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Language learning 'in the wild': Children playing online games in English

Annamaria Pinter, Yuko Goto Butler, Helen Sherwin,
Pia Tabali, Rama Mathew and Xiaolin Peng

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Children playing online games
in English

**Annamaria Pinter, Yuko Goto Butler, Helen Sherwin,
Pia Tabali, Rama Mathew and Xiaolin Peng**

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Abstract

In this study, we set out to explore how primary school children between the ages of eight and fourteen engage in L2 English online/digital gaming in their own time; how they describe their gaming experiences; and how they perceive the related benefits. We distributed a survey questionnaire to approximately 600 children in four countries and conducted a series of inclusive, participatory interviews with carefully selected case study children, who identified as avid gamers and volunteered to share their experiences with us. Our aim was to position the children as experts in these interviews so that we could listen to their voices by giving them an active role in the data collection process. Our case study data set from four country contexts (Chile, China, Hungary and India) reflects an enormous variety of games, ways in which children play and the benefits – both linguistic and others – that they derive from the process. The implications of this study suggest that teachers should inform themselves of their learners' L2-related gaming practices as these experiences could usefully feed into classroom pedagogy. Teachers might also be interested in seeking professional development in the area of gamification to update their practice. Future research could further target the complexities of children's online gaming experiences and address both the benefits of and barriers to gaming.



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1

Introduction

Playing digital/online games is common among second language (L2) learners both young and old, and it is perceived to be highly motivating with potential benefits for language learning. Anecdotal evidence suggests that, due to the growing availability and unprecedented spread of mobile technologies such as smartphones and tablet devices, large populations of younger learners regularly play online games in English all over the world, including contexts that we do not routinely associate with 'high tech' resources. The framework devised by Reinhardt and Sykes (2012) suggests that there are educational and vernacular games, and gaming may happen inside or outside classrooms. Our focus is on playing in the 'wild' (Reinhardt and Sykes, 2014, p. 6), i.e. outside classrooms. Our starting point was the assumption that, in their free time, children would be playing commercial games which were locally accessible rather than educational games which would have been recommended to them by teachers or other adults. So, following Livingstone's (2006) definition of informal learning and Sundqvist's (2009) as well as Sundqvist and Sylvén's (2016) definition of extramural English, we were interested in game playing that happened in children's own time, initiated by the children themselves.

1.1 Background to the project

The project had two main phases. In the first phase, we attempted to gather some background data about online game playing habits among young learners (aged eight to fourteen years) in four different countries. Teachers of English were also asked about what they knew about children's playing habits in these same contexts. In the second phase, building on the findings, we wanted to explore the game playing behaviours and perceptions of some focal children in much more depth in all contexts. We wanted to listen to the children's voices and pay attention to what *they* perceive to be the benefits of playing. In English Language Teaching (ELT) today, there is still a dearth of research conducted *with* children rather than *on* children (Pinter, 2023b, 2013; Prasad, 2013). Involving children as active participants and positioning them as experts of

their gaming experiences aligns this project with the principles advocated by the 'New Sociology of Childhood' (James and Prout, 1997), an approach that seeks ways in which children's participation in research is more active and their contributions are valued as highly relevant.

In this report, we first of all give an overview of the main themes in the gaming literature with a focus on children playing in the wild rather than playing in classrooms. The literature review is followed by a description of the methodology, which evolved during the lifetime of the project (between 2019-2023). It should be highlighted that, originally, we intended to compare similar populations across countries. However, as a result of the Covid-19 pandemic, we experienced difficulties accessing schools and participants, so our approach evolved into a more exploratory one. We had to strike a balance between fulfilling the aims of the project, capitalising on the opportunities that were available to us, while also taking into account the local constraints in each context.

Currently, each country report stands as a separate study with their unique features, implementation details and findings. The results section, therefore, is organised under four country headings. This is followed by a summary of overall insights emphasising the complexities we uncovered. These are then further discussed with reference to a theoretical framework associated with Bronfenbrenner's (1992) ecological systems. Finally, we elaborate on the significance of our complex findings for both researchers and classroom teachers, and raise important points for future directions.

2

Review of the relevant literature

Using ICT tools and mobile devices, in particular tablet devices and smartphones, is part and parcel of growing up in our time, and the fact that almost everyone owns a mobile phone is rapidly changing how people interact, find information and learn (Squire, 2009). The Covid-19 pandemic has further intensified this trend. Many learners, including young learners, and their teachers had to switch to mobile learning overnight and children, as well as young people, found themselves with more time and opportunity to use the internet in various ways and engage in playing a variety of online games. Despite these recent developments, very little attention in research to date has been devoted to young learners in the gaming literature overall, though playing appears to be prevalent, and even pre-schoolers have been shown to benefit from video materials, apps and digital books online. Butler (2022) suggests that further research is needed in this area to understand the effectiveness of these tools on children's language development, especially because this is a fast-changing area of activity and previous study implications might become outdated very quickly.

Game playing is associated with learning in action with naturally occurring interactions (Firth and Wagner, 2007). Learners face just enough challenge, but not too much, to stay deeply motivated and emotionally committed. Games allow language to be situated in the context of dialogue, images, actions and experience, and, as a form of independent learning, they give learners a sense of ownership and control (Gee, 2008). Gee (2007) argues that commercial, off-the-shelf games offer important benefits to learners, such as a large amount of motivated practice leading to authentic and automated language use. Others emphasise the importance of developing a learning community (Peterson, 2012) and the opportunity for intercultural learning (Thorne, 2008). Studies with adult gamers (such as Coleman, 2002; Peterson, 2012; Reinders and Wattana, 2012; Thorne, 2008) have analysed game-based interactions and found that learners enjoy immersing themselves in the target culture, they push themselves to use the target language in authentic situations and they interact with others

intensively and enthusiastