are then justified before the context and the participants are introduced. Next, the methods employed for the data collection are examined with separate discussions of the semi-structured interview and the questionnaire, followed by a description of the data analysis methods. The ethical considerations are acknowledged at the end.

3.1 The aims of the study

DGBL, as discussed, has been justified to be of great effectiveness in supporting the cognitive, affective and academic development of students in both theoretical and empirical research. In considering the massive number of 400 million English learners and the fact that DGBL is a newly emerged teaching approach in China, the potential gains of introducing DGBL into the ELT market in China are tremendous. Nevertheless, studies examining English teachers' attitudes towards DGBL in China remain scarce. There is also a shortage in studies probing teachers' perceptions of influential factors and facilitative approaches to the implementation of DGBL. Furthermore, the majority of the research examining teachers' attitudes towards DGBL took place in the context of higher education, and little research has pointed to the "gamer generation", being young learners. It is, therefore, significant to provide a general picture of teachers' orientations towards DGBL in China. This present study, therefore, aims to bridge the scholarship by investigating the attitudes of Chinese primary school English teachers and to provide both theoretical and practical implications for the implementation of DGBL in China, as well as to provide empirical information for the KTP project, in order to support and inform the development of digital games. Accordingly, three research questions are generated based on the overall research objectives, to guide this study.

1. What are the attitudes of Chinese primary school English teachers towards digital game-based learning?
2. What are the potential factors that prevent Chinese primary school English teachers from integrating digital gaming into classroom teaching?
3. What are the possible approaches that could facilitate the incorporation of educational gaming into English teaching?

3.2 Research setting

The fieldwork of this research was conducted in China, which has been widely cited as a major player in the global ELT market, and where the number of English learners exceeded 400 million by 2010 and is still growing (Wei & Su, 2012). English has been a compulsory course in mainstream education from middle school to university since the “Open Door” policy (1978), and further expanded to elementary schools in 2001 (Lam, 2005). Great significance is attached to English in the entire Chinese society owing to its increasingly important role in education and career development (CD, 2010). This could be evidenced by English being placed as one of the three main subjects in the National University Entrance Examination which is taken by approximately 9 million students every year (Bolton & Graddol, 2012). The lowering of the age for English instruction is mainly out of hope that students can reach a higher level of proficiency in English by starting at an earlier age (Hu, 2008). Given that China has the largest population of elementary school students in the world (ibid.), the potential of ELT in the Chinese market is massive. The KTP project and the company *Nosebleed* have clearly identified this potential, and are attempting to develop a digital game to help young learners in China to learn English. 6 primary schools in Harbin, China are accessed by the project as the main sites for the data collection for this project (Appendix 16).

3.3 Methodology

The existing studies reviewed have mainly employed questionnaires, interviews and case studies to examine the attitudes of teachers towards DGBL (Table 2.1). While questionnaires could generate useful data, however, as discussed, the single method design may produce biased and unreliable results. In order to avoid this methodological shortcoming, as well as to broaden the scope of understanding towards this newly emerged phenomenon in China, a mixed methods approach is utilised to measure the attitudes of teachers in both a quantitative and qualitative fashion. Mixed methods, according to Creswell et al. (2003), refers to the use of both qualitative and quantitative approaches to collect and/or analyse data in a single study. The utilisation of mixed methods enables the researcher to make a generalisation from a sample to a population, and to reach a richer and contextualised understanding of the phenomenon investigated (Hanson et al., 2005). More importantly, as Gray (2014) suggests, using a combination of methods is useful in counterbalancing the inherent weaknesses or blind spots by the relative strengths of the other. Questionnaire and semi-structured interview are thus used as the instruments in present study for data collection. The utilisation of mixed methods in this study, therefore, aims to avoid the methodological shortcomings of many of the previous studies in this field, and to converge and corroborate the results from both methods, so as to provide a more holistic image of teachers' needs for the development of the game.

3.4 Research background

This study constitutes a part of the KTP project (Appendix 10). The software development company *Nosebleed* leads the creation of this digital game. This project was advertised to MSc students for dissertation projects (Appendix 15), and two academics, Dr. Nicola Galloway and Ruby Rennie, and a researcher, Sihan Zhou, lead the development of this project. The full project was initiated in December 2016, lasting for 18 months. This dissertation research is to contribute to a part of the pilot study, conducted in Harbin, China in May 2017, based on which the game will be updated and improved. A total of 7 postgraduate students participated in this short pilot of the project. Different aspects

surrounding DGBL, such as the general attitudes of teachers or parents, Global Englishes and animation (Appendix 10), are investigated by the 7 students in an attempt to provide a comprehensive understanding of this newly emerged mode of instruction in China.

The interview protocol is developed with the joint efforts of the 7 students, based on their own research focuses (Appendix 5). The researchers in this project are divided into two groups, with Sihan and 3 students conducting interviews onsite, and the other 4 students being responsible for transcribing the data (Appendix 12). Each of these 4 students is responsible for the transcription of 3 interviews (Appendix 11). Sets of interview data are randomly assigned to each student in an attempt to avoid subjective and skewed analysis. Effort is put into allocating the workload evenly, with each researcher working on average 2.4 hours per day. The interview data is shared online and used by all of the 7 researchers involved. Moreover, the questionnaire (Appendix 3) for the teachers is developed and translated by 2 students, with the researcher of the present study included. The questionnaire data gathered from the participants provided by the project is used by both of the students.

3.5 Participants

The target population for this study is English teachers in primary schools in China. A sample of 76 participants is involved in this study, comprising of 10 males and 66 females. The questionnaire is administered via an online survey-hosting site, known as *Sojump*, through which a public URL is generated for the data collection. The participants consist of two parts. The majority of the participants ($N=68$) in the survey were recruited online by the researcher, through snowball and convenience sampling methods (Dörnyei, 2007). Specifically, most of the individuals were reached through “a friend of a friend”, whilst the remainder of the self-recruited participants were contacted via social media *WeChat* groups where the members share the same characteristic of being primary school English teachers in China. The other part is the 13 teachers from primary schools in Harbin, China, accessed by the KTP project, all of whom were interviewed, with 8 completing the survey. In considering the fact

that this is a small scale study with limited time for completion, only the 3 interviews that the researcher transcribed were used for this study.

3.6 Data collection

The data collection of this study was built through semi-structured interviews and questionnaires (Appendix 17). In considering that the participants in this study are all native speakers of Chinese, the whole process of data collection was carried out in Chinese, in order to avoid any potential language barriers that may affect the credibility of the data. Three group meetings were held in the process to provide opportunities for the team members to collaborate and to provide progress updates (Appendix 13), for example, the translated instruments were all scrutinised by the whole team to ascertain and ensure the accuracy of the translation. After finalising the interview protocol and questionnaire draft, both instruments were translated into Chinese, and were then piloted for validity and credibility.

3.6.1 Pilot study

Piloting helps to identify some inevitable problems of converting the research design into reality (Robson & McCartan, 2016), such as potential ambiguity of the questions or mistakes (Creswell, 2012). The interview was piloted with two primary school English teachers recruited by Sihan in Harbin (Appendix 4), and revised on the basis of their suggestions. Improvements made from the piloting were negotiated with the team for the concern of reliability. Specifically, the interviewees who participated in the pilot study pointed out several questions that could be improved if they were directed with more colloquial language and simpler language structure. In addition, it was suggested to add a succinct introduction to each section in the interview, to help the interviewees transfer between different investigating areas (Appendix 5). Moreover, the questionnaire was revised three times in total (Appendix 1-3), and was piloted to three pre-service teachers recruited by the researcher. One significant improvement made from the piloting was the pruning of repetitious questions. For instance, two questions measuring the skills and knowledge of teachers in teaching strategies and specific course

content were merged into a general question examining relevant knowledge and skills as a whole. Another noteworthy improvement was the addition of demographic questions, such as English usage and overseas experiences, which could provide more detailed background data for this study.

3.6.2 Questionnaire

A questionnaire is a suitable approach to examine the attitudes of a certain group of people with reference to a particular area (Fraenkel & Wallen, 2007). This could be well exemplified in previous studies, in that a questionnaire is employed as the primary technique for the data collection (Table 2.1). Evidence in support of using a questionnaire can also be found in Choudrie et al. (2005), in which they reviewed 48 studies that examine research approaches that deal with technology adoption issues, in an attempt to determine the most used method in the area of technology adoption. The survey method is justified as being the most used research method compared with other approaches, such as interviews, case studies and experiments, and others. A questionnaire features its highly structured data collection process and an explicit way of presenting research focuses (Newby, 2010). Importantly, compared with interviews, a questionnaire is relatively economical and can be useful in preventing biases of the interviewer that may affect the results (Walliman, 2011). Therefore, a questionnaire is used as one of the instruments for the data collection, in order to reach a rich group of respondents and provide a more comprehensive picture of teachers' attitudes towards DGBL.

Additionally, as Alqurashi (2016) indicates, the existing questionnaires are considered to be more valid and reliable, as they have been evaluated for validity and reliability. The survey used in this study is adapted from Wu's (2015) recent survey study, which also focuses on attitudes of teachers towards DGBL. The questionnaire used in Wu (2015) was developed in great detail covering a variety of aspects such as gaming experiences, general attitudes, perceived effectiveness and barriers. Sections in Wu's (2015) questionnaire measuring perceived effectiveness and barriers have informed the questions used to address research questions 1 and 2 in this study (Appendix 3, Part A&B). However, as potential facilitative approaches to the implementation of DGBL are uninvestigated in Wu (2015), three open-

ended questions are designed to provide insights for the project to inform the development of the game. Moreover, Wu's study focuses on attitudes of teachers in general, rather than ELT in particular. Items that are irrelevant to English teaching in the original questionnaire, such as the potential of digital games in teaching other subjects, are pruned for more focused investigation. A number of items particularly focusing on ELT, such as effectiveness in learning vocabulary, and listening and writing, are supplemented to elicit specific information relating to ELT. Furthermore, items that have a tendency of repetition, such as "lack of administrative support" and "administrators' negative perceptions", are integrated, whilst considering the length of the survey.

3.6.3 Interview

As discussed, the single method design used in many of the previously reviewed studies could potentially result in biased and unreliable results. In order to converge and corroborate the results from both methods, and to provide more contextualised and empirical insights into the attitudes of teachers towards DGBL, interviews are, thus, employed as another technique for the data collection. Interviewing is a typical research method in which the researcher attempts to acquire information from, and gain an understanding of the interviewee concerning their experiences, opinions, attitudes or values (Gray, 2014). A commonly accepted typology distinguishes between structured, semi-structured and unstructured interview (Robson & McCartan, 2016). Thomas (2009) asserts that a "semi-structured interview provides the best of both worlds as far as interviewing is concerned, combining the structure of a list of issues to be covered together with the freedom to follow up points as necessary"(p.164). The semi-structured feature allows for delving into views and opinions where it is desirable for the interviewees to expand on their responses (Gray, 2014). In order to provide richer insights of teachers' attitudes towards the use of digital games to teach English to young learners, a semi-structured interview seems to be the most feasible and straightforward option. The questions designed for the interview in this study are categorised with focus on a series of aspects, such as general attitudes, relevant experiences and perceived barriers to the implementation. Great flexibility is offered to the respondents to clarify and expand their views. There is an interview guide that acts as a checklist of a default wording

and sequence for the questions in a semi-structured interview, but the wording and sequence can often be modified on the basis of the flow of the interview, and additional questions may be asked as new issues arise.

3.7 Quantitative analysis

Items measuring the attitudes of teachers and factors influential to the implementation of DGBL are based on a 5-point Likert scale, with numbers 1-5 representing the degree of agreement from strongly disagree to strongly agree. The percentage and frequency of each option of the Likert-scale questions are automatically generated from the survey-hosting website, whilst the means and standard deviation of each item in the survey are calculated through Microsoft Excel (Appendix 7). Similar approaches for analysing quantitative data could be found in the aforementioned studies, such as Can & Cagiltay (2006), Hsu & Chiou (2011) and Pastore & Falvo (2010), in which different software was used for the calculation of frequency, percentage, means and standard deviation. The means show the average and the central tendency of each item in the survey, while the standard deviation demonstrates the variability of the scores (Robson & McCartan, 2016). Regarding the presentation of the quantitative data in the following two chapters, the items are grouped into several categories, such as perceived effectiveness of DGBL, influences of DGBL on specific language skills, and role of different stakeholders, and then presented from the most statistically salient item.

3.8 Qualitative analysis

Coding is central to qualitative analysis (Robson & McCartan, 2016). This could be manifested in the aforementioned study of Can & Cagiltay (2006), in which the coding approach is utilised for the analysis of the qualitative data. The analysis of the qualitative data is underpinned by the thematic coding approach. However, thematic coding analysis could lead to a mere description, or exploration, with little attempt for an in-depth interpretation of the data (Robson & McCartan, 2016). To avoid this, the thematic coding analysis in this study was grounded by the 5 phases of Robson & McCartan (2016).

Specifically, the qualitative data was firstly transcribed by the researcher, in order to familiarise with the data. Passages of text, or other data items that exemplify the same, or similar, theoretical or descriptive idea, were then identified and recorded as a code in a systematic fashion; all of the text, etc., that exemplifies the same thing was then indexed into the same theme, in order to develop a framework of thematic ideas about the qualitative data. Two thematic frameworks were developed in this study. One was based on the different roles of the stakeholders, such as the software developer, schools, teachers and parents, in facilitating the implementation of DGBL (Table 4.1). Another was created from the interviews, with emphasis on perceived effectiveness, critical issues and facilitative approaches in responding to three research questions (Table 4.2).

3.9 Ethics

The ethical guidelines of the British Educational Research Association (BERA, 2011) are referred to as the ethical principles underpinning this study. One of the ethical principles essential to this study prior to its conduction is informed consent. A consent form (Appendix 6) is provided to all of the participants before the investigation starts, to provide sufficient information and assurances about them taking part, in order to allow the participants to understand the process and implications of their participation, and to form a considered and freely given decision about whether or not to participate. The participants are advised that they reserve the right, throughout the investigation, to modify the nature of their consent without any pressure or coercion. According to Crow et al. (2006), gaining informed consent could also yield positive impacts on the research itself, for instance the degree of participants' engagement.

A major issue central to the study at the stage of the data collection and analysis is the voluntary nature of the participation. Those taking part, both in the interviews and in the survey, are informed of their right to withdraw from the study at any time, to withdraw, or destroy, any data they have supplied, and to omit, or refuse to respond to, any questions at any stage. However, this could be subject to the issue of mortality, which may threaten the internal validity of the research. In addressing this potential

problem, the participants are advised of the potential value of this research and what their participation could possibly contribute to this field, in order to encourage their participation.

Confidentiality of the data and anonymity of the participants are two factors that are strictly maintained throughout the research. The participants in this study are all anonymised and cannot be identified by the data they provide. In addition, the questions seeking demographics are all set as optional. The data provided and the personal details of the respondents are stored securely and confidentially from any form of accidental loss or unauthorised exploitation. Any related future usage of the data will not breach the principle of confidentiality and anonymity.

3.10 Chapter summary

In order to gain holistic and contextualised perceptions of the teachers with regards to DGBL, as well as to enhance the validity and credibility of the findings, a mixed methods approach is used in this study. A total of 76 participants are accessed primarily through convenience and snowball sampling methods for the data collection. The data is collected through semi-structured interviews with three teachers and from a questionnaire distributed to all the participants involved. Microsoft Excel is exerted for the descriptive statistical analysis of the quantitative data, whilst a thematic coding approach is employed to analyse the qualitative data. The ethical issues of informed consent, voluntary nature of participation, confidentiality of the data and anonymity of the respondents are considered throughout the process.

Chapter 4: Results and findings

The results and findings of this study are presented in this chapter. The demographics of the participants are firstly introduced with reference to their experiences of English teaching, gaming, and using technologies in the classroom. The data from the questionnaire and the semi-structured interview are then presented separately to address the quantitative and qualitative focus of the study. The results and findings are summarised at the end of this chapter.

4.1 Results from the questionnaire

The demographics are presented firstly to provide an overview of the participants. The results in relation to the research questions are then presented in an order that corresponds to both the sections of the questionnaire, as well as to the sequence of the research questions. The responses to the statements in the survey are based on a 5-point Likert scale with numbers 1-5 representing strongly disagree, disagree, neutral, agree and strongly agree respectively. In the section of teachers' attitudes, the items probing their general perceptions of DGBL are demonstrated at first, to outline the further analysis, followed by perceived effectiveness presented from various aspects. The next section displays the teachers' perceptions of potential barriers in the implementation. Then, possible approaches to facilitate the incorporation of DGBL are suggested, qualitatively from the angles of software developers, schools, teachers, and parents.

4.1.1 Participant overview

A total of 76 Chinese primary school English teachers completed the survey, with 13 of them also being interviewed. As discussed in 3.5, only 3 interviews were used to provide data for the present study. All of the teachers interviewed are female, with 2 of them aged 36 and 1 teacher aged 37. 2 of them had taught English in primary schools for 17 years, whilst the other had 12 years' experience (Appendix 8).

Regarding the survey takers (Appendix 18), a large proportion of the participants (86.8%) are female, while 13.2% are male. Exactly half of the survey takers were in-service English teachers, 34.2% had experience of teaching English in primary schools in China, and the remaining 15.8% preferred not to provide relevant information. Teachers with 1-5 years experience of teaching English shared a similar percentage with those who had less than 1 years' experience, representing 28.9% and 26.3%, respectively. The teachers who had 6-10 years of experience constituted 14.5% of the informants, closely followed by those who had experience of over 20 years and 11-15 years. Of all the participants, those who had 16-20 years of experiences constituted the smallest proportion with only 5.3%. With regards to overseas experience, a considerable proportion of the participants had neither studied (trained) abroad (85.5%), nor lived abroad (82.9%), while only approximately 13% had overseas experiences.

4.1.1.1 Experiences of technology use

In examining their gaming experiences, the participants were asked to present their degree of enjoyment in playing digital games, and their familiarity with both technology- and digital game- supported English teaching (Appendix 7, Part D). The results showed that 60.5% held neutral attitudes towards playing digital games. Nearly 21% enjoyed playing digital games, while 17.1% demonstrated negative attitudes towards playing digital games ($M=3.07$, $SD=.74$). Their attitudes would seem to be associated with the time they spent on digital games. Specifically, a significant proportion (71.1%) reported that they spend less than 1 hour playing digital games on a weekly basis, 21.1% spend 1-3 hours weekly and only 9.2% spend more than 3 hours.

In terms of their familiarity with technology-mediated English teaching, nearly half (48.7%) of the participants reported that they sometimes use technologies to facilitate their teaching, 43.4% often used technologies to assist their teaching and 5.3% rely on using technologies. Narrowing the scope down to their familiarity with utilising digital games, 39.5% had heard of educational gaming, but had never used it as a tool to teach English. Those who had experience of using digital gaming for teaching consisted of 38.4% of the participants investigated, and 7.9% noted that they often use digital gaming

for instruction. Overall, despite the fact that the degree of familiarity with technology-mediated teaching varied, 97.4% did have experiences of utilising technologies for pedagogical purposes in the English classroom. However, less than half (46.3%) of the participants had used digital games in assisting their teaching.

4.1.2 Attitudes of teachers

Part A (Appendix 7) of the survey was designed to measure aspects of the teachers' attitudes towards DGBL. A significant percentage (78.9%) of the participants believed that DGBL could promote English learning, out of whom 18.4% strongly agreed ($M=3.95$, $SD=.71$). Correspondingly, 81.5% demonstrated their willingness to incorporate DGBL in their current and future English teaching, and 85.5% held that it is a general trend among students to use digital media and new technologies in learning languages ($M=3.92$, $SD=.84$).

Regarding the perceived effectiveness of DGBL, 84.2% of the participants believe that digital games could motivate students in English learning, with a large proportion of them (26.3%) strongly agreeing ($M=4.05$, $SD=.80$). Moreover, 81.5% deemed that digital games could be exerted as supplementary materials to meet the core pedagogical standards. The potential of DGBL in personalising students' English learning approaches was a factor that 78.9% of the teachers concurred in the survey. In addition, a similar number (77.6%) of teachers agree with its effectiveness in promoting collaboration in their English learning process. Not only did the participants think DGBL could be conducive to construct connections among students, 72.4% also felt that DGBL could help to build rapport with students. Furthermore, 69.7% of the respondents believed that digital games could help students to develop an awareness of autonomy in their English learning; however, it is worth noting that a considerable proportion (26.3%) have neutral attitudes ($M=3.75$, $SD=.73$).

The responses to the items inquiring about impact of digital games on specific language skills revealed that a predominant number of the teachers (90.8%) agreed that using digital games in teaching English could be beneficial to the vocabulary learning of students ($M=4.02$, $SD=.67$). 85.6% of the participants

believe that exposing students to the language environment in the digital games can be of help to improve their reading and listening competence. However, a relatively smaller proportion of the teachers (72.4%) agree with the effectiveness of DGBL in improving students' writing skills, and a considerable number (21.1%) demonstrated neutral attitudes.

4.1.3 Influential factors to the implementation of DGBL

The responses to the items (Appendix 7, Part B) investigating potential barriers to the implementation of DGBL showed that the factor which most concerned the teachers was that the short class would hinder long-term engagement in complex games. 80.3% demonstrated their agreement with this statement, with a significant proportion of them (21.1%) choosing to strongly agree ($M=3.93$, $SD=.81$). A large percentage of the teachers (78.9%) believe that the cost of purchasing digital games is another major factor that may pose difficulties for implementing DGBL. In a similar vein, 73.7% perceived a lack of administrative support to use digital games for pedagogical purposes ($M=3.93$, $SD=.79$). Turning the scope to the teachers themselves, as the practitioners, 71.1% demonstrated a lack of confidence with their current knowledge and skills to be a barrier to the implementation of DGBL in English classrooms ($M=3.75$, $SD=.82$), and 68.4% deemed that their peers appear to be sceptical about using digital games as a tool to teach English ($M=3.81$, $SD=.76$).

Regarding the students, 67.1% concurred that digital games could cause distraction of the students, which could, consequently, pose management issues in the classroom. Moreover, the same number of teachers (67.1%) believe that it would be difficult to provide relevant feedback to the students on to their progress in the game. The perceptions of parents also play a non-negligible role in the incorporation of DGBL. 65.8% viewed that parents' negative perceptions of DGBL could also be an influential factor. Another concern relates to the software itself, with 63.2% of the participants agreeing that the quality of graphics, audio effects, or play mechanics in the games could determine the acceptance of these games in the educational field. In addition, it is worth noting that a relatively smaller number of teachers (53.9%) believe that DGBL could not meet the desired learning objectives, while

21.1% chose a neutral stance and 22.4% disagreed with this statement. Additionally, in an open-ended question seeking other factors that may affect DGBL, a teacher indicated that the variation of students in their language proficiency and computing skills could also potentially cause difficulties in achieving the intended pedagogical objectives of the games.

4.1.4 Facilitative approaches to the implementation of DGBL

As summarised in the previous section, factors that could affect the successful implementation of DGBL are associated with different stakeholders. The results from the open-ended questions in Part C of the survey illustrated specific approaches that these stakeholders could take to facilitate the implementation of DGBL (Appendix 7). The analysis of the qualitative data was based on the method of thematic coding analysis (termed by Robson & McCartan, 2016). Specifically, after familiarising with the data, extracts from the data were given codes systematically across the whole data set. These codes were then collated into potential themes, based on which a thematic framework emerged. Four prominent themes – software developers, schools, teachers and parents – were identified in the responses of the participants to the facilitative approaches (Table 4.1).

Table 4.1 Thematic framework of open-ended questionnaire

1. Software developers	2. Schools	3. Teachers	4. Parents
<ul style="list-style-type: none"> • Syllabus • Students' interests • Vocabulary • Feedback 	<ul style="list-style-type: none"> • Administrative support • Management 	<ul style="list-style-type: none"> • Computing skills • Professional training 	<ul style="list-style-type: none"> • Understanding • Supervision

Surprisingly, 13 out of the 39 comments raised the concern on the software developer, with 8 of these comments emphasising the correspondence of the content that the games deliver with the syllabus. These responses suggest that the games should be developed on the basis of the examinations requirements and the core teaching materials, and should be consequently beneficial to students' academic performance. In addition to attachment with the syllabus, three teachers suggested taking the

elements that students are interested in into account in designing the games, which could be exemplified in one of the comments, in which the teacher said:

1. *It is advisable to design some parts where students can imitate the pronunciation and be scored based on the accuracy, like singing karaoke with the subtitles. Creating the contexts for students brings opportunities for them to speak.*

Furthermore, as summarised, over 90% of the teachers agreed with the potential of digital games on vocabulary learning. Suggestions concerning the aspect of vocabulary were also made in the responses, one of which was:

2. *The pertinence of the vocabulary (with the teaching materials) should be considered when developing the games. It is advisable to set up a vocabulary test after each game, such as pairing games, which could help the teachers and the parents to see the progress students make.*

As mentioned, a large number of participants (67.1%) agreed that it is difficult to provide feedback on the basis of their performance in a game. Two comments shed light on the significance of the feedback in DGBL, one of which suggested:

3. *...I suggest setting up some relating exercises, so that the teacher would know the accuracy (of students on the exercises) based on the scores, from which teachers could know the weakness and the strength of students on their learning process...*

As well as the software developer, the teachers also expressed concern over the potential role that the school plays in the incorporation of DGBL. Five teachers laid emphasis on the administrative and financial support of the schools. This could be manifested in one of the comments in which the teacher voiced:

4. *DGBL is a newly emerged mode of teaching; it is thus difficult to implement without the support from the school. For example, its implementation requires a multitude of equipment; schools should provide sufficient financial support.*

In addition to the administrative and financial support, management was raised in the comments as another major issue that the school needs to take into consideration in the implementation of DGBL.

This could be embodied in one of the comments:

5. *It is essential to establish a model of management that is pertinent to DGBL. Students are mostly very passionate about digital games, so it is important to take measures to control their gaming time.*

With regard to the teachers themselves, 5 out of the 39 comments focused on teachers, 3 of which indicated that their awareness and proficiency of using technologies are two significant facets that could

make differences when using digital games in the English classroom. This is reminiscent of the summary, in that 71.1% of the teachers expressed their lack of relevant knowledge and skills. Unsurprisingly, professional development was suggested as a pivotal factor in the successful implementation of DGBL. Furthermore, it was again pointed out that the integration of digital games with the course content is a crucial factor in the exam-oriented context that the teachers need to take into account. Moreover, the significance of parents' assistance was also highlighted in the teachers' concerns. 3 comments indicated that it is necessary for parents to understand this newly emerged teaching approach and, thereby, to transfer their perceptions of English teaching from conventional course-book-orientedness to the state-of-the-art technology-enhanced approaches. 2 comments advised that the parents should act as a supervisor to control children's gaming time and provide assistance or clarification if issues arise in the process.

4.2 Findings from the semi-structured interviews

In adherence with the results from the questionnaire, the three teachers interviewed all demonstrated positive attitudes towards using digital games for English teaching. In comparison with the survey, the data from the interviews tended to be more contextualised and empirical. Similar to the analysis of the open-ended questions in the questionnaire, the analysis of the data from the interviews was also based on the approach of thematic coding analysis proposed by Robson & McCartan (2016). Data items, or text that exemplifies the same theoretical or descriptive idea, were identified and categorised as a code (Gibbs, 2007). The initial codes were then grouped into a smaller number of themes on the basis of theoretical and analytic interest in relation to the research questions, which sequentially led to the creation of a thematic network of analysis (Robson & McCartan, 2016). Three main themes were identified in the interviews (Table 4.2).

Table 4.2 Thematic framework of interview responses

1. Perceived effectiveness	2. Critical issues	3. Facilitative approaches
<ul style="list-style-type: none"> • Motivation • Authenticity • Vocabulary 	<ul style="list-style-type: none"> • Accessibility • Equal participation • Vision health 	<ul style="list-style-type: none"> • Management • Compatibility with textbooks

4.2.1 Perceived effectiveness

The teachers showed great endorsement to the utilisation of technology in assisting English teaching as a whole. It was highlighted in one of the teachers' responses that the use of technology, PowerPoint or courseware, for example, tends to be significantly more effective than the conventional textbook-only mode of teaching. One of the factors underpinning this is the potential to motivate students. Consistent with the results in the questionnaire, the motivational aspect of DGBL was also underlined in the interviews with all of the three teachers (Appendix 9), as T1 expressed:

6. *I think digital gaming is a very useful tool. Because the attention span of primary school students is generally very short, if the classroom teaching could supplement with some digital games, students would be very motivated...*

As well as the potential of digital games in raising students' interests and maintaining their attention, the feature of authenticity of the materials used in the games could be another contributory factor in motivating students in learning English. Both T1 and T3 mentioned this aspect, with T1 revealing the potential of authentic materials in helping students to broaden their horizons as well as to better their pronunciation:

7. *... I hope that DGBL could help students to broaden their horizon, help them to know how the English native speakers think and express themselves...if the pronunciation of the teacher is not good enough, the authentic materials used in the games could be an absolute asset for the listening and pronunciation of students who just started learning English.*

Furthermore, as previously summarised, 90.8% of the teachers surveyed agreed with the potential of DGBL on vocabulary learning. Likewise, all of the three teachers interviewed showed positive attitudes towards digital games on vocabulary teaching. The potential of educational gaming in teaching vocabulary could be exemplified in the response of T1:

8. *... although I only teach four words in a class, I always try to present and deliver them in different ways, in order to stimulate the students to memorise them more deeply. I think the educational gaming shares some similarities with the way I teach vocabulary. Namely, it creates a special context to help children with memorising. Therefore, I think it is very practical, especially in terms of teaching vocabulary...*

4.2.2 Critical issues

Their positive attitudes towards DGBL were evidently manifested in their responses. However, both T1 and T2 stated that they have limited experiences of using digital games in teaching, despite them having

taught English for 17 years. One of the primary causes of this is that there were few games pertinent to the core course-books. The accessibility of suitable games, thus, became one of the influential factors in the integration of DGBL, which was stressed by all of the three teachers in the interview. As mentioned in the response of T1:

9. ... because the textbooks that we are currently using are published by PEP¹, there are few digital games that match this series of textbook. Thus, we need to look for the corresponding games from a substantial number of materials online. Sometimes we would rather not use it if it is not compatible...

If it is the relevance to the course-book that determines whether the teachers are willing to use the games or not, according to the responses of teachers, it is then the degree of involvement with the students that is associated with the efficiency of using digital games in the classroom. Both T1 and T2 pointed out that this as a critical issue that need to be considered when developing the games, as T2 expressed:

10. ... the digital games should be able to involve the whole class, rather than just individuals. It otherwise would affect the efficiency of the teaching.

Interestingly, the vision health of children was raised as an unexpected issue by both T2 and T3 as another factor that needs to be considered when implementing DGBL, since, contemporarily, students would be engaging with electronic devices for a longer period of time. As T3 responded:

11. ...nowadays children have too many accesses to electronic devices, which is not good for the health of their eyes... too much engagement with digital games might affect their studies as well...

4.2.3 Facilitative approaches

The findings related to the facilitative approaches from the interviews are largely resonant with the responses in the open-ended questions of the survey. The significance of the software developer and the practitioners in the incorporation of DGBL was highlighted by all of the three teachers in the interview, as T3 noted:

12. I think the practitioners are most essential to its implementation. The students could benefit from it only when the teacher uses it effectively; but meanwhile, the software developer is also very important, it is not feasible if the games are not suitable for the students.

¹ PEP refers to People's Education Press.

The effectiveness of digital gaming, according to T1, largely depends on the time management of the class and the suitability of the games. In relation to time management, all of the three teachers stressed its significance when integrating educational gaming, suggesting that the time for gaming should be controlled to an ideal extent, to retaining the major space for ordinary teaching, as suggested by T1:

13. ...I suggest that the time on games should not be too long during the class, around 10 minutes for example, so that the attention of children could be maintained to an ideal degree...

The suitability of the games, as another factor correlating with the effectiveness of DGBL, is closely associated with the software developer. In order to create effective educational games, the software developer was advised to collaborate with practitioners, as T1 indicated:

14. It is essential to cooperate with the teachers, or the relevant research department... communicate with them... as they have more empirical information as to what kind of games suit students best...

4.3 Chapter summary

Despite the fact that more than half of the participants had not used digital games to assist with their English teaching, the majority of them demonstrated positive attitudes towards DGBL in both the quantitative and qualitative data. The potential of DGBL in motivating students, promoting collaborative and autonomous learning, and vocabulary teaching were highlighted in the perceptions of the teachers. The issues of compatibility with the curriculum, administrative and financial support, and relevant knowledge of the teachers and equal participation of the students were addressed as critical aspects that need to be considered in the implementation of DGBL. In terms of the possible approaches to facilitate the incorporation of educational gaming, the respondents showed great concern over the software developer and teacher themselves. The teachers generally expressed a need for their professional development concerning DGBL. The attachment of the digital games to syllabus was stressed in both the interview and the survey as a key factor that determines the effectiveness of DGBL.

Chapter 5: Discussion

This chapter aims to discuss the findings from both the qualitative and the quantitative inquiries with reference to the literature and research reviewed previously. Three research questions will be addressed sequentially with an examination and interpretation of the results in the light of existing research. The discussion will then be concluded at the end of this chapter.

5.1 What are the attitudes of Chinese primary school English teachers towards digital game-based learning?

While 97.4% of the participants investigated had experience of using technologies in mediating classroom practices, only 46.3% had used educational gaming in assisting their English teaching. This result aligns with Beggs et al. (2009), in which it is reported that only 59% had experience of using digital games with their students. Nonetheless, in accordance with the studies reviewed in the literature (e.g., Beggs et al., 2009; Cam & Cagiltay, 2006; Hsu & Chiou, 2011; Klemetti et al., 2009; Pastore & Falvo, 2010; Sandford et al, 2006), the respondents in this study demonstrated positive attitudes towards using digital games in supporting primary school English teaching, as illustrated by the mean score of each subscale in the survey (Appendix 7, Part A, being 3.72 and above (on a 5-point scale). Generally, a great majority of them believed in the educational value of DGBL and showed their willingness to integrate DGBL into their current and future English classroom. This finding is resonant with Klemetti et al. (2009), Cam & Cagiltay (2006) and Hsu & Chiou (2011), in which an overwhelming proportion of the teachers expressed their desire to exert digital gaming to support their teaching. Moreover, 85.5% of the participants in this study held that it is a general trend for students to use technologies to assist their language learning. This echoes the finding of Pastore & Falvo (2010), in that the majority of the teachers in an American context also believed that DGBL is a trend in the field of education.

The overall positive attitudes of teachers could be attributed to a number of perceived potentials of digital gaming in English teaching, among which its motivational effectiveness could be the most

conspicuous factor, according to the findings of this study and previous research. Consistent with the result that 84.2% of the teachers agreed with the potential of DGBL in motivating students, the majority of the reviewed studies examining attitudes of teachers also highlighted its motivational function (e.g., Hsu & Chiou, 2011; Klemetti et al., 2009; Pastore & Falvo, 2010; Sandford et al, 2006). The motivational factor of DGBL could be supported by the meta-study carried out by Randel et al. (1992), in which DGBL was justified to be more effective than conventional classroom teaching, in terms of motivating students. This could also be elucidated from the psychological attributes of learners, that is, the gap between the challenges of the entertaining dimension in the games and the knowledge needed to handle these challenges could intrinsically prompt their desire to learn new knowledge, and consequently motivate students to engage in their learning process (Erhel & Jamet, 2013; Liu et al., 2011). The qualitative analysis in the present study provided more contextualised insights to explain the motivational aspect, suggesting that, compared with the course-book-only teaching approach, DGBL could be more effective in raising the interests of students, and in maintaining their attention during the class. Nevertheless, studies holding contradicting views are also present. Kebritchi et al. (2010) identified that only 4 out of the 16 empirical studies they reviewed revealed positive effects in promoting learners' motivation, and that 5 of the 16 studies showed no difference of instructional games on learners' achievements and motivation. The literature indicates that digital games might not always be effective in promoting the motivation of learners. However, the differences of the subjects and student background, the educational value and the entertaining feature of the games could be potential factors leading to these contradictions.

In addition to the motivational facet, several other impetuses contribute to teachers' positive attitudes. In accordance with Cam & Cagiltay (2006), in which the majority of the teachers declared that they would only use digital games as additional teaching materials, 81.5% of the respondents in this study also deemed that digital gaming could be utilised as supplementary material to meet the core pedagogical standards. Moreover, 78.9% believed the potential of DGBL in personalising students' English learning methods, which accords perfectly with Wu (2015), in which 78.4% of the teachers (N=116) agreed with its potential of personalisation. This is reminiscent of Relan (1992) and William

(1993), in which they also argue for the potential of DGBL in individualising students' learning, claiming that it is conducive for students' self-directed and autonomous learning. However, owing to the fact that it is primary school students for whom the games are used in this context, the participants in this study suggested a need for parental supervision to assist, as well as to discipline the children. Another factor leading to teachers' overall positive attitudes is the potential in promoting collaboration among students. This contradicts with Hsu & Chiou (2011), in which 51.2% of the respondents (N=121) disagreed with the potential of promoting collaborative learning. However, the possibility of DGBL disfavouring collaboration could potentially be compensated by the adoption of mobile learning, as both Attewell (2005) and Naismith et al. (2004) endorse MALL for its usefulness in encouraging cooperative learning. Another issue underpinning teachers' positive attitudes is the potential in developing students' awareness of autonomy. 69.7% agreed with this statement, while 26.3% held a neutral attitude. The positive correlation between motivation and autonomy that is discussed in the literature by scholars, such as Deci & Ryan (2002), Dickinson (1995), Spratt et al. (2002) and Ushioda (1996), could potentially shed light on teachers' positive perceptions of DGBL on students' autonomous learning, since, as previously mentioned, 84.2 % agreed with its motivational potential. The teachers' concern about probable lack of self-regulation of primary school students could be a factor that led to their disfavouring attitudes.

The teachers, overall, demonstrated positive attitudes towards the effectiveness of DGBL on specific language components, among which their endorsement of the potential of digital games in teaching vocabulary is the most salient statistically. Evidence grounding this finding can be found in the comparative studies of Fitze (2006) and Warschauer (1995), in which it was revealed that, compared with conventional face-to-face discussion, the discourse produced by ESL (English as A Second language) students in technology-supported instruction featured with greater lexical range and demonstrated more interactive elements. Interestingly, the qualitative finding in this study provide support from another angle, in which it was pointed out that digital games could potentially create a special context, or form, for the lexical items to assist the memorisation of the students. Teachers' perceived effectiveness of DGBL in teaching reading and listening can be corroborated in an

experimental study conducted by Suh et al. (2010), in which it was justified that ESL young learners utilising digital games showed better scores in reading, listening and writing than those who received face-to-face instruction. The qualitative findings in this study attributed the listening aspect to the authenticity of the materials used in the games, implying that the authentic materials would be beneficial to the listening skills of students as the beginners of English. Regarding the writing aspect, consistent with the results of Suh et al. (2010), 72.4% of the participants demonstrated positive attitudes towards the potential of DGBL in teaching writing. This contradicts Wood (2001), in which the results revealed no significant difference in the writing achievement between those who used computers and those who received conventional face-to-face guidance. However, the difference in such elements as the programme used, the linguistic competence of the students could be potential factors resulting in the contradictory conclusions.

5.2 What are the potential factors that prevent Chinese primary school English teachers from integrating digital gaming into classroom teaching?

The potential barriers to the implementation of DGBL in the context of China have manifested parallel with the overall positive attitudes of the teachers. Of all the influential factors identified in the investigation, the inflexibility of the school curriculum appears to be the first concern of the teachers. The short and fixed class period in the context, typically ranging from 40-50 minutes, shows little potential for long-term engagement of the games. This finding corresponds with that of Wu (2015), in which it was pointed out that it could be difficult for instructors to segment a full digital game into meaningful units, in order to fit into the bell schedule. This limitation was also identified in Rice (2007) as one of the six major barriers summarised from a broad analysis of existing research. This is also manifested in the qualitative analysis over the issue of time management, in which the teacher expressed that the time spent on the games in each class should be controlled to a certain extent, 10 minutes for example, to prioritise the conventional instruction. Furthermore, the lack of administrative and financial support was another issue about which a large proportion of the teachers were concerned. This finding corresponds with that of Klemetti et al. (2009), in that the insufficiency of resources and financial

support was also pointed out as a significant problem in DGBL. Baek (2008) provided further evidence supporting this claim, indicating that limited budgets appeared to be the most crucial inhibiting factor for DGBL, and that teachers generally believe using digital games in teaching requires expanded costs.

Another critical factor identified was the lack of professional training of the teachers. Compared with conventional instruction, as Gündüz (2005) contended, it takes longer for teachers or learners to use CALL programmes, in order to fulfil its potential in teaching. The majority of the teachers demonstrated a lack of confidence with their current knowledge and skills in using digital games for pedagogical purposes. The fact that more than half of the participants in this study had no experience of using digital games for instruction could also corroborate this claim. This finding is also resonant with Becker (2007), in which offering professional development was concluded as a desperate need to help develop teachers who could adopt digital gaming to their repertoire. Another perceived hurdle was the perceptions of stakeholders, such as educators and parents. The majority of the teachers were concerned that the negative perceptions of instructors and parents could hamper the acceptance of this new instructional medium in China. According to the qualitative analysis in this study, the possibility of students' becoming addicted to the games is another concern that may result in reluctance among school personnel to adopt digital games as an instructional tool for pedagogical use.

The teachers' perceptions also included factors relating to the students, with the majority demonstrating concerns over the potential of DGBL causing distraction and classroom management issues as a consequence. Evidence backing up this claim can be found in Cam & Cagiltay (2006) and Isaacs et al. (1995), in which it was suggested that students are more subject to distractions and that it may be difficult for the teachers to redirect the attention of the students from the games to normal instruction. Another significant issue concerning students was the equality of participation as an aspect that relates to the efficiency of using digital gaming in the classroom. The teachers investigated in this study generally perceived a lack of equality in students' participation, and expressed that their expectation of the games was to involve the whole class, rather than just a part, or individuals. This, however, is inconsistent with the findings of both Sproull & Kiesler (1991) and Warschauer (1995), in which the investigations led to the same conclusion, in that computer-mediated instruction can result in more equal

participation among students in the language classroom. A possible factor resulting in this contradiction between the finding in the present study and existing research is the shortage of electronic equipment that could be used to assist the teaching in this context.

Moreover, the variation of students on their linguistic and computing proficiency, as another crucial issue concerning students, could potentially cause difficulties in achieving the intended pedagogical goals of the games. This is in agreement with Gündüz (2005), in which the computing skills of students are considered as a key factor determining to what extent DGBL could take effect in the learning process. Similarly, Higgins (1988) also emphasised the significance of the compatibility of the software used with the language level of the students; the mismatch between the two would otherwise result in chaos in the classroom. Another influential factor gleaned from this study is the issue of providing feedback to the students, which has been barely discussed in the literature. Generally, feedback from the teacher is of great value in helping students with their language learning. Nevertheless, the majority of the teachers were concerned that it might be difficult to provide feedback to the students based on their progress in DGBL. Additionally, the vision health of the students stood out in the qualitative analysis as an unexpected but important issue in the implementation of DGBL, which, on one hand, could potentially influence parents' perceptions, and, on the other, implies the significance of time management in the process of implementing DGBL.

Another major facet that influences the implementation of DGBL related to the software itself. The dearth of suitable games was the primary reason contributing to the teachers' limited experience of using digital games in supporting English teaching in their career. The suitability of the games, according to the qualitative analysis, largely depends on their compatibility with the core teaching materials. This issue is referred to as the alignment to standards in Rice (2007), in which the value of the games is argued to be closely related with students' state assessment. In other words, the educational value of the games is largely determined by to what extent the games could benefit students in their academic performance. Furthermore, the quality of the digital games, such as graphics, audio effect and play mechanics, is also a non-negligible factor that could affect the acceptance of DGBL. This is an aspect on which Rice (2007) laid great emphasis on the summary of barriers to the classroom

implementation, expressing that the “current level of software sophistication is insufficient for highly advanced affordances” (p.256). However, it has been ten years since Rice published the paper, and it is within these ten years that technology has been developed enormously, which points to a need for further research in this area.

5.3 What are the possible approaches that could facilitate the incorporation of educational gaming into English teaching?

In tandem with the perceived influential factors, the teachers investigated suggested a number of approaches from different angles that could potentially facilitate the implementation of DGBL in China. The digital games are the primary constituent towards which the teachers raised their concerns; the bulk of the suggestions, thus, were made to the software developer. In responding to the shortage of suitable digital games as previously mentioned, the teachers suggested that the games should be developed on the basis of course-books, and that the aims of using the games should be directed to the improvement of the academic performance of students. The textbook-orientedness could also be manifested in their endorsement of digital games on vocabulary teaching, as it was again emphasised that the lexical items used in the games should be pertinent to the core teaching materials. The attachment to the syllabuses appears to be of great significance for implementing this innovation in China. This textbook-centred feature, on the other hand, could reflect the exam-orientedness of the curriculum in China. Littlewood (2011) provides more theoretical support explaining this orientation, in which the incompatibility of materials with public assessment is summarised as a primary challenge faced by English teachers in China. Additionally, the dominance of this exam-oriented teaching method could probably be one of the hindrances to the implementation of communicative language teaching in China (Simpson, 2008).

Further advice given to the developer concerned the motivational dimension, suggesting it would be constructive to utilise elements that students are interested in when designing the games. According to Dörnyei & Schmidt (2001), it is the motivation that is responsible for the success in second language acquisition. Interests are an essential factor that contributes to the integrative motivation of students.

The utilisation of elements that students are interested in could intrinsically motivate them to engage with English learning. Furthermore, in considering the fact that providing feedback was raised by the majority of the teachers as a difficulty in the process of DGBL, it is essential to integrate feedback into the gaming system, in order to inform teachers and parents about the progress of students in the learning process.

As Morris (1996) indicates, “schools develop a culture, ethos or environment which might be favourable and unfavourable to encouraging change and the innovations” (p.122). Schools, as a broader context within which DGBL is conducted, plays a pivotal role in the implementation of DGBL. Suggestions to the school first underlined the significance of administrative and financial support. The incorporation of DGBL, as discussed, is financially demanding. The purchase, maintenance and update of both the hardware and software, as the prerequisites of successful implementation, require a large amount of financial investment. Another factor essential to the implementation is the management. DGBL, as a new phenomenon in the educational field in China, could potentially bring about a series of issues concerning school curriculum, discipline of students or bell schedule. It is, therefore, important for the school to establish a model of management to rationalise the use, and to fulfil the potential of digital games in teaching English.

In addition to software developers and schools, there were several aspects on which teachers and parents could make efforts to facilitate the implementation. The majority of the teachers investigated in this study reached a consensus on a lack of relevant knowledge and skills in terms of educational gaming, and professional development was accordingly raised as a necessity before the implementation. It is crucial to train teachers to use the games, rather than just simply introducing the product. The company, thus, needs to think of developing teacher support materials. Regarding parents, it is essential for them to understand DGBL as a newly emerged instructional approach in China, and, thereby, to transfer their perceptions of English teaching from the conventional textbook-only instruction to technology-assisted approaches. Another aspect that parents should bear in mind is the supervision. In considering the potential effects on students’ vision health, their gaming time should be controlled within an ideal extent

based on instructions from teachers. It was also suggested that parents should act as a facilitator to provide any assistance or clarifications when necessary in the learning process.

5.4 Chapter summary

The overall positive attitudes of the teachers confirm those from previous studies. This is clearly manifested in the endorsement of teachers in relation to the potential of DGBL in such aspects as motivation, personalisation, collaborative and autonomous learning, teaching vocabulary, listening, writing and reading. However, potential barriers are present. Successful integration of DGBL is associated with different stakeholders. The integration of games with the syllabus was raised as the first concern that software developers need to take into account. Equal participation and the compatibility of games with the computing and linguistic proficiency of students are another two main factors that could determine the efficiency of DGBL. The significance of feedback and the potential in teaching vocabulary are two aspects that software developers need to consider when designing the games. Administrative support and professional training turn out to be two pivotal constituents in successful implementation that particularly relate to schools and teachers.

Chapter 6: Conclusion

The rationale for the present study is firstly re-stated before the methodological design and findings are reviewed. The implications gleaned from this study are then discussed from both theoretical and practical dimensions, followed by the analysis of the limitations and suggestions for future research.

6.1 Research overview

This study stemmed from joining a group project, the aim of which is to develop a DGBL platform to help young Chinese learners to learn English. This study, focusing on the attitudes of teachers, constitutes a part of a larger scale needs analysis relating to DGBL. Educational gaming, as a newly emerged paradigm of online learning, has been justified to be of great effectiveness in promoting learning and especially motivating students. Teachers across various contexts and settings have overall demonstrated positive attitudes towards DGBL. Several methodological flaws identified in many of the existing studies, however, may have undermined the reliability and generalisability of the findings, such as the single method design and the exclusion of in-service teachers. Moreover, very few studies have been conducted in the ELT context focusing on the “gamer generation”, namely young learners, and even fewer studies have thrown light on resolutions, despite numerous potential barriers having been identified. In spite of having clearly identified the massive potential of DGBL in the Chinese ELT market, studies conducted in China that could be drawn on to inform the development of this gaming platform are rare.

This study aims, therefore, to bridge these literature gaps and extend the research scope to English teachers in China, and direct the subject to young learners. Duly noting the methodological shortcomings in previous studies, a mixed methods approach was utilised to investigate 76 primary school English teachers, in order to provide a general framework of teachers’ attitudes towards DGBL, for the project to inform the development of the games and to support its implementation in the Chinese context. Both the quantitative and qualitative analysis revealed positive attitudes of the teachers towards

DGBL. The teachers generally expressed desire to integrate DGBL into their teaching practice, and it was believed that technology-supported language learning is a trend among students. Of all the perceived effectiveness of DGBL, its potential in motivating students and teaching vocabulary were two aspects highlighted by the teachers. Despite DGBL being of great educational value, barriers to its implementation may exist. Successful implementation is associated with different stakeholders. The integration of the games with the textbooks, the compatibility with students' computing and linguistic level, equal participation and the feedback system were aspects raised to be considered when developing the games. Professional training for the teachers and administrative support were suggested as being two external issues that are essential to its implementation. An unexpected finding gleaned from this study was the concern over the vision health of students, which reflects the significance of time management in the process.

6.2 Theoretical and practical implications

This study provides both theoretical and practical implications. Theoretically, this study has contributed to bridging the scholarship, by extending the investigating scope to three less researched areas in relation to DGBL, namely the Chinese context, young learners and ELT. Teachers' overall positive attitudes and perceptions towards DGBL are further confirmed in the answers to research question one. More contextualised insights are provided in the attempts to examine factors influential to its implementation. In addressing research question three, facilitative approaches to the integration of DGBL, which was discovered to be relatively uninvestigated in literature, are suggested from the angle of different stakeholders.

On the practical side, this study firstly outlines the positive attitudes of Chinese primary school English teachers towards DGBL, which could be an indicator of their readiness to utilise educational games to support their pedagogical practices. However, the contrast between their endorsement and their very limited experience of employing DGBL for instruction could mirror the existence of factors influential to its implementation. The findings of this research identified several potential barriers and, accordingly,

pointed out directions for different stakeholders to facilitate the integration of DGBL, which, at the same time, provides empirical information for the KTP project to develop the games.

Much of the unsuccessful innovation in ELT, as Wedell (2009) summarises, can be attributed to the failure of an “in-depth appraisal of the innovation context” (p.397). The potential for innovation in the classroom can be circumscribed by, especially, the superordinate and sociocultural systems (Kennedy, 1988). This could be well exemplified by the Chinese context, in that the pedagogical imports of communicative language teaching in China have met great resistance from the Confucianism-rooted Chinese culture of learning (Hu, 2002). The implementation of DGBL, as another potential pedagogical innovation in the Chinese ELT market, also needs a detailed and ethnomethodological appreciation of the context. In considering the exam-oriented and textbook-centred education in current China, the integration of games with syllabuses was suggested to be essential for acceptance by practitioners. It is, therefore, crucial for the developer to refer to the course-book, as well as the public assessment, when developing games. One possible approach is to cooperate with in-service teachers, as they are more informative of both the needs of students and the contextual constraints. Hence, the KTP project may need to continue its dialogue with teachers working in the context for more empirical information, so as to determine whether the product can benefit students’ academic performance, and whether it can actually be implemented into the classroom.

Moreover, embedding a feedback system into the platform was indicated as a useful way to inform teachers and parents about students’ progress in the learning process. For example, the gaming platform could be networked in the form of applications with the mobile devices of parents and teachers, to enable them to track the students’ performance on assessments. Furthermore, the evidence from this study highlights the potential of DGBL in teaching vocabulary. In considering the significance of vocabulary learning for primary school students as the beginners of English in the context, its potential in teaching vocabulary is, therefore, an aspect that the company could particularly exploit when designing games. Again, the lexical items used in the games should align with the syllabus. Another major implication gleaned from this study is that the developer may need to develop teacher support materials, such as online courses, as a part of teachers’ professional development.

The findings also have significant implications for schools, one of which relates to administrative and financial support. A considerable amount of financial support is needed to purchase, update and maintain the equipment. The insufficiency of hardware would affect the equality of students' participation and would not make the DGBL feasible in the long run. Another implication directed to schools is the necessity of a management model. While implementation of DGBL could innovate the conventional teaching approach, it could also generate a number of management issues. Measures should be taken to rationalise its use and to optimise the potential of DGBL in teaching English.

6.3 Limitations of the study

A significant limitation relates to the generalisability of the findings. The interviews were only conducted in Harbin, which is not representative of the overall ELT context in China. Nevertheless, this is a part of the advertised project as well as a preliminary study with access to a group of respondents pre-determined by the project. This research, thus, has to be conducted in Harbin. However, a mixed methods approach was employed in an attempt to provide an in-depth analysis of the attitudes of teachers, whilst it would not be able to generalise the findings to a wider population.

A further limitation relates to the sampling methods. Convenience sampling could lead to a high degree of similarity of the participants. However, those who are sampled through convenience sampling are vulnerable to all sorts of "unspecifiable biases and influences" (Robson & McCartan, 2016, p.281). The adoption of snowball sampling could lead to an "over-representation of individuals with numerous social connections who share similar characteristics" (Sadler et al., 2010, p.370), which restricts the generalisability of the sample. Whilst the site for the data collection was set up in Harbin, this study attempts to access a wider dimension of sample through the use of a questionnaire.

Another limitation is based on the instruments used in this study. Interviews, as Axinn & Pearce (2006) indicate, could be vulnerable to the interviewer's influence in the responses, which would directly influence the reliability of the data collected. In preventing this issue, the interviewer strived to try not to embed any potential personal interpretation in the questions asked. Another potential problem is that,

as Burn (2000) indicates, the situations or contexts of the interviewee may give rise to different interpretations of the questions, which could consequently result in an unsatisfactory answer that may not relate to the research purpose. In addressing this potential issue, a brief introduction about each subtopic is introduced at the beginning of every topic, in order to provide background information upon which their responses should construct.

Additionally, the researcher of this study did not go to Harbin for onsite data collection with the other group members in the project. Hence, in order to ensure the validity of the data, constant communication was carried out with the other students throughout the data collection process, and three group meetings were held to brainstorm with the project leaders and other students (Appendix 13). The transcribing of the interviews used for this study by the researcher also helps to familiarise with the data when analysing, which is an essential step of thematic coding, according to Robson & McCartan (2016).

6.4 Future research

Alternatively, with the nature of the data collected, it would be worthwhile to use inferential statistics for the data analysis, for example the association of different variables, such as teachers' teaching or gaming experiences and their attitudes. Not only could the correlation coefficients indicate both the strength and the direction between the variables, but it could also help to determine the reliability of the measurement process, as well as the validity of the data (Robson & McCartan, 2016). Teachers' attitudes could be explored in greater depth and inferred to a wider population if inferential statistical analysis is used. However, due to the fact that this is a small scale study with limited time for completion, this study chose to conduct only descriptive statistical analysis, which could limit the generalisability of the findings. However, this is an aspect that could be improved in further research. Moreover, it would also be useful to include case studies where teachers are currently implementing DGBL in an ELT context, as this would be a more reliable and straightforward approach in aiming to determine both the effectiveness and pitfalls of DGBL in relation to English education. The adoption of case studies would generalise richer and more contextualised data to inform the implementation of DGBL.

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Appendix 1: Exploratory questionnaire

Part A: Demographic information

This section seeks basic demographic information about teachers' background. Please tick the answer that best applies to your situation. Through this survey, the term 'digital games' refers to 'video games played digitally on a technological device including home gaming console, handheld gaming device, tablet computer, cell phone or smart phone, and home computer.'

1. What is your gender?

- Male Female

2. Years of experiences in teaching English:

- 1-5 6-10 11-15 16-20 More than 20

3. How many hours do you currently play digital games on a weekly basis on average?

- Never Less than 1 1 to 3 3-5 5-7 7-10 More than 10

4. I enjoy playing digital games

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

5. Please choose the description that describes the reason why you play digital games. (You can choose more than one answer)

- I play digital games to pass the time when I am bored and have some free time.
- I play digital games when I get together with my friends, or online with many other players. Playing video games is another social activity for me.
- I play digital games because I enjoy playing them as a leisure pursuit.
- I play digital games because they are good for my talent and intelligence development.

6. Please choose the description that best describes your degree of familiarity with educational digital games:

- I have never heard about using digital games for teaching.
- I have heard about educational digital games, but have never used it as a tool of teaching.
- I have used educational digital games for teaching.
- I often use digital games for teaching.

Part B: Attitudes of teachers

The purpose of this section is to examine teachers' attitudes towards game-based learning in English education. The questionnaire is consisted of items. Please read carefully and choose your response candidly in the format requested.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I am comfortable with the idea of using digital games as tools for teaching educational content.	1	2	3	4	5
2. I believe that I will incorporate digital game-based learning in my current or future teaching.	1	2	3	4	5
3. Digital games are fun, hands-on, motivating, and engaging for students.	1	2	3	4	5
4. Nowadays students are more attuned to learning with digital media or new technologies.	1	2	3	4	5
5. Digital games are easy to set up to facilitate classroom teaching and learning.	1	2	3	4	5
6. Digital games provide me with another platform to engage my students in learning.	1	2	3	4	5
7. Digital games provide personalised learning.	1	2	3	4	5
8. Digital games can promote learning English.	1	2	3	4	5
9. Using digital games in teaching can help to build rapport with my students.	1	2	3	4	5
10. Digital games can promote cognitive and collaborative learning.	1	2	3	4	5
11. Digital games can be used to promote learning objectives that meet common core standards.	1	2	3	4	5
12. Digital games can be used as supplementary learning materials.	1	2	3	4	5
13. Digital games can bridge the gap between what students do at home and at school.	1	2	3	4	5
14. Digital games can help students to develop autonomous learning.	1	2	3	4	5
15. Digital games can help guide teachers' instructional planning and reach instructional objectives.	1	2	3	4	5
16. I believe I am capable of using digital games to deliver educational content in teaching.	1	2	3	4	5
17. I believe that digital games can be useful in teaching vocabulary.	1	2	3	4	5
18. I believe that digital games can be useful in teaching listening.	1	2	3	4	5
19. I believe that digital games can be useful in teaching reading.	1	2	3	4	5
20. I believe that digital games can be useful in teaching writing.	1	2	3	4	5
21. I believe that digital games can be useful in teaching speaking.	1	2	3	4	5
22. I believe that digital games can be useful in teaching grammar	1	2	3	4	5

Part C: Perceived barriers

This sections aims to investigate your perception of the potential barriers to the integration of digital game-based learning in the context of China.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Lack of knowledge and skills in teaching strategies, organisation, assessment and classroom management in implementing digital game-based learning.	1	2	3	4	5
2. I believe that I will incorporate digital game-based learning in my current or future teaching.	1	2	3	4	5
3. Digital games are fun, hands-on, motivating, and engaging for students.	1	2	3	4	5
4. Cost of purchasing games.	1	2	3	4	5
5. Most teachers seem skeptical about using video games for education.	1	2	3	4	5
6. Parents' negative perceptions of digital games for education.	1	2	3	4	5
7. Lack of administrative support to use digital games for teaching.	1	2	3	4	5
8. Technology can be a factor of distraction in the classroom.	1	2	3	4	5
9. Low quality in graphics or audio effects in educational digital games.	1	2	3	4	5
10. Not enough time to use digital games in short class periods	1	2	3	4	5
11. Administrators' negative video games as education.	1	2	3	4	5
12. Digital game-based learning cannot meet desired learning objectives.	1	2	3	4	5
13. Lack of preparation to use digital game-based learning in teacher education.	1	2	3	4	5
14. Digital games may pose classroom management issues.	1	2	3	4	5
15. Lack of professional development on using digital games for teaching English.	1	2	3	4	5
16. Short class period hinders long-term engagement in complex games.	1	2	3	4	5
17. Digital games require additional lesson planning time.	1	2	3	4	5
18. A side effect of integrating games into teaching can be students' addiction to gaming.	1	2	3	4	5
19. It is very difficult to provide relevant feedback to a student according to his/her progress in a game.	1	2	3	4	5
20. The level of students' knowledge in using a computer.	1	2	3	4	5

Other barriers? Please specify:

Part D: Possible approaches to facilitate the incorporation of education gaming

This section is designed to examine teachers' perception of possible approaches to facilitate the incorporation of digital games in the context of China. If you are in favour of using digital games for English teaching, please list at least three approaches that you think are most essential to the implementation of educational gaming in China, and please specify the reasons if possible.

Approach 1:	Reasons:
Approach 2:	Reasons:
Approach 3:	Reasons:

Thank you so much for your kind help.

Appendix 2: Pilot questionnaire

Research Study Participant Consent Form

INSTITUTION: University of Edinburgh

PROJECT: Attitudes towards game-based learning of Chinese primary school English teachers

INVITATION

You are being asked to participate in a research investigating the use of digital game-mediated teaching for English language in Chinese primary schools. The use of digital games in language teaching has become a trend in recent decades. Commercial games of different genres such as action games, strategy games and adventure games have been explored for their teaching potential. Serious games, or, games designed particularly for educational purposes have been launched and played globally.

This study aims to investigate teachers' attitudes towards game-mediated English teaching. The results of the study, which provide insights into teachers' needs in relation to digital game-mediated teaching, would provide valuable information about the implementation of educational gaming in China. The research has been given approval from Moray House Ethics Committee of the University.

WHAT WILL HAPPEN

If you agree to participate in this study, you will be asked to:

- Complete an online questionnaire (Around 15 minutes)

PARTICIPANTS' RIGHTS

Participation is entirely voluntary and you may decide to stop being a part of the research study at any time. You have the right to ask that any data you have supplied to that point be withdrawn/destroyed. You also have the right to omit or refuse to answer or respond to any question that is asked of you. If you have any questions as a result of reading this information sheet, you should ask the researcher before the study begins.

COST, REIMBURSEMENT AND COMPENSATION

Your participation in this study is voluntary.

CONFIDENTIALITY/ANONYMITY

I would like to use these results for publication, but can assure you that your responses will be kept absolutely confidential. Information identifying you will not be disclosed under any circumstances.

FOR FURTHER INFORMATION

I will be glad to answer your questions about this study at any time. You may contact me on s1640476@ed.ac.uk or s1642730@ed.ac.uk

Tick the box if you would like a copy of the results.

Part A: Attitudes of Teachers

The purpose of this section is to examine your attitudes towards game-based learning in English education. In this survey, the term ‘digital games’ refers to ‘video games played digitally on a technological device including home gaming console, handheld gaming device, tablet computer, cell phone or smart phone, and home computer.’ Please read carefully and choose your response candidly in the format requested.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I believe that I will incorporate digital game-based learning in my current or future teaching.	1	2	3	4	5
2. Digital games are fun, hands-on, motivating, and engaging for students.	1	2	3	4	5
3. Nowadays students are more attuned to learning with digital media or new technologies.	1	2	3	4	5
4. Digital games can personalise students’ English learning approaches.	1	2	3	4	5
5. Digital game based learning can be conducive to students’ English learning;	1	2	3	4	5
6. Using digital games in teaching can help to build rapport with my students.	1	2	3	4	5
7. Digital games can promote students’ cooperation in their English learning process.	1	2	3	4	5
8. Digital games can be used as supplementary learning materials to meet core pedagogical standards.	1	2	3	4	5
9. Digital games can help students to develop the awareness of autonomy for their English learning.	1	2	3	4	5
10. I am comfortable with the idea of using digital games as tools for teaching vocabulary.	1	2	3	4	5
11. I believe that using digital games in teaching English can be conducive to students’ vocabulary learning.	1	2	3	4	5
12. This pilot study proves my previous opinion on vocabulary teaching.	1	2	3	4	5
13. Now I have realised that digital game-based learning could be incorporated into vocabulary teaching to some extent.	1	2	3	4	5
14. I believe that students can improve their listening competence through playing educational English learning digital games.	1	2	3	4	5
15. I believe that by being exposed to the English environment in the digital games, students can improve their reading ability.	1	2	3	4	5
16. I believe that digital games have the potential to improve students’ writing skills.	1	2	3	4	5
17. I believe that digital games can be a useful way to expose my students to the use of English as a global language.	1	2	3	4	5
18. I believe that it is useful for my students should be exposed to more than just native English.	1	2	3	4	5
19. Exposing my students to successful communication encounters between non-native speakers can be motivating for them.	1	2	3	4	5
20. What are the current materials or elements you use in you class to teach vocabulary? (Multiple choice, no limit)					

Dictionary Picture Model Song / Rhyme Article / Story Audio / Video Digital game Non-digital game (e.g. play and guess, role-play activity) Other elements, please specify:

21. What are the most frequent materials or elements you use? (Please tick three of them, or add them.)

Dictionary Picture Model Song / Rhyme Article / Story Audio / Video Digital game Non-digital game (e.g. play and guess, role-play activity) Other elements, please specify:

22. What elements in these materials do you believe are helpful for young learners learning vocabulary?
(Please tick three of them, or add them.)

Sound (e.g. pronunciation and sound effect) Visual aid (e.g. picture and animation) Total Physical Response (TPR) Feeling / Experience/ Impression Context Repetition Making Error Self-examination Self-reflection Context Interaction Sense of achievement Sense of control Other approaches, please specify:

N.B. Items 10, 12, 13, 15, 17, 18, 19, 20, 21, 22 above are questions designed and used by other researchers in the same project. These items will be removed in the main questionnaire used for this study.

Part B: Perceived Barriers

This sections aims to investigate your perception of the potential barriers to the integration of game-based learning in the context of China.

	Strongly Agree	Agree	Neutral	Disagre e	Strongly Disagre e
23. My Lack of knowledge and skills to implement game based learning.	1	2	3	4	5
24. Cost of purchasing games.	1	2	3	4	5
25. My peers seem skeptical about using digital games as a tool to teaching English.	1	2	3	4	5
26. Parents' negative perceptions of digital games for education.	1	2	3	4	5
27. Lack of administrative support to use digital games for teaching.	1	2	3	4	5
28. Technology can be a factor of distraction in the classroom.	1	2	3	4	5
29. Low quality in graphics or audio effects in educational digital games.	1	2	3	4	5
30. Digital game-based learning cannot meet desired learning objectives.	1	2	3	4	5
31. Short class period hinders long-term engagement in complex games.	1	2	3	4	5
32. It is very difficult to provide relevant feedback to students according to his/her progress in a game.	1	2	3	4	5

Other barriers? Please specify:

Part C: Possible approaches to facilitate the incorporation of education gaming

This section is designed to examine teachers' perception of possible approaches to facilitate the incorporation of digital games in the context of China. If you are in favour of using digital games for English teaching, please list at least three approaches that you think are most essential to the implementation of educational gaming in China, and please specify the reasons if possible.

33. Approach 1:	Reasons:
34. Approach 2:	Reasons:
35. Approach 3:	Reasons:

36. If you think that digital game-based learning is a useful way to expose students to the use of English as a lingua franca, do you have any suggestions on how to do this:

Part D: Demographic information

It is helpful for the researcher to have some basic information about your background. These questions are optional.

37. Please choose your working status and write down the name of the institution.

- I am current an in-service English teacher.
- I have had experiences of teaching English at primary school in China.

Name of the institution:

38. What is your gender?

- Male Female

39. Years of experiences in teaching English:

- 1-5 6-10 11-15 16-20 More than 20

40. How many hours do your currently play digital games on a weekly basis on average?

- Never Less than 1 1 to 3 3-5 5-7 7-10 More than 10

41. 4. I enjoy playing digital games (tick)

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

42. Please list the name of the digital games that you play:

43. Please choose the description that best describes your degree of familiarity with technology-supported teaching:

- I have never used technology to support my teaching practices.
- I sometimes use technology to facilitate my teaching.
- I often use technology to assist my teaching.
- I rely on using technology to support my teaching.

44. Please choose the description that best describes your degree of familiarity with educational digital games:

- I have never heard about using digital games for teaching.
- I have heard about educational digital games, but have never used it as a tool of teaching.
- I have used educational digital games for teaching.
- I often use digital games for teaching.

45. How do you usually use English apart from teaching? (Multiple choices)

- watch English TV shows
- Read English books/journals/newspaper
- Listen to English radio/music
- Communicate with foreigners

Others? Please specify:

46. Have you ever studied abroad?

- No
- Yes

Thank you very much for your participating in this study.

Appendix 3: Main questionnaire



Research Study Participants Consent Form

Researcher: XXX

Supervisor: Dr. Nicola Galloway

Institution: University of Edinburgh

Project: *Attitudes towards digital game-based learning of Chinese primary school English teachers*

INVITATION

You are being asked to participate in a research investigating the use of digital game-mediated teaching for English language in Chinese primary schools. The use of digital games in language teaching has become a trend in recent decades. Commercial games of different genres such as action games, strategy games and adventure games have been explored for their teaching potential. Serious games, or, games designed particularly for educational purposes have been launched and played globally.

This study aims to investigate teachers' attitudes towards game-mediated English teaching. The results of the study, which provide insights into teachers' needs in relation to digital game-mediated teaching, would provide valuable information about the implementation of educational gaming in China. The research has been given approval from Moray House Ethics Committee of the University.

WHAT WILL HAPPEN

If you agree to participate in this study, you will be asked to:

- Complete an online questionnaire
- (For those who agree to be interviewed) Being interviewed for 45-60 minutes at the end of a school day in the school where you teach. You will be asked questions such as your personal gaming experience, your opinions towards game-based language learning, and your perception of potential barriers for its implementation as well as the possible resolution. The interview will be audio recorded for data analysis purposes.

PARTICIPANTS' RIGHTS

Participation is entirely voluntary and you may decide to stop being a part of the research study at any time. You have the right to ask that any data you have supplied to that point be withdrawn/destroyed. You also have the right to omit or refuse to answer or respond to any question that is asked of you. If you have any questions as a result of reading this information sheet, you should ask the researcher before the study begins.

COST, REIMBURSEMENT AND COMPENSATION

Your participation in this study is voluntary.

CONFIDENTIALITY/ANONYMITY

I would like to use these results for publication, but can assure you that your responses will be kept absolutely confidential. Information identifying you will not be disclosed under any circumstances.

FOR FURTHER INFORMATION

I will be glad to answer your questions about this study at any time. You may contact me on s1640476@ed.ac.uk

Part A: Attitudes of Teachers

The purpose of this section is to examine your attitudes towards game-based learning in English education. In this survey, the term ‘digital games’ refers to ‘video games played digitally on a technological device including home gaming console, handheld gaming device, tablet computer, cell phone or smart phone, and home computer.’ Please read carefully and choose your response candidly in the format requested.

	Strongly Agree	Agree	Neutral	Disagre e	Strongly Disagre e
1. I will incorporate digital game-based learning in my current or future English teaching.	5	4	3	2	1
2. Digital games are fun and motivating for students’ English learning.	5	4	3	2	1
3. Nowadays students are more attuned to learning languages with digital media or new technologies.	5	4	3	2	1
4. Digital games can personalise students’ English learning approaches.	5	4	3	2	1
5. Digital games can promote learning English.	5	4	3	2	1
6. Digital games can help to build rapport with my students.	5	4	3	2	1
7. Digital games can promote students’ collaboration in their English learning process.	5	4	3	2	1
8. Digital games can be used as supplementary material to meet core pedagogical standards.	5	4	3	2	1
9. Digital games can help students to develop the awareness of autonomy for their English learning.	5	4	3	2	1
10. I believe that students can improve their listening competence through playing educational English learning digital games.	5	4	3	2	1
11. I believe that by being exposed to the English environment in the digital games, students can improve their reading ability.	5	4	3	2	1
12. I believe that digital games have the potential to improve students’ writing skills.	5	4	3	2	1
13. I believe that using digital games in teaching English can be conducive to students’ vocabulary learning.	5	4	3	2	1

Part B: Perceived Barriers

This sections aims to investigate your perception of the potential barriers to the integration of game-based learning in the context of China.

N.B. Items 15, 17, 18, 20, 21, 22 are quoted from the original questionnaire in Wu (2015).

	Strongly Agree	Agree	Neutral	Disagre e	Strongly Disagre e
14. My Lack of knowledge and skills to implement game based learning.	5	4	3	2	1
15. Cost of purchasing games.	5	4	3	2	1
16. My peers seem skeptical about using digital games as a tool to teaching English.	5	4	3	2	1
17. Parents' negative perceptions of digital games for education.	5	4	3	2	1
18. Lack of administrative support to use digital games for teaching.	5	4	3	2	1
19. Technology can be a factor of distraction that may pose management issues in the classroom.	5	4	3	2	1
20. Low quality in graphics, audio effects or play mechanics in educational digital games.	5	4	3	2	1
21. Digital game-based learning cannot meet desired learning objectives.	5	4	3	2	1
22. Short class period hinders long-term engagement in complex games.	5	4	3	2	1
23. It is very difficult to provide relevant feedback to students according to his/her progress in a game.	5	4	3	2	1

Other barriers? Please specify:

Part C: Possible approaches to facilitate the incorporation of education gaming

This section is designed to examine teachers' perception of possible approaches to facilitate the incorporation of digital games in the context of China. If you are in favour of using digital games for English teaching, please list at least three approaches that you think are most essential to the implementation of educational gaming in China, and please specify the reasons if possible.

24. Approach 1:	Reasons:
25. Approach 2:	Reasons:
26. Approach 3:	Reasons:

Part D: Demographic Information

It is helpful for the researcher to have some basic information about your background. These questions are optional.

27. Please choose your working status:

- I am current an in-service English teacher.
- I have had experiences of teaching English at primary school in China.
- Prefer not to answer

28. What is your gender?

- Male
- Female

29. Years of experiences in teaching English:

- Less than 1 year
- 1-5
- 6-10
- 11-15
- 16-20
- More than 20 years

30. How many hours do you currently play digital games on a weekly basis on average?

- Less than 1
- 1-3
- 3-5
- 5-7
- 7-10
- More than

31. I enjoy playing digital games: (tick)

Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5

32. Please list the name of the digital games that you play:

33. Please choose the description that best describes your degree of familiarity with technology-supported teaching:

- I have never used technology to support my teaching practices.
- I sometimes use technology to facilitate my teaching.
- I often use technology to assist my teaching.
- I rely on using technology to support my teaching.

34. Please choose the description that best describes your degree of familiarity with educational digital games:

- I have never heard about using digital games for teaching.
- I have heard about educational digital games, but have never used it as a tool of teaching.
- I have used educational digital games for teaching.
- I often use digital games for teaching.

35. How do you usually use English apart from teaching? (Multiple choices)

- Watch English TV shows
- Read English books/journals/newspaper
- Listen to English radio/music
- Communicate with foreigners

36. Have you ever studied or trained abroad?

- No
- Yes
- Prefer not to answer

If yes, please tell us for how long and in which country:

37. Have you ever lived abroad?

- No
- Yes
- Prefer not to answer

If yes, please tell us for how long and in which country:

Appendix 4: Pilot study interview guide

N.B. Questions relating to present study are highlighted in the guide.

1. What do you think about the new method of DGBL in English education for Chinese primary school?

--Tell me about the ways you would normally plan a lesson.

--If you include DGBL in your teaching, what kinds of things might you have to change about your lessons? (DGBL will take more or less time for you to teach a certain content?)

--If using DGBL, what language skills/areas will you teach?

--What are the goals of your English lessons after integrating DGBL into English classroom?

--How do you think DGBL helpful in improving learners' interests and English competence?

--What difficulties do you think will be found in accessing to and implementing DGBL?

--What do you think are the disadvantages of DGBL?

2. To be more specific, what's your opinion towards using DGBL to teach young learner vocabulary?

--What are the current approaches you use to teach vocabulary? Why do you use these methods (rationales)?

--Please talk about your understanding about teaching vocabulary by using DGBL.

--Please explain the reasons why you choose to use or not use DGBL to teach vocabulary.

3. What approaches do you think can facilitate the incorporation of educational DG in Chinese context?

-- What is the most essential part in the successful implementation of DGBL in China? Why?

-- What responsibilities should the school/teachers/parents take in order to achieve this implementation?

-- What do you think your students should do to best achieve the usefulness of DGBL in their English learning?

-- How would you suggest the software developer to create effective DG to support English teaching?

(=What kind of DG would you like to use in your class?)

4. As a part of the DG, tell me about your understanding of the use of ICT-based animation in English classroom.

- When and how would you like to conduct ICT-based animation in English classroom? (E.g. introducing new information, presenting western culture, revising learnt English systems/skills)
- What are the positive effects on English learning/classroom environment/classroom teaching and so on?
- What are the weaknesses of ICT-based animation in young learner English learning? (E.g. distracting young students, imposing excessive information...)
- What factors do you think will support your use of animations in English classroom?
- What factors do you think will hinder your use of animations in English classroom?
(External factors from school/parents/colleagues; internal factors of personal experiences/attitudes)

5. What do you think about GE in English teaching?

- Do your teaching materials incorporate GE elements already? (a.YES b.NO)
- (If a.) In what way? For what purposes?
 - Are these elements function well for the design purposes?
 - What do you think these elements? (Negative/positive/ neutral/etc.)
 - Why do you think this way?
- Is there any possibility that you may change your current view? if you do, what will be the factors makes you change your mind?
- What do you think incorporating more GE elements?
- Why?
- (If b.) What English styles/models does your teaching materials incorporate? (e.g. us/uk)
 - In what way? for what purposes?
 - What do you think if incorporates GE (ELF, WE, EIL) into learning materials for your students?
 - Why do you think this way?
 - Is there any possibility that you may change your current view? If you do, what will be the factors makes you change your mind?

Appendix 5: Main interview guide

N.B. Questions relating to present study are highlighted in the guide.

This is a semi-structured interview including questions about various aspects of game-based learning in English education. The first question is asking the general idea of digital game-based learning. The second question deals with the use of digital game-based learning in teaching vocabulary in specific. Question three focuses on the real application of game-based learning in Chinese context. Questions 4 is about opinions on animation and last question is about global English. This interview will last 25-30 minutes with each question 5-6 minutes.

1) Interviewee profile

Age _____ gender M __ F __

Years of professional experience in English teaching _____

Years of professional experience in using digital games in English teaching _____

2) Interview

Game plays an important role in the development of young learners. Game-based learning is beginning to be used in classrooms in many countries, including China. Researchers have found that game-based learning not only help learners with learning knowledge but also develops their abilities in several aspects.

1. What do you think about the new method of DGBL in English education for Chinese primary school?

-- Do you often use it? Why/Why not?

-- If yes, do you have to change anything? (E.g. to accommodate the time)

-- If yes, what kind of games do you usually use?

-- If yes, what language skills/areas will you teach? What are the English learning goals?

-- If yes, how helpful do you think it is to improve learners' interests and English competence?

-- Do you think there are any barriers in your context to accessing and implementing DGBL?

-- Do you think there are any disadvantages of DGBL for learning English?

-- To what extent can it be a useful tool to improve teacher professional competence?

2. Since DGBL appears to become a popular method in foreign language education, we are considering the feasibility of applying DGBL into teaching, including vocabulary teaching. In this way, we'd like to know about your opinion on using DGBL to teach young learners vocabulary both in class and out of class.

--What are the current approaches you use to teach vocabulary? Why do you use these methods (rationales)? (E.g. Does these approaches accord with young learners' cognitive learning stages?)

--Please talk about your understanding and interest in using DGBL to teach vocabulary, how to incorporate it into vocabulary teaching and the potential usefulness for vocabulary learning.

--Please provide reasons for or against using DGBL to teach vocabulary.

3. I'd like to ask you about the possible approaches that could facilitate the incorporation of educational digital gaming. Digital game-based learning, as a newly emergent phenomenon in the field of language education in the context of China, may encounter some barriers from different stakeholders (i.e., school, parents, teachers, and students). What do you think is the most essential part in the successful implementation of DGBL in China? Why?

--What role should the school/teachers/parents play?

--What can students do to maximize the benefits of DGBL in their English learning?

--How would you suggest the software developer to create effective DG to support English teaching? (=What kind of DG would you like to use in your class?)

4. I'd like to ask you about the practice of animations in primary English classes. There are animations produced by the company and designed to help teachers to use as a teaching tool in classrooms. What kind of attitudes do you hold about the use of ICT-based animation in English classroom?

-- Are you interested in introducing ICT-based animation in English classroom? Why/why not?

-- If yes, when would you introduce it? (E.g. introducing new information, presenting western culture, revising learnt English systems/skills)

-- If yes, do you think it would have a positive impact on English learning/classroom environment/classroom teaching and so on?

--Do you think there are any weaknesses of ICT-based animation in young learner English learning? (E.g. distracting young students, imposing excessive information...)

-- Are there any barriers to using of animations in English classroom?

(External factors from school/parents/colleagues; internal factors of personal experiences /attitudes)

-- What would facilitate the use of animations in English classroom?

5. Nowadays there is a constantly increasing number of English users from all over the world, and English is widely recognized as a global language. The increasing numbers of English users from different linguistic and cultural background has resulted in innovations in use. As a result, more and more people are interested in how English is functioned as a lingua franca. Now, English is not only

used between native speakers and non-native speakers, but also frequently used between anyone who do not share the same first language.

What do you think of incorporating ELF into materials for young learners?

--Why do you think this way? / What reasons?

-- What do you think of incorporating different English users' pronunciation into learning materials for young learners? For example, American, Chinese or Italian pronunciation.

-- What do you think of incorporating different English users' lexical features into learning materials for young learners?

-- What do you think of incorporating different English users' grammatical features into learning materials for young learners?

-- What factors could help the incorporation of using English as a lingua franca in your learning materials? For example, in China we say why people don't like it? In British people may say why wouldn't people like it.

-- Recently, there are many suggestions on how to incorporate such exposure into the learning materials, but there are also some barriers. What do you think these barriers may be?

Appendix 6: Consent form



Research Study Participant Consent Form

INSTITUTION: the University of Edinburgh

PROJECT: *Attitudes towards digital game-based learning of Chinese primary school English teachers*

INVITATION

You are being asked to participate in a research investigating the use of digital game-mediated teaching for English language in Chinese primary schools. The use of digital games in language teaching has become a trend in recent decades. Commercial games of different genres such as action games, strategy games and adventure games have been explored for their teaching potential. Serious games, or, games designed particularly for educational purposes have been launched and played globally.

This study aims to investigate Chinese primary school English teachers' attitudes towards game-mediated English teaching. The results of the study, which provide insights into teachers' needs in relation to digital game-mediated teaching, would inform the development of digital games. As part of the research, 13 primary school teachers will be invited to participate in an interview. The research has been given approval from Moray House Ethics Committee.

WHAT WILL HAPPEN

If you agree to participate in this study, you will be asked to:

- Complete an online questionnaire;
- (For those who agree to be interviewed) Being interviewed for 45-60 minutes at the end of a school day in the school where you teach. You will be asked questions such as your personal gaming experience, your opinions towards game-based language learning, and your perception of potential barriers for its implementation as well as the possible resolution. The interview will be audio recorded for data analysis purposes.

PARTICIPANTS' RIGHTS

Participation is entirely voluntary and you may decide to stop being a part of the research study at any time. You have the right to ask any data you have supplied to that point be withdrawn/destroyed. You also have the right to omit or refuse to answer or respond to any question that is asked of you. If you have any questions as a result of reading this information sheet, you should ask the researcher before the study begins.

COST, REIMBURSEMENT AND COMPENSATION

Your participation in this study is voluntary.

CONFIDENTIALITY/ANONYMITY

I would like to use these results for publication, but can assure you that your responses will be kept absolutely confidential. Information identifying you will not be disclosed under any circumstances.

FOR FURTHER INFORMATION

I will be glad to answer your questions about this study at any time. You may contact me on s1640476@ed.ac.uk

Please tick the box if you would like a copy of the results.

Thank you very much for your kind help.

Appendix 7: Questionnaire results

Part A: Attitudes of Teachers

	Mean	SD	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
1. I will incorporate digital game-based learning in my current or future English teaching.	3.92	.84	15 (19.7%)	47 (61.8%)	9 (11.8%)	3 (3.9%)	2 (2.6%)
2. Digital games are fun and motivating for students' English learning.	4.05	.80	20 (26.3%)	44 (57.9%)	10 (13.2%)	0 (0%)	2 (2.6%)
3. Nowadays students are more attuned to learning languages with digital media or new technologies.	4.09	.75	21 (27.6%)	44 (57.9%)	9 (11.8%)	1 (1.3%)	1 (1.3%)
4. Digital games can personalise students' English learning approaches.	3.89	.83	14 (18.4%)	46 (60.5%)	12 (15.8%)	2 (2.6%)	2 (2.6%)
5. Digital games can promote learning English.	3.95	.71	14 (18.4%)	46 (60.5%)	15 (19.7%)	0 (0%)	1 (1.3%)
6. Digital games can help to build rapport with my students.	3.82	.75	12 (15.8%)	43 (56.6%)	17 (22.4%)	3 (3.9%)	1 (1.3%)
7. Digital games can promote students' collaboration in their English learning process.	3.88	.75	12 (15.8%)	47 (61.8%)	14 (18.4%)	2 (2.6%)	1 (1.3%)
8. Digital games can be used as supplementary material to meet core pedagogical standards.	3.89	.66	9 (11.8%)	53 (69.7%)	12 (15.8%)	1 (1.3%)	1 (1.3%)
9. Digital games can help students to develop the awareness of autonomy for their English learning.	3.75	.73	8 (10.5%)	45 (59.2%)	20 (26.3%)	2 (2.6%)	1 (1.3%)
10. I believe that students can improve their listening competence through playing educational English learning digital games.	4.01	.70	15 (19.7%)	50 (65.8%)	9 (11.8%)	1 (1.3%)	1 (1.3%)
11. I believe that by being exposed to the English environment in the digital games, students can improve their reading ability.	3.97	.63	11 (14.5%)	54 (71.1%)	10 (5.3%)	0 (0%)	1 (1.3%)
12. I believe that digital games have the potential to improve students' writing skills.	3.72	.74	6 (7.9%)	49 (64.5%)	16 (21.1%)	4 (5.3%)	1 (1.3%)
13. I believe that using digital games in teaching English can be conducive to students' vocabulary learning.	4.02	.67	13 (17.1%)	56 (73.7%)	4 (5.3%)	2 (2.6%)	1 (1.3%)

Part B: Influential Factors

	Mean	SD	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
14. My Lack of knowledge and skills to implement game based learning.	3.75	.82	10 (13.2%)	44 (57.9%)	16 (21.1%)	5 (6.6%)	1 (1.3%)
15. Cost of purchasing games.	3.93	.98	21 (27.6%)	39 (51.3%)	9 (11.8%)	4 (5.3%)	3 (3.9%)
16. My peers seem skeptical about using digital games as a tool to teaching English.	3.81	.76	13 (17.1%)	39 (51.3%)	21 (27.6%)	3 (3.9%)	0 (0%)
17. Parents' negative perceptions of digital games for education.	3.74	.85	13 (17.1%)	37 (48.7%)	19 (25%)	7 (9.2%)	0 (0%)
18. Lack of administrative support to use digital games for teaching.	3.93	.79	18 (23.7%)	38 (50%)	17 (22.4%)	3 (3.9%)	0 (0%)
19. Technology can be a factor of distraction that may pose management issues in the classroom.	3.80	.80	14 (18.4%)	37 (48.7%)	21 (27.6%)	4 (5.3%)	0 (0%)
20. Low quality in graphics, audio effects or play mechanics in educational digital games.	3.61	.88	9 (11.8%)	39 (51.3%)	19 (25%)	8 (10.5%)	1 (1.3%)
21. Digital game-based learning cannot meet desired learning objectives.	3.42	1.00	9 (11.8%)	32 (42.1%)	18 (21.1%)	16 (21.1%)	1 (1.3%)
22. Short class period hinders long-term engagement in complex games.	3.93	.81	16 (21.1%)	45 (59.2%)	9 (11.8%)	6 (7.9%)	0 (0%)
23. It is very difficult to provide relevant feedback to students according to his/her progress in a game.	3.63	.80	6 (7.9%)	45 (59.2%)	16 (21.1%)	9 (11.8%)	0 (0%)

Other factors? Please specify:

学生层次不同，数字化教学的目的实现有难度。

Part C: Possible Approaches to Facilitate the Incorporation of Educational Gaming

N.B. Data quoted in the *section 4.1.4* are underlined and numbered from 1 to 5 as following:

-
24. • (4) 学校加大对数字化游戏教学的支持力度。数字化游戏教学为新的教学模式，如果学校方面不支持也难以开展，数字化游戏教学也需要大量现代化科技设备，学校应提供资金援助；
- 学校支持；
 - 落实目标，达到效果；
 - (5) 如若运用数字化教学，必先制定出一套有别于传统教学的管理模式，能行之有效的提高课堂的效率。学校的学生对于游戏的非常热爱，如何合理的控制学生的游戏时间和监控他们的游戏水平，必须要有相应的措施；
 - (3) 如何掌握学生使用后的效果？建议设置类似速算盒子一样的班级群，每天配置相应的练习题，可以反应出学生对错，进行统计，反馈给老师。让老师好把握学生对知识点的掌握情况；
 - 上级部门的大力支持，没有领导的支持，一切研究成果只会化为乌有；
 - 资金；
 - 学校的支持至关重要，只有学校支持，教师才能放心去做；
 - 根据教材及考试标准设置游戏；
 - 游戏必须健康，符合学生年龄特点；
 - 学生主体 从学生角度出发 利用学生喜欢的元素 吸引学生兴趣；
 - 数字化游戏缺乏；
 - 软件开发公司开发的软件应该完善操作，内容，更吸引人，能提高学生学习并能提高学习成绩，有助于老师备课和学生背单词，学习句型，做题能力；
 - 学校方面可能会对于资源来源比较关注，以及资源的收费；
 - 教师的意识提升了，课堂教学设计中常常融入各式各样的多媒体辅助教学；
 - 加强研发或联合相关机构辅助性护眼用具，如消除屏幕蓝光的眼镜、屏幕保护膜，在推广产品时作为辅助性用品赠送或成本价销售给用户；
-
25. • 教师应提高自己的综合水平，与时俱进，使自己的教学方法在高效的同时也被学生接受；
- 游戏设计要与教学内容结合；
 - 就家长而言，接受这种新颖的学习模式有一定的困难，需要给予家长们展示了解的机会，使他们相信，数字化教学是符合现代化教育的要求的；
 - (1) 可以设置一些片段跟读评分。就像 ktv 跟着字幕背景音乐唱一样。因为英语是语言，重在读，设置语境，让学生多读；
 - 如果教师在课堂上不经常使用，则这种教学不会产生效果；
 - 没有设备；
 - 家长的理解，并帮助辅导；
 - 把所学知法完美融入教学游戏中；
 - 家长转变观念 适当利用数字化游戏教学 提高学生的英语学习兴趣；
 - 有些设计的不够合理，不能贴合课程内容；
 - 老师方面，培训及教研很重要。可操作性要强，否则实用性会减弱；
 - (2) 在开发词汇游戏时更有针对性，如可以选择词库，借助游戏强化巩固单词学习效果，提升整个游戏的实效性，再如，可以在某一游戏结束后加入一个类似于词汇测试卷的环节，单词与图片正确匹配，使家长和教师更直观的看到学生的进步；
-
26. • 教学游戏开发软件公司在开发软件的同时应谨慎，避免学生沉迷于游戏当中；
- 家长做好监督；
 - **课堂秩序和评价方式；**
 - 学生需要转变观念，深刻的认识自己的学习任务和学习目标。把数字化教学作为学习的手段帮助自己学习而不是作为一种休闲娱乐的工具；
 - 监管。要在家长和老师的监督下进行，以防不自觉的学生借此机会玩游戏；
 - 游戏题材可分中小学相印设置，针对不同年龄的学生兴趣着手；
 - 教师充分了解数字化游戏 讲数字化游戏与课标要求和教材内容进行整合；
 - **学生的操作能力；**
 - 学生和家长方面，游戏要有吸引力，多变。而且还关系到手机是否会随时在孩子手里；
 - 政府部门给学校教学设备更便于教师运用多媒体；
 - 进行线上线下的联合推广活动，并由此开发一系列产品，如旋风英语夏令营、兔子博士英语大赛，等等；
-

Part D: Demographic Information

27. Please choose your working status:

- I am current an in-service English teacher: 38 (50%)
- I have had experiences of teaching English at primary school in China: 26 (34.2%)
- Prefer not to answer: 12 (15.8%)

28. What is your gender?

- Male: 10 (13.2%)
- Female: 66 (86.8%)

29. Years of experiences in teaching English:

- Less than 1 year: 20 (26.3%)
- 1-5: 22 (28.9%)
- 6-10: 11 (14.5%)
- 11-15: 9 (11.8%)
- 16-20: 4 (5.3%)
- More than 20 years: 10 (13.2%)

30. How many hours do you currently play digital games on a weekly basis on average?

- Less than 1: 54 (71.1%)
- 1-3: 15 (21.1%)
- 3-5: 5 (6.6%)
- 5-7: 0 (0%)
- 7-10: 1 (1.3%)
- More than 10: 1 (1.3%)

31. I enjoy playing digital games:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
1 (1.3%)	12 (15.8%)	46 (60.5%)	13 (17.1%)	3 (3.9%)

(Mean: 3.07; SD: 0.74)

32. Please list the name of the digital games that you play:

- 数字卡片
- 消消乐
- 斗地主
- 数字接龙
- 流利说 app
- 英语趣配音 百词斩 扇贝英语
- 模拟人生 地铁跑酷。
- 连连看
- 英语趣配音
- 消灭星星

33. Please choose the description that best describes your degree of familiarity with technology-supported teaching:

- I have never used technology to support my teaching practices: 2 (2.6%)
- I sometimes use technology to facilitate my teaching: 37 (48.7%)

- I often use technology to assist my teaching: 33 (43.4%)
- I rely on using technology to support my teaching: 4 (5.3%)

34. Please choose the description that best describes your degree of familiarity with educational digital games:

- I have never heard about using digital games for teaching: 12 (15.8%)
- I have heard about educational digital games, but have never used it as a tool of teaching: 30 (39.5%)
- I have used educational digital games for teaching: 28 (38.4%)
- I often use digital games for teaching: 6 (7.9%)

35. How do you usually use English apart from teaching? (Multiple choices)

- Watch English TV shows: 57 (75%)
- Read English books/journals/newspaper: 56 (73.7%)
- Listen to English radio/music: 54 (71.1%)
- Communicate with foreigners: 22 (28.9%)

36. Have you ever studied or trained abroad?

- No: 65 (85.5%)
- Yes: 9 (11.8%)
- Prefer not to answer: 2 (2.6%)

If yes, please tell us for how long and in which country:

- Myanmar: 1 year
- Korea: 2 years
- UK: 3 month
- Singapore
- UK: 3 month

37. Have you ever lived abroad?

- No: 63 (82.9%)
- Yes: 11 (14.5%)
- Prefer not to answer: 2 (2.6%)

If yes, please tell us for how long and in which country:

- Myanmar: 1 year
- Korea: 2 years
- UK: 3 months
- Singapore: 6 years
- UK: 3 months

Appendix 8: Interviewee profiles

	Gender	Age	Years of Teaching Experiences
Teacher 1 (T1)	Female	36	17
Teacher 2 (T2)	Female	37	17
Teacher 3 (T3)	Female	36	12

N=3

Appendix 9: Interview transcript

N.B. Interview data quoted in the section 4.2 are underlined and numbered from 6 to 14.

Teacher 1 (T1)

- 好的老师，年龄方面。
- 36
- 性别女，然后教龄的话，教龄 17
- 使用数字化游戏教学的时间有多长？
- 有正式接触和非正式接触，如果是非正式接触的话，在我们课堂当中使用的 PPT 算吗？
- 都算。
- 那应该是做课件已经很久了，都有 10 多年了吧。
- 那不算的话？
- 如果不算的话，应该是最近的六七年开始接触各种类型的软件还挺多的。
- 但现在有的国家开始逐渐开始注意数字化游戏教学应用到课堂中，那么您对中国小学英语课堂中使用数字化游戏教学持什么样的态度？
- (6) 我觉得数字化游戏教学是一个很实用的板块。因为毕竟小学生的注意力时间不是很长，如果在课堂当中加入一些游戏的话，这样的环节的话，他们会很感兴趣，但是整堂课用是不太现实的。就像在我的课堂当中我会设计一些点，这些点是一些小高潮，这样会把课堂氛围推向一个高度。如果整堂课是这样的话，就不太现实。这些高潮可以让孩子的兴奋点提起来，但是如果一直都是这样的状态的话，孩子可能会比较疲惫。所以我倾向于在我的课程当中设置几个类似游戏这样的环节，一个是孩子比较感兴趣，另一个是孩子的参与度比较高。
- 那么你经常使用数字化游戏教学的方法吗，为什么？
- 你这个数字化游戏是指软件方面吗？还是说广义的，如果说是广义的话，我们每天几乎都有课件，课件当中涉及到的媒体和 PPT 的制作，还有我们会使用教学光盘，如果是广义的话，我们基本上每天都会用我觉得这个 PPT，是非常有帮助的，比单纯用黑板或者是教科书效果要好太多了。因为英语本身是一个要创制模拟情景，使用语言的这样一个学科，所以我觉得在课堂当中不管是多媒体，还是实用教具，或者是其他各种教辅材料都是为了给孩子创造这样一个氛围，然后在一个模拟知识的情况下使用语言，这样更能加深印象。
- 那么游戏的话，像我们设计那种游戏，会经常使用吗？不是广义的。
- 是软件类的游戏吗？得去找，(9) 因为我们现在使用的这个教材是 PEP 教材，能跟这个教材比较配合的，配套的游戏不是特别多。所以我们需要在网上特别多的素材当中去找和他配套的素材，有的时候不太适合我们宁可不太用。所以我觉得这个使用频率应该是每个月都应该有四次或者是三四次那样吧。最低的是这样的。再一个是我们之前接触到的软件基本上都是课后，针对课后那块的。然后孩子在家自学，然后练习用的课堂上用的不是特别多。课堂上反倒我们会运用好教材，然后和教材配套相关的东西应用的比较多。
- 如果使用数字化游戏教学您会在教学上做出什么调整和改变？
- 我倾向于在比如说在综合技能和能力拓展的这个课在最后 10 分钟到 15 分钟给孩子一个接触同类话题相关素材这么一个机会，让他们有一个拓展的环节。然后同时这个地

道的材料，也可以辅助孩子发音。所以就是在每次学这个单元的最开始学习接触的导入的阶段，或者是提升的阶段，我觉得这两个环节是最适合用的。

- **那么如果使用数字化游戏教学您会用哪一类的游戏？**
- 首先必须得是跟课的内容相关度非常高的，然后拓展应用不能太多，如果拓展太多的话就会给孩子增加难度了。然后肯定得是地道的，语言方面有一点夸张，有一点幽默感，孩子愿意看的，这是必要的。然后在一个是游戏的参与面需要广。因为课堂当中如果是这个游戏环节只有一两个孩子参与的话，那么一般孩子可能会觉得老师没叫他可能会有一点小遗憾。所以就是这个游戏设计可以让更多的孩子参与进来。
- **那么如果是使用数字化游戏教学您会来教那些语言技能？**
- 语言技能？听的技能肯定是有的。然后反馈的时候也是一个说的技能，然后我们可以用这个材料作为一个阅读的材料，让他们看完以后完成一些阅读的练习。如果看完这个给他们大量的语言输入，让他们有一些写的这个过程，也可以。但是这个在高年级的时候可以用到，**(7) 但是更重要的是想通过这个去拓展他们的视野。让他们感觉到本土的人真实说这个语言的人他们在想些什么做些什么，也就是说我更希望打开他们的文化的层面。**

6'55

- **那么如果使用数字化游戏教学应认为数字化对提升学生兴趣和学习兴趣和英语能力有何帮助？**
- 肯定会提升兴趣的。比起一般枯燥的教学肯定会好很多。然后英语能力我觉得这是一个无形的，但是最重要的是要增加输入量。**(7) 如果说上课的老师他的语音面貌不是很标准的话，那么大量应用原版和地道的语言肯定对最初学习的孩子的他们的语音面貌会有特别大的帮助。**
- **那么对英语学习能力有帮助吗？**
- 刚才说到能力，其中之一就是好的语音面貌就是听说这块锻炼听力，让语音更地道，一些然后同时拓展知识面等等。
- **那您觉得自己平时在获取使用数字化教学时会不会遇到障碍呢？**
- 会呀。因为网上的材料特别多，所以需要有一个海选的过程。然后这个如果想精心的去完成一课的教学，然后在那么多的教材算是素材当中选择的话，其实是很耗精力的。有的时候备课的时间可能还会超过上课的时间。所以如果说有一个拿过来的一个资源包，然后跟这个恰好是配合我们一线的老师应该会很开心。不用自己去浪费那么大的精力，去找但是又把最好的东西给孩子。
- **那么您觉得数字化游戏教学会有什么缺点呢？**
- 这个得看老师是怎么用吧。我觉得一个好的老师，他首先自己要把握这个选材。因为材料多，所以在使用的时候就有利有弊。所以必须得是这个老师他选择到的最适合的孩子的东西，才能达到最好的效果。如果要是精心选择，或者是选都不太适合的材料的话，那么就耽误了课堂的宝贵的时间。然后还有控制度，**(13) 在课堂当中我觉得时间不能太长，也就是 10 分钟以内，或者是十多分钟这样。这样孩子呢对这个点会保持比较高的兴趣，同时就不会感觉过度的兴奋，或者是因为兴奋感到过度疲劳。**所以如果能把握好这个度的话，就好了。
- **那么在何种程度上数字化游戏教学有助于老师提高自己的专业技能？**
- 首先我们的这个学习过程就是接触外教的时间还是比较少的。所以我们本身的语音面貌也不会特别的地道。所以当我们自己看这些素材，或者是在自己的家里面给孩子看这些素材的时候，本身对我们自己的语音面貌是一个提升。然后在一个是我们使用的英语会稍微有一点官方，然后没有接触太多的俚语，欧美的孩子自己在家说的

那些话，接触这些方面比较少很多。软件能弥补这些方面的不足，让我们看到那些孩子在小的时候会真的说什么，就是地道的表达方式。

- 那么我们现在正在研究将数字化教学应用到实际教学中的可行性。因为现在有很多人用英语来进行词汇教学，那么我们想知道您对于应用数字化游戏教学到外语词汇教学当中的看法。比如说您现在是采用什么样的方式来教授外语词汇的呢，理由是什么？
- 首先我们教词汇的时候会有不同的呈现方式。就是跟老师的敬业程度有关系，可能最简单的词汇方式就是写在黑板上，或者使用一个闪卡，或者是简单地听录音机，这些是比较懒惰的方式，也是不太敬业的方式。但是 **(8)** 我个人哪怕我一节课教四个词汇，我也是尽量用不同的方式来呈现这四个词汇，来刺激孩子来形成一个深度的记忆。所以我觉得刚才的这个数字化的软件，我觉得跟我的这个有异曲同工之处，就是希望创造一个特别的情形给孩子加深印象。所以我觉得这个还是挺实用的。尤其是适合进行词汇教学。
- 那么请您谈一下您对应用数字化游戏教学的兴趣和看法。
- 我觉得可以有。而且是未来的一个发展趋势，但是不能滥用，要很科学的使用，然后在使用的时候，把握很重要包括时间包括选材都很重要。
- 请您为支持或者是反对数字化游戏教学进行词汇教学陈述几点理由？
- 多元的呈现方式，符合孩子的认知习惯，让英语课堂更有趣更生动。**(8)** 再一个这个媒体是一个大的发展趋势，就是应该进课堂的。

13'08

- 那么数字化游戏教学作为一个在中国教育行业和市场上新兴出现的一个现象，在实施过程中可能遇见很多潜在的困难，比如说学校层面，家长或者是老师学生方面，接下来我想采访您一下作为英语教师的角度出发，对于目前数字化游戏教学在中国小学英语教学中使用的情况的看法。那么您认为在数字化游戏教学在中国教育的大环境下成功实施作为关键的环节，在什么地方。比如说软件开发公司啊，学校老师学生，还是其他的，为什么。
- 我觉得首先是在老师有没有这个创新意识。孩子肯定是喜欢的，那么孩子能高高兴兴学到英语，家长也肯定是喜欢的，然后学校能提高英语成绩，肯定是高兴的。然后希望就是老师能养成一个运用的习惯 - 就是坚持。还有一方面的因素，可能是政府部门的。如果说政府部门给学校的配备相对来说是高科一些的话，就别说有的学校有多媒体教室，然后有的学校每个学生都会有一个平板电脑，有的班级有投影仪，有大屏幕，这样老师操作起来就会非常方便。如果说有政府部门的投入的话，如果说学校的硬件再好一些的话，老师可以更轻松的使用。
- 那么您认为学生怎样做才能够从这样的数字化游戏教学当中更有效地学习英语？
- 应该有老师的引导吧。
- 那么在数字化游戏教学当中老师最应该考虑什么因素？
- 刚才提到了一些因素，素材的选择，课堂时间的把握。这两点是我觉得最重要的。
- 那么你认为学生家长在其中起到什么样的作用？
- 那么得看您这个数字化是运用到课堂上还是课下了？那么如果是在课堂上的话，家长起到的作用不太大，在课下的话家长肯定是需要支持的。因为现在家长看手机的比例也很高，然后他需要把这个自己看手机的时间给孩子去做一些英语的软件，所以他肯定是要让给孩子用的。所以这方面有一个支持。然后如果是长期的话，需要一个监督和督促。
- 那如果您作为老师给软件开发公司提建议的话你认为他们要开发出有效的数字化游戏来辅助英语教学中的关键点是什么？

- (14) 关键点是一定要跟一线教师，或者是教研部门，跟他们合作。就是不要自己去闭门造车，去想这个东西怎么样好，而是要跟一线的教师和教研部门多沟通，看他们觉得什么样的最终适合孩子的，因为我们接触一线教学更多一些。

16'23

- 那么我想问一下您对小学英语课堂使用电脑播放动画片的看法。就像刚才我们播放的那个动画片一样，它是用来辅助辅助教学的。您对这种电脑动画片与电脑相结合的方法观点是什么？您会在英语课上播放动画片感兴趣吗？为什么？
- 会有。这个是我们大纲当中的视听要求。
- 您感兴趣吗？
- 应该说是感兴趣的。就是因为我们的大纲是要求孩子们英语课程标准，应该是要求每个星期有一到两小时看英文动画片的输入的这个过程。对这个量有一个要求，然后呢课堂上在某些环节也会给孩子播放，但是我倾向于在拓展的环节播放。如果是每堂课都放的话，我们没有那么多的课堂时间。
- 就是这几个情况下您会用动画片是吧？那么根据公司放的动画片和您之前用动画片，你认为在课堂上使用动画片对于英语学习课堂氛围或者是教学带来什么好与不好的地方？
- 目前为止好的点是比较多的，肯定是进过课堂的然后。
- 那么老师您认为什么客观或者是主观的因素支持或者是阻碍你们在小学英语课堂上使用电脑都播放动画片呢？
- 我觉得主观的因素，从我个人来说没有什么主观的因素。可能其他老师他们主观的因为可能不太准备充分，没有给孩子提供相应的素材。应该是导致的老师的惰性导致的。我基本上每次上课之前都会很精心的准备，我们学校的氛围也都是这样的。然后客观因素可能是学校与学校的设备是不一样的，有的学校就有电子白板可能会平板电脑，但我们学校用电视和电脑用起来也很方便，所以我觉得客观可能有个别学校的设备不是很高档，但我觉得基本的使用都能够达到。
- 现在英语已经是一个全球化的现象。说英语的人不断增加，导致英语使用有的人想要创新。因为英语的使用者来自不同的语言和文化背景，越来越多的人将英语作为一个全球性的通用语言来使用。现在的英语交流不仅发生在母语为英语的人之间，母语不是英语的人之间也会频繁地作为通用语言在任何母语不相同的人当中。那么刚才的动画展示的世界来自不同国家的人，意大利英国和中国都有用英语交流的情形，那你对中国小学生接触这类英语使用方式的看法是什么呢。
- 我觉得首先我教英语的目的有两个重要的。一个是应试，这个是没有办法的。因为学校学习肯定会参与各种考试，这个肯定是有客观存在的。然后另外一个，我觉得做一种生存技能。就是有一天孩子见到外国人，或者是孩子出国，他能够具备一个基本的生存技能。所以我教学的目的是能够让他们具备一个基本的语言技能出去交流。使用这种语言，而不是非得说跟哪一个国家的版本，或者是存在于哪些语音上的问题。我觉得会用是最重要的。
- 那么您对把不同国家的人之间的交流融进您的教材看法是什么？
- 在我的课堂中我会有一些文化的渗透。然后让他们感受到不同的国家人们的文化是什么样的，可能我这一点会比较关注。其他的就不是特别。
- 就是通过英语来了解其他国家不同的文化。那么您对于在教材当中加入不同国家英语使用者的口音的看法是什么？比如加入美式中式意大利式口音的英语？
- 中式有口音吗？还有意大利式？我没有太接触过，我个人是对印度韩国和日本的口音有一些在意，英美加拿大，我觉得还有觉得新西兰，差别不是很大，所以我都肯定可

以接受。然后我觉得我们现在进行基础教育，还是主流的比较，就是全世界范围内更广泛的人接受和认可，我觉得比较好，我们恰恰现在官方选择的教材也是这一类的教材。

- **你认为的主流是指？**

- 就是英国和美国加拿大，这三种教材我们都接触过。我说的主流不是我认为的主流，是我们现在市场上教材的版本的主流。

- **那您刚才提到的您对日本韩国英语是有一定的了解？**

- 不算有了解。只是听过一些日本韩国，还有一些我们外教来自非洲的外教，然后他们的那个口音和我们相差得比较远，所以可能会给孩子造成一些混淆。所以我个人会比较倾向于另外刚才我说的英国美国和加拿大三个国家的。

- **那么您对于在学习材料中融入各国的俚语，比如说当地特色词汇之类的看法是什么？比如说中国人交流中式的英语，说走后门是 **backdoor**。你觉得这种词汇，比如说日本他也有当地的俚语成分，加入到您的学习教材，看法是什么？**

- 我觉得现在基础教育阶段真没有太多机会去把这些东西加入到课堂当中。本身一个星期三的课时，我们正常教学内容还完不成。所以俚语这块呢只是倾向于小朋友的家居的，以及一些教材当中出现的习惯用语，这些可能会接触到一些。然后像你说到的一些离我们比较遥远，没有很多机会接触。

- **那么很多人在说英语的时候都会带上很多的本国的语法特征，比如说马云在国际交流会医生说 **Why people don't like it**，为什么人们不喜欢他呢。这个是中文语法都直接翻译那么标准的应该说是 **why wouldn't people like it?** 您对于这种把各国语法特征带入英语中融入英语学习教材中的看法是什么？但是这样并不影响交流啊？**

- 我理解，我也接受。我反倒觉得现在考试当中，中国的考试当中，涉及到的考试的题对于语法的有一点太苛刻和严格了。反倒忽略了本身语言的交际作用。我觉得把就好把握一个适当的度就好。

- **那么您觉得有哪些因素可以促进您把这种跨国背景的英语交流融进您的教学材料，什么因素可以促进您？**

- 我们每个话题我都会相关的渗透一些文化方面的东西。这个是我们教学目标当中，就已经涵盖的文化渗透。我觉得这样可以让孩子打开视野。我觉得我们本身就是这么做的，还好像没有太多的可以促进的因素。我们的课程标准当中对于教学的三维目标设置就是这么要求的。我们有知识目标情感目标和文化目标。文化目标就是对这一课当中涉及的各个国家的那种文化，我们是怎么课堂结合的。所以比如说跟节日结合的，或者是就是相关的一些话题。我觉得我会去找一些这方面的素材，然后给孩子讲一讲，让他们拓展视野。不是什么因素是促进，一个是上边领导的要求，我们也是这么做的。

- **就是政策方面？**

- 跟政策有关系，但是我们已经把这种做成一种习惯了。

- **我觉得英语课堂就应该是这样的但有什么阻碍你把这些融进您的教学材料呢？**

- 可能说是课时。我们的课堂时间比较短。就是比如说我们之前学校可是课时开设比较多的时候我们有英语读报课，然后就是真的让孩子看到了不同方面的文化知识在知识方面对孩子有拓展，现在课时每个星期就三节课，所以我们首先得保证基础的教学任务，然后再去拓展别的东西。所以我会考虑到课时的因素。

- **那么除了课时还有其他方面？**

- 其他没有什么了。

- 谢谢。

Teacher 2 (T2)

- 就不会涉及您的名字，我们都以代号来代的。首先是老师您年龄大概是？
- 37.
- 然后，性别，女。然后，教龄大概是？
- 17年。
- 啊，非常有经验了。那么您使用数字化游戏教学的时间有多长？大概是？
- 这个东西我们偶尔也会用，但不会太多。
- 哦，那就这样，那就开始了。现在有些国家已经把数字化游戏应用到课堂上了，您对中国小学英语课堂中使用数字化游戏教学的方法持怎么样的态度呢？
- 看你什么样呗。比如说像你们网站上那个吧，就不太适合课堂上用。你要说一个拿一个 iPad 在那点，那行。那你说，我把那个放到大屏幕上不行，因为这个是手机端的。如果我把它放到大屏幕上，那你说怎么弄啊。一个学生上去点，地下的学生都会看见，效率会非常低。
- 如果不单看那个平台，整体开看数字化教学，您持什么样的态度？
- 怎么说呢？你得看那个形式是什么样的。反正 **(10)** 要调动起全体学生的参与度来。不能只是很片面的，这样的话课堂效率会很低下。主要是看其形式。比如说，一起说，同学之间说，等等。反正就是不能一个人，这样会很片面。
- 那您经常使用这种方法吗，为什么？
- 我们也有，我们课后的软件也有。如果它比较好的话，能让大家一块说，同学们都很集中地去看，那还行，我们就会采用。如果是就像你们那样，只能是一个或者两个人参与，我们就不会用它。
- 那么如果用这种方法的话，您会在教学上做出什么调整或者改变吗？
- 比如说，像你那样子的，我们就得人手一个 pad 呗。为了应你们的要求是不是？就像那个动画片，我说不适合上课用。你们非得要求我们上课用。我们就可能得把我们的教材删减一部分呗，是不是。
- 那就会改变课堂教学时间，是不是？
- 那当然了。我们要上完我们的这一堂，再上你们那一堂，肯定上不完。就你那个动画片，我上课最少得用 25 分钟。那你说光让学生看完一遍有啥用。看完了就看热闹了。你得让它有应用的价值，是不是。

3'05

- 那么如果用这样的数字化游戏教学，你会用什么类型的游戏？
- 我们课后有什么样的来着？比如说几个单词，单词下面有汉语意思，它说，让学生选单词。反正我按，大家能一块说。也就是这种呗。然后像什么填空，ABC 选择填空之类的。大概也就这些。
- 如果用这些方法，您会教授哪些语言技能呢？会制定哪些学习目标之类的？
- 那就认读呗。主要就是认读了。如果需要的话，那就拼读呗。那得四年级下。三年还用不着。然后就是填空，句子应用的呗。也就这些吧。
- 那您认为数字化游戏教学对提高学生的兴趣和英语能力有什么帮助呢？
- 那倒行，我估计学生会挺喜欢。反正我们一般玩的时候，学生一般都挺喜欢的。但是不能长时间地玩。那就没有啥意义了。
- 那么您在获取或者使用数字化游戏教学的时候会不会遇到什么障碍啊？
- 就是资源不太多吧。如果能够多点就更好，其实我们用的也不太多，有的时候就是我们自己课件做的。如果没有这些资源，我们就得用自己的课件做。自己课件做的，没

有像你们做的那么好。那么能做出什么效果呢？反正资源要是多一点，能够给我们选择就更好了。

- **那么您认为这种教学有什么缺点？**
- 反正不能太长时间。容易让学生只关注这个有趣啊，得不得分儿啊，之类的。
- **您认为在何种程度上，数字化游戏教学能够有助于提升您自己的专业技能？**
- 我没什么用啊，最主要是针对学生的课本之类的。

5'49

- **现在有很多人用这种游戏来进行那种词汇教学。那么我们现在研究将数字化游戏教学应用到实际教学中的可行性。然后您现在是采取什么样的方法来教授外语词汇的呢？然后采取这些方法的理由又是什么呢？**
- 我们上课呀，就是领读啊，我说你做，我做你说这样的方式。就是能够让学生会说会表达。然后过去采取的配对啊，认读之类的。我觉得认读都不是问题，然后比如说单词发音，自然拼读法。就是你要会读的话，认起来是比较容易的，认读应该是不成问题。
- **那么为什么要采用这些方法，理由？**
- 反复练习让学生记住。用各种方式。
- **那么您谈一下您对数字化游戏应用教学的兴趣和看法呗。比如如何应用啊，有什么意义啊。**
- 我觉得这个问题好像是重复的，怎么的。跟刚才的好像都差不多的。我记得刚才好像说了类似的。
- **差不多，大同小异吧。**
- 就是啊，你能不能问点不重的，不一样的。
- **你要不重新回答一下呗，按程序走。**
- 我不说了吗，反正就是你不能时间过长，这个东西。反正一堂课学生能达到几分钟就可以了。然后也不能过于花哨吧。让学生的注意点还是在这些单词上。是不是，这个游戏不能做得天花乱坠的。
- **您能给出几点您支持或者反对数字化游戏教学进行词汇教学的理由呗。**
- 支持肯定是有的。反对就是注意弊端，不要弄得太花哨。或者是，让学生只关注于这个什么，这个得多少分啊，他不用学别的了，他就想把这个做好，就是想拿第一，其实也没有多大意义，他会了不就行了呗。就是你们程序的问题。

8'49

- **那么数字化游戏教学在中国的实施肯定会遇到什么潜在的困难是吧，那么您认为它在中国英语教育的这个大环境里想要成功实施最关键的地方在哪里？比如说，软件开发公司啊，学校啊，老师，学生或者其他这些角度来讲。**
- 主要你们开发得好，适合课堂用，或者适合回家用。
- **就是软件开发公司？**
- 对。你们没有，我们用啥啊，我们自己做的那玩意肯定是不行的。
- **那么您觉得学校或者老师对于推动其发展有什么关键的地方？**
- 这些东西确实在于有效性。那你说关玩儿，那么推动它没有多大意义。
- **那么学生怎么样才能在这种游戏当中更有效地学习英语呢？**
- 反正就是会了就行了，不要反复地去玩。不光用这个游戏的方法，是不是。平时我们不玩，我们不也会。
- **那么您觉得在课堂实施过程中，老师应该考虑什么因素呢？**

- 时间啊，是否面向全体啊。
- **那么您认为家长在其中起到什么样的作用。**
- 家长主要是监督呗，不能让学生时间过长地玩。要考虑到眼睛的问题。家长很反对什么东西都拿到手机上啊，电脑上这种。他会觉得你那是在玩，不是在学习。
- **您给他们这种软件开发公司提建议的话，您觉得要开发出有效的游戏来辅助英语教学的关键点是什么？**
- 那就上课课下的呗。课下的就像你们的都可以，是不是，别的地方也有。别的地方也都有，估计在那个什么网站上也有。那都是没啥的，那都是课上主要是针对于学生。然后这个字儿什么都得大一点，能让全班同学都能看见。

11'10

- **那么现在我想问下您对小学英语课堂，就是刚才播了动画片儿吗，然后辅助教学呗，然后我想您对这些方面的观点是什么。你是否对在英语课堂上用电脑播放动画片儿感兴趣，为啥？**
- 可以啊，学生注意力挺高的。他马上就被吸引过去了。但是你不能过长。就像你们一下做五分钟那是不行的。那就下课课下看还行。在课上是很耽误时间的。
- **那么有兴趣的话，您一般会在课堂的哪个阶段，什么情况下引入动画片儿啊。**
- 我一般就加绘本儿，就和动画片有点类似吧。一般就是最后，啥都完事了。几分钟吧，你怎么也得看一遍说一遍吧。如果再有时间的话，能够再读几遍更好。但是学生没有书。或者跟着上边看，或者配遍音，最多也就三遍也就可以了。
- **那么根据我们刚才放的动画片儿来看，您对课堂中使用动画片对英语学习，课堂氛围，和教学会带来什么好与不好的地方？**
- 学生喜欢呐。不好那就是你们要注意了，动画片做成什么样，是不是？是否有效，学生都应该挺喜欢的，不管什么样的动画片学生都应该挺喜欢的。我姑娘虽然也没有上学，但是她也挺愿意看。

12'38

- **那么什么客观或者是主观的因素会支持阻碍你在小学英语课堂用动画片来辅助教学？**
- 看时间够不够。这堂课的课堂中还没讲完，最关键的是你把课本的这些东西都学会该学的都学会，该应用的应用完了，然后你再做这些。你不能什么都不教，光看动画片那是不行的。
- **那么什么因素会支持你使用动画片的辅助教学呢？**
- 比如说动画片的内容特别符合教材，然后也能起到很好的拓展作用，就像学生看课外书一样。你们不也需要看课外书吗？我觉得动画片还是挺好的。但是最重要的是不是适合。
- **刚才我们在平台播放动画片有没有注意到有一支意大利的小兔子？他可能和你平常接触的教学材料当中说说的标准的美式英语和英式英语不一样，他说的是意大利式的英语。**
- 他也没说几句啊，他一共不就两句话吗？有什么区别吗？
- **他用意大利式的英语和中国的小男孩进行交流。**
- 那小男孩也没有说几句话。
- **那现在抛开这些说。现在的英语作为一种全球范围内使用的语言，使用对象以及方法越来越广了。比如说用中式英语在泰国购物，在美国谈生意，在意大利的街头跟意大利英语的人聊天之类的都可以。现在的英语交流不仅在英语为母语的人当中，母语**

- 不是英语的人当中也频繁的作为通用语发生，比如说中国人和日本人的交流也是可以的，您对中国的小学生接触这类英语使用的方法的看法是什么？就是区别于传统的？
- 我觉得不应该过多接触这种东西，因为它不标准。意大利式的英语我没有接触过，我也不懂。反正是中国式英语肯定是加中国元素的，那是不正确的。我觉得不应该让孩子接触。
 - **为什么？**
 - 因为我觉得要学就学最标准的，加上自己的元素的话就不合适了。
 - **那么您觉得刚才这种就是不同国家的人使用英语的情形加入教材的看法是什么？**
 - 我觉得不能太杂乱，中国式的意大利是的美式的英式的，那么学生到底学什么？那么杂粮也不能吃太多，得乱套。我就比较反对你们在哈尔滨发展，你们就应该去江苏啊。每次我们去听课，他们的教材全都是使用英式的，英语老师的口语全部都是英式。你说我星期三做一节课怎么做，我前一节课用美式，下一节课用英式，整个学生都学迷糊了。所以我觉得你们不适合在哈尔滨发展，哈尔滨自古以来就是美式教材。
 - **那你认为在学习材料中加入不同国家的英语使用者的口音怎么看？比如说刚才的意大利式的口音还有日本的口音英语到您的教材当中？**
 - 那我觉得不应该。尤其对学生来说，他有一定的基础性，起码小学毕业，或者是初中毕业，您在去学乱七八糟的那些还没有学明白全整乱七八糟的，这不都乱套了吗。你说这趟课一个叫 chair，一个叫 chair，你说我到底怎么教，我不应该这么教。
 - **那么你认为在材料当中加入当地的特色词汇比如说我教中式英语，在中式英语里有人就会说 use the back door，就是走后门的意思，你觉得这样的表达在当地特色的词汇怎么样？**
 - 不适合小学。起码你得初中，或者是高中大学，这些都是具有很高的拓展程度的东西，小学 door 还没有整明白。
 - **那么些现在很多人说英语它就带本国的特征。比如说马云再一次国际交流会议上，说 why people don't like it，但是正确的说法应该是 why wouldn't people like it。马云所表达的是中文语法的直接翻译，大家都听得懂您觉得这种又带各国语法特征，但是又能够听得懂的语言融入学习材料当中的看法是什么？**
 - 我也觉得不适合小孩。
 - **为什么？**
 - 大人明白就行。不应该用这些太口语化的材料，我觉得在教材上不应该出现这些他都是很正式的。I want to 你不能说 I wanna，因为在课本上没有出现过，我们就不能涉及。
 - **就是一切都以课本为准吗？**
 - 对，而且应该学比较正统的，然后你再说别。I wanna 你是我在上师范学校的时候才知道有这样的口语。
 - **所以说别人建议把这种不同国家英语交流融进教材遇到了这些阻碍是吧？您觉得在哪些方面会阻碍这种融合？**
 - 我觉得小孩还是以正统的教育为基本，不能去弄其他乱七八糟的东西。他也涉及不到看不到那么难的东西。你这些就应该放到高中大学，最次的也要放到初中。先把正常的学明白的。
 - **其他在政策和学校方面，有什么阻碍因素吗？**
 - 那倒没有学校不会管这些方面的。我们上好英语课就可以了。
 - **什么因素可以促进您把这种跨国背景的英语交流融进教材？**
 - 促进？要是全国或者是全世界都这么说那我就促进呗。要是课本全是这个那么我们就教呗。

Teacher 3 (T3)

- 现在我们开始正式的访谈。现在有的国家开始把数字化游戏教学，就像我们刚才那种把它应用到课堂当中。因为有些人发现游戏不仅在某种程度上有利于学生学习，还能够提高学生各方面的能力。那么请问您在对于中国小学课堂使用数字化游戏教学的方法持怎样的态度呢？比如说您刚才这样使用了，好还是不好，还是中立，有什么态度呢，你怎么看待在课堂上使用这些东西？
- 我觉得这个挺好的就是会吸引他们的目光。让他们更有兴趣，如果要是这个其实会挺枯燥的。如果就只是老师在课堂上干说的话，效果没有加入这个好。
- 经常使用这种教学方法吗？
- 经常使用。
- 为什么？
- 因为小学，特别是低年段的学生，就应该加入游戏的教学。要不然的话，他们的注意力分散的特别快，他们保持一件事情的注意力，可能只有那么几分钟，所以加入这个之后他们能够持续的时间更长一点。
- 那个说刚才加入到教学当中会对教学做出什么样的调整或者是改变呢？或者是改变课堂时间之类的？
- 应该会吧看你堂课具体看那堂课增长，或者是减少，在哪个环节上，不一定是固定的。那您还会做出其他什么调整或者是改变吗？除了时间？
- 不会了吧。
- 如果使用这个数字玩游戏教学应会用什么类型的游戏？
- 可以用导入，练习，复习。
- 那么如果用这样的教学的话您会用来教授什么样的语言技能？
- 就是听说吧。
- 那你会相应的制定哪些学习目标呢？
- 就是让他们比如句子的话掌握什么样的句子，或者是关于什么样的问答类型。能听懂，会说，会表达。
- 用了这个方法您认为对于数字化游戏教学对提升学生兴趣和英语能力有什么帮助呢？
- 肯定能对他们的语言语音语调方面提高有相应的提高。最主要的就是增加了学生的学习兴趣，其次是能够提高他们语言语调方面。
- 你自己在获取或者是使用这种数字化游戏教学会不会遇到什么障碍呀？比如说获取资源的困难获取，或者是使用的时候会遇到什么样的障碍的？
- 获取就是不太好获取。有时候比如说要是在网上没有固定的平台，你想下载一段东西的话，其实挺费劲的。有的需要收费，有的干脆就下不下来呀。
- 那么您对数字化游戏教学的缺点是怎么看的？
- 缺点可能就是孩子们可能会过分投入到其中。只看动画片，或者是去玩游戏，而忽视的句子或者是单词的训练。
- 那么还有其他什么缺点的？
- 可能会有学生趁机做一些别的小动作。
- 就是分散课堂精力，是吧？
- 比如说趁着混乱聊聊天，玩玩东西。
- 在什么程度上这种数字化游戏教学能够帮助您提高自己的专业技能？
- 比如说，我们没有这个英语环境，如果我们听到这个之后对我们自身的发音语音语调啊也是一种提高，我们上大学的时候提倡看原声的影音课。

- 现在很多人用游戏进行词汇教学，你说刚才我们设计的，比如说刚才我们设计的小游戏关于单词的。我们现在在研究将数字化游戏应用到实际教学中可行性。您现在是采取什么样的方式来进行教授外语词汇？那么您对采用这种方法的理由又是什么呢？
- 现在按照我们的教材来说呢就是比较单一，每课就是对话，这一课就是单词教学，所以没有什么情景情境只能延续前一堂课的情景把这个单词导入到里面去。
- 为什么是用这种方式呢为什么使用这种方式呢？
- 新换的这本 PEP 这种教材就是这样规定的，这个是来自编者的意见。
- 那么您可以谈一下您对于使用数字化游戏进行英语教学的兴趣和看法。比如说有什么异议啊？
- 在应用方面，我觉得需要找到适合的材料，时间也不能太长。就像我们开始在实验阶段的这个动画片最开始的时候是想放到课堂里面是有一点困难的。如果要是缩短时间的话，在课上会比较方便，也就是说一个是时间，另一个是契合度。
- 那么您对支持或者是反对数字化游戏教学阐述几点理由。
- 我支持我不反对。
- 那么请陈述几点支持的理由？
- 因为可以听到他的准确发音，再一个可以重复记忆。
- 大概就是这两方面的内容是吧？

08'42

- 游戏化教学现在在中国实施可能会遇到很多困难。你认为他想要在中国英语教育大环境中成功实施最关键的地方在哪？还有其他参与者分别起到什么作用？首先想要成功实施最关键的环节在什么地方，在软件开发公司，或者是学校老师学生，还是其他什么地方？
- 最关键的？**(12)** 我认为实施的关键应该是在教学者。只有教学者使用合适的方法学生才能学到东西，就是老师特别重要。但我认为开发公司也很重要，如果软件不适合学生使用的话也没有可行性。
- 学生如何做才能构成这样的数字化游戏教学当中有效地学习英语？
- 学生的话，首先得愿意参与。要是不愿意参与的话，说什么都没有用。
- 也就是说学生的主动性和动机是特别重要是吧？那么你认为在数字化游戏教学当中老师应该考虑到什么因素？
- 应该考虑到适不适合这一堂课。
- 家长应该起到什么样的作用？
- 应该配合吧不应该抵制。**(11)** 由于现在的孩子玩电子产品太多了。一个是对眼睛不好，另外一个方面是玩游戏太多的话，会耽误他们的学习。所以家长对这一方面会有一些顾虑。
- 所以您认为家长起到一个推动的作用是吧？那么如果作为老师给这种电子游戏软件开发公司提建议的话，您觉得要开发出有效的数字化游戏来辅助英语教学的关键点在哪些地方？
- 时间相对短一点，内容上更有趣点，更有意思一点。

11'45

- 刚才播放的五分钟的动画片。在课堂上播放这类的动画片，这种用动画片电脑相结合在小学英语教学应用中持什么样的观点？对在英语课堂上用电脑播放动画片感兴趣吗？
- 感兴趣。
- 为什么？
- 孩子喜欢。
- 就是兴趣很重要？还有其他因素吗？
- 我们老师也喜欢。
- 为什么？
- 对于老师来说放动画片的话会比较轻松给我们减少一点负担。其实老师的教学和动画片是相辅相成的，可以这样学生比较感兴趣相对轻松一些减轻些负担。
- 您会在课堂的什么阶段引入动画片呢？
- 得按照动画片的内容来定是配合课前的预习还是课后的复习。
- 时间会相对的灵活，主要是根据它的内容而定？
- 根据公司设计的动画片，以及您之前看过的动画片，在课堂上使用动画片，进行英语学习对课堂氛围或者是教学带来什么好与不好的地方？
- 看动画片学生肯定都是喜欢的。但学生可能就只是看一个热闹，不一定是看懂，或者是看进去，或者是趁机搞一点小动作，这些可能是负面的影响。但是如果大家都能认真听进去的话也能学到不少东西。
- 什么客观或者是主观的因素会促进或者是阻碍您在小学课堂上电脑播放动画片？
- 没有什么阻碍，我很愿意使用这种方法。主要是能够适合学生的我都支持。

15'08

- 刚才播放的意大利的短篇当中有一只小兔子，他是意大利来的，他说的是意大利式英语，跟平时教材当中接触的主要的英语，比如说英式英语和美式英语是不一样的。他就用意大利式跟中国的男孩和英国的小女孩进行进行英语交谈，跟不同的国际之间的人进行交流，现在作为一种全球范围内的语言，使用的方法和对象很广。比如说中式的英语在美国谈生意，在泰国购物都行得通。您对让中国小学生接触这样的英语使用方式的看法是什么？
- 他们可能会有听不懂的情况，在我自身也存在者这样的情况我听美式听惯了听别的口音会有一些费劲，但是读接触接触也好，多听几遍也是一种对于世界文化的了解。因为哈尔滨的学生从开始学习接触的就是美式英语没有接触过别的。英式都很少，固定的基本教材比如说朗文，使用的是英式英语，他可能会接触到。
- 但在一般情况下都是美式英语传统教材都是限制在的英式或者是美式上是吧？
- 您把这种不同国家是用英语交流的情形教学材料的看法是什么呢？就是抛弃刚才这种传统的英语？
- 没什么看法，中立。没什么看法，也不抵制，也不建议，都行。但我自己的话不会使用这样的教学材料。因为不熟悉，主要是老师自己不熟悉。所以还是会使用英式英语和美式英语的材料。
- 比如说您在教学材料当中加入不同国家的使用者的口音的看法是什么？比如说加入中式英语和意大利式口音的看法是什么？
- 如果是有专门的这类的课程的话，可以让他们对比。让他们了解每一个国家说英语，口音是什么样的，可以让他们作为了解。但是如果是正常授课的话，我不会的。因为主要是让他们学一定的句子和单词，如果使用其他的口音的话会影响他们语音面貌。

- 那么您对在学习材料当中加入当地特色词汇有什么样的看法？比如说有中国人在用英语交流的时候会走后门 **use the backdoor**，你觉得加入这样的词汇有什么看法？
- 我觉得可以。因为现在很流行，这样的词汇，比如说在网络上很多都是词典上没有的后面开发出来的新词，也挺流行的。没有觉得什么不可以的。特别是在美式英语当中有的简便的就只剩一个词了。
- 有很多人在说英语的时候会带上语法特征 比如说马云在国际交流中，把为什么不喜欢他呢 翻译成 **why people don't like it?** 但是标准应该说 **Why wouldn't people like it?** 马云是对中文语法直接翻译，对于这类基于国家语言的语法特征教材当中的看法是什么？
- 我不太支持，这样的因为中国应试教育。肯定都得标准语法来。特别是在小学阶段，你给的是什么，他就是什么。所以最开始就给他们教好在小学阶段还是把基础打好，在初中或者是高中以后可以自由发展。因为他们以后，还是需要应试的，这是中国教育的基本特征。
- 那有哪些因素可以促进把这种跨国背景的英语交流融进你的教学材料呢？
- 不太容易，因为每堂课的课时和内容都是固定的所以想加入其他东西的话不是特别的灵活。
- 还有其他因素吗？
- 因为我们平时的培训就是这样的，上面指导的示范课，比如说刚才你问我的为什么这节课的对话要沿用上一课的情景，因为之前的示范课，我们就是这样组织的。就需要这样的进行，这样的模式是固定的。这个模式就是这样下来的。
- 谢谢老师。

Appendix 10: KTP project information

Digital game-based learning for young learners

Thank you for signing up to take part in the project developing a digital game-based learning platform for young learners in China. The project researchers have been awarded a Knowledge Transfer Partnership (KTP) Grant to work with a software development company (Nosebleed Interactive Ltd.) in developing a novel web-based entertainment platform for teaching English to Chinese children (see the website below).

The full project will last for 18 months (from December 2016) and your participation will be only part of this time. The outcome of the project will be the production of a digital game which will help young Chinese learners to learn English. During 2017 there will be a short pilot (in China) of some initial ideas, and this will be researched to give feedback on certain aspects of the game. Following this, the game will be updated and improved.

Your part in this will be to contribute to selected areas of the academic work, and this will all be extremely useful for the project. You will also have the satisfaction of knowing that your dissertation research is part of a real-life project that will make a difference to learning for many young Chinese learners.

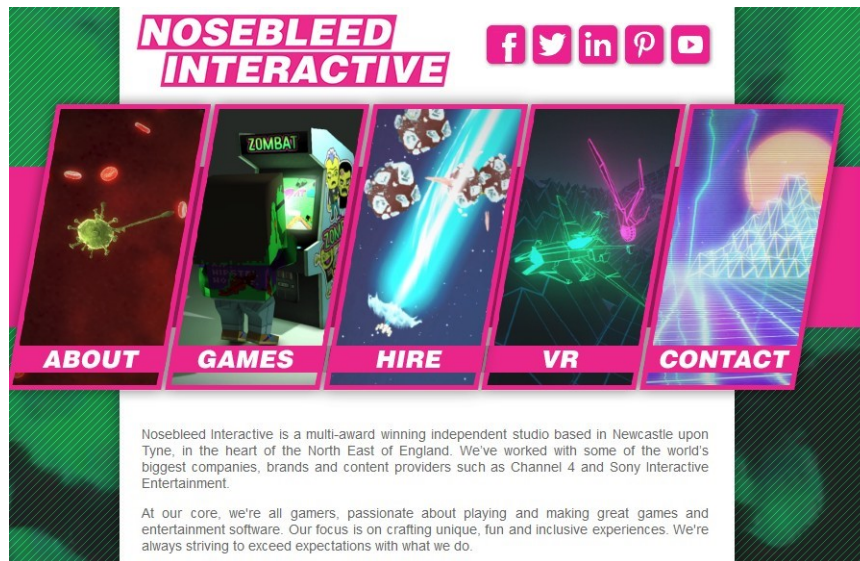
During March we will have group and individual meetings, to make decisions on what your research will be. This will take into account what the Project requires but also what you need to be able to do for your dissertation. There are various areas that you can develop, and the research you will do will be the outcome of discussions around what you already know, what you can contribute, and what your interests are.

The areas/topics that will be developed until July 2017 include:

- Finding out what Chinese young learners of English currently do; this will involve looking at, for example, the reasons they learn English, the things which they find motivating, the activities that are commonly part of classroom learning, the activities outside school that they engage in. This could be largely literature-based (analysing documents and policy) but could also involve observations and interviews with young learners.
- Understanding what English language teachers in China find most helpful as they develop their digital resources; this will probably involve interviews with teachers. It will probably also involve evaluating a range of resources that are already available and working out which would be valuable for teachers in China (largely literature-based). It could also involve setting up a new website, following models that work well.
- An examination of current online materials that are available to teachers, pupils and other learners in China; this will probably involve finding out what types of digital materials exist, and doing a critique of these. It could also involve a comparison of materials to produce a list of recommended elements for new materials.
- A pilot study on the initial games in Harbin, China, would be suitable for those who are able to be in that area of China in May. However, it may also be possible to take part by working on the analysis of the data collected by others in the team.
- Investigating the incorporation of Global Englishes into online learning materials (including the app itself) to facilitate the movement away from the focus on accuracy and native English towards a more

realistic and representative view of how English functions as an international lingua franca. There may be fears that this will harm sales, but it is hoped that materials writers/app developers will realise that offering something ground-breaking and cutting-edge, something that equips learners to function in today's globalised world, will lead to improved sales in the long term. Therefore, potential research could include attitudes towards this concept. This could also involve an exploration of how to incorporate Global Englishes into TESOL for young learners (e.g. in the dialogue to the app, etc.).

These are some suggestions of the ways in which smaller areas of research would contribute to the larger project, but the final areas you will work on will be the outcome of group and individual meetings.



The banner features the company name 'NOSEBLEED INTERACTIVE' in a bold, pink, sans-serif font at the top left. To the right of the name are five social media icons: Facebook, Twitter, LinkedIn, Pinterest, and YouTube. Below the name is a horizontal row of five navigation buttons, each with a different background image and a pink label at the bottom: 'ABOUT' (green virus), 'GAMES' (ZOMBAT arcade machine), 'HIRE' (space scene with planets), 'VR' (green VR headset), and 'CONTACT' (purple wireframe landscape). Below the navigation buttons is a block of text describing the company and its core values.

Nosebleed Interactive is a multi-award winning independent studio based in Newcastle upon Tyne, in the heart of the North East of England. We've worked with some of the world's biggest companies, brands and content providers such as Channel 4 and Sony Interactive Entertainment.

At our core, we're all gamers, passionate about playing and making great games and entertainment software. Our focus is on crafting unique, fun and inclusive experiences. We're always striving to exceed expectations with what we do.

<http://www.nosebleedinteractive.com/>

Appendix 11: Work allocation of researchers

Interview data collection in Harbin	
Researchers	Primary Schools
Chen Meicheng	Xinhua (XH) & Fuxiao (FX)
Diao Wenqing & Li Jiyang	Datong (DT) & Jihong (JH);
Zhou Sihan	Zhaolin (ZL) & Jingwei (JW)

Interview data transcription	
Researchers	Schools
Li Chengxin	Xinhua (XH) X 1; Fuxiao (FX) X 2
Pei Pei	Gongnongbing (GNB) X 1; Zhaolin (ZL) X 2
Wang Yazhu	Xinhua (XH) X 2; Gongnongbing (GNB) X 1
Xu Lin	Datong (DT) X1; Xinhua (XH) X 2

N.B. On average, each student spent 2.4 hours transcribing data every day. This is almost the same amount of time as students who collected data in Harbin.

Appendix 12: Data collection timetable (group)

	01/05/2017		02/05/2017		03/05/2017		04/05/2017		05/05/2017			
			<ul style="list-style-type: none"> Instrument piloting Introducing researchers to Xing Hua (XH), Jing Wei (JW) primary schools 		<ul style="list-style-type: none"> Introducing researchers to Zhao Lin (ZL), Fu Xiao (FX) primary schools Finalise instruments 		<ul style="list-style-type: none"> Introducing researchers to Ji Hong (JH), Da Tong (DT) primary schools Finalise instruments 					
	Labour Holiday											
	08/05/2017		09/05/2017		10/05/2017		11/05/2017		12/05/2017			
Lesson	Diao (Wenqing)	Li (Jiyang)	Chen (Weicheng/Zhou (Shan))	Diao	Li	Chen	Zhou	Diao	Li	Chen	Zhou	
1												
2	JH Class 3.3	JH Class 3.6		XH Class 3.2		JH Class 3.3		JH Class 3.4	JH Class 3.7	JW Class 3.2		
3	JH Class 3.4	JH Class 3.7		XH Class 3.4	ZL Class 3.1	FX Class 3.1		XH Class 3.4		DT Class 3.1	DT Class 3.6	
4	JH Class 3.5	JH Class 3.8	FX Class 3.4		ZL Class 3.7					DT Class 3.2	DT Class 3.7	
5			FX Class 3.1	JW Class 3.7	DT Class 3.7	XH Class 3.1		JH Class 3.6		JW Class 3.7		
6								FX Class 3.4				
Hr of interview recording	6 hr		5 hr 15 min		6 hr		2 hr 15 min		3 hr 45 min			
Workloads for data transcription	Li Chengxin: 1.5 hr (45min*2) Wang Yazhu: 1.5 hr Pei pei: 1.5 hr Xu lin: 1.5 hr		Li Chengxin: 1.5 hr (45min*2) Wang Yazhu: 1.5 hr Pei pei: 1.5 hr Xu lin: 45 min		Li Chengxin: 1.5 hr (45min*2) Wang Yazhu: 1.5 hr Pei pei: 1.5 hr Xu lin: 1.5 hr		Xu lin: 1.5 hr Li Chengxin: 45 min		Wang Yazhu: 1.5 hr Pei pei: 1.5 hr Li Chengxin: 45 min			
Lesson	15/05/2017		16/05/2017		17/05/2017		18/05/2017		19/05/2017			
1	Diao	Li	Chen	Zhou	Diao	Li	Chen	Zhou	Diao	Li	Chen	Zhou
2	JH Class 3.3	JH Class 3.6			JH Class 3.3							
3	JH Class 3.4	JH Class 3.7			JH Class 3.4	JH Class 3.7						
4			JW Class 3.2		FX Class 3.1							
5			DT Class 3.6		JH Class 3.6							
6			FX Class 3.1	JW Class 3.7	FX Class 3.4							
Hr of interview recording	6 hr		5 hr 15 min		6 hr		2 hr 15 min		3 hr 45 min			
Workloads for data transcription	Li Chengxin: 1.5 hr (45min*2) Wang Yazhu: 1.5 hr Pei pei: 1.5 hr Xu lin: 1.5 hr		Li Chengxin: 1.5 hr (45min*2) Wang Yazhu: 1.5 hr Pei pei: 1.5 hr Xu lin: 45 min		Li Chengxin: 1.5 hr (45min*2) Wang Yazhu: 1.5 hr Pei pei: 1.5 hr Xu lin: 1.5 hr		Xu lin: 1.5 hr Li Chengxin: 45 min		Wang Yazhu: 1.5 hr Pei pei: 1.5 hr Li Chengxin: 45 min			

Appendix 13: Timetable for group meetings

Group meetings

The project team will have some meetings with all research participants, and this will be an opportunity for everyone to contribute their ideas as well as give updates on progress. The final dates for meetings may change, but it is expected that we will have 3 group meetings:

(1) Group meeting 1 – 16th-March 2017

This meeting will focus on initial ideas about the areas that could be researched, and what individuals can bring to the project. To prepare for this meeting, you can make some notes on:

- My initial interest in the project - the reasons I want to be part of this research
- My experience so far in digital games, teaching and/or creating materials
- The areas of the project that I'm most interested in - why, and what I feel I can contribute.
- After this meeting, you will have individual meetings with your supervisor to organise your contribution and what form your dissertation will take.

(2) Group meeting 2 – 18th-April 2017

This meeting will be final decisions about what each participant is doing, timetables of work. This meeting will also be an opportunity to share interesting ideas you have encountered in the literature. Some of the things you might prepare would be:

- Research questions confirmed Type of data analysis confirmed
- Timetable for collecting data confirmed
- Clarification of definitions and terminology used (for group discussion)
- Sharing useful literature and policy documents

(3) Group meeting 3 – 15th-June 2017

At this meeting, any data will have been collected and you will be working on the results of the data. The purpose of this meeting is to share what your tentative ideas are so far, and what you are now doing with your data. You could prepare by:

- Bring a copy of data collected
- Have notes on your methodology (brief notes - not the full chapter for the dissertation)
- Share experiences of collecting data
- Some tentative conclusions - any surprises?

Appendix 14: Examples of language learning games

N.B. The following resources are summarised in the Internet by Curry (2017).

Name	Icon	Introduction
Babbel (Internet & App)		“Babbel currently teaches 14 languages, which includes Indonesian, Danish and Russian—but not Japanese or Chinese. The app focuses on learning grammar, vocabulary and pronunciation skills. Babbel stands out because of its more direct approach, and features a variety of mediums.”
Bravolol (App)		“Bravolol currently has learning apps for 17 languages, including Japanese, Chinese, Korean, Arabic and Thai. Languages are taught through themes such as greetings, romance and weather. You learn through spelling, pronunciation, visual recognition and problem solving activities.”
Mindsnacks (App)		“The game itself is comprised of several smaller mini-games that revolve around different ways to learn a language. Mindsnacks has seven languages available now: Spanish, French, Italian, Portuguese, German, Chinese and Japanese. The mini-games involve recognizing correct definitions, correct spelling and common errors through all facets of cognition: visual, audio and kinaesthetic. There are a lot of different lessons available to learn, from the basics of numbers and colours to being able to hold a conversation in your target language.”
Kloo		“Kloo is an award-winning educational card game that is loved by many including: children, adults, teachers and self-learners. It can be played either alone or with others, and the game even comes with three sets of instructions on how to play—based on the number of players. The Kloo game consists of two decks of cards and the goal is to create a sentence that makes sense using only the cards that you have in your hand.”
Spot It!		“What this game lacks in quantity (in terms of how many languages you can learn with it), it makes up for in quality. Spot It! Basic English Game (or French or Spanish, depending on the version you choose) is a fast-paced card game created by Rainbow Resource and is great for teaching learners basic vocabulary words related to a variety of subjects such as animals, clothing, family, foods, transportation and even the weather using both words and pictures.”

Curry, M. (2017). *The Best Way to Learn a Language: Playing Games!* | *FluentU Language Learning Blog*. *Fluentu.com*. from http://www.fluentu.com/blog/best-way-to-learn-a-new-foreign-language-online/?nabe=4857995676876800:0&utm_referrer=https%3A%2F%2Fwww.google.co.uk%2F

Appendix 15: Project advertisement to MSc students

Dissertation Special Project

GAME-BASED LEARNING FOR YOUNG LEARNERS IN CHINA

The project researchers have been awarded a Knowledge Transfer Partnership (KTP) Grant of nearly £107,000 to work with a software development company (Nosebleed Interactive Ltd) in developing a novel web-based entertainment platform for teaching English to Chinese children.

They are looking for MSc TESOL students to work with them and the company on the following proposed areas:

- A needs analysis of Chinese ELT for young learners
- A needs analysis of primary school English teachers' needs in Harbin with a view towards building a website of resources.
- An examination of current online materials in the Chinese market
- A pilot study of an online language learning app in primary schools in Harbin.
- An investigation into incorporating multilingual/Global Englishes content into online learning materials for young learners in China.

Appendix 16: Data access by KTP

Sites of data collection: 6 primary schools in Harbin, China

Sample size

School name	Student sample	Teacher sample	Parents sample	English class/week
Datong	50 (ss) * 8 (class)= 400	2	Wechat group	4
Zhaolin	40 * 7 = 280	2	Wechat group	3
Jihong	40 * 10 = 400	2	Wechat group	3
Jingwei	40 * 10 = 400	2	Wechat group	3
Xinghua	40 * 5 = 200	3	Wechat group	3
Fuxiao	40 * 4 = 160	2	N/A	3
Total	1840	13	1680	

Student demographics:

- Year-3 primary school students aged between 9-10
- Most students start learning English in school at year 3 (noting that Xinghua school starts from year 1; some students have signed up for extracurricular English learning lessons)

Appendix 17: Data collection timetable

Stage	Date	Instrument	Sample
Pilot	2-4 May, 2017	Interview	2 primary school teachers in Harbin;
		Questionnaire	3 pre-service teachers ;
Main study	8-19 May, 2017	Interview	13 primary school teachers in Harbin; (Only 3 sets of interview are used in present study)
		Questionnaire	8 primary school teachers in Harbin; 68 self-recruited primary school teachers from different regions of China;

Appendix 18: Demographics of the survey takers

Demographics of the Survey Takers

	Variables	Frequency	Percentage
Gender (item 28)	Female	66	86.8%
	Male	10	13.2%
Teaching status (item 27)	In-service	38	50.0%
	Had relevant experiences	26	34.2%
Experiences in teaching (item 29)	Less than 1 year	20	26.3%
	1-5 years	22	28.9%
	6-10 years	11	14.5%
	11-15 years	9	11.8%
	16-20 years	4	5.3%
	More than 20 years	10	13.2%

N=76

Overseas Background and English Usage

		Frequency	Percentage
Studied or trained abroad (item 36)	No	65	85.5%
	Yes	9	11.8%
Lived abroad (item 37)	No	63	82.9%
	Yes	11	14.5%
English Usage (item 35)	Watch English TV shows	57	75.0%
	Read in English	56	73.7%
	Listening to English music or radio	54	71.1%
	Communicative with foreigners	22	28.9%

N=76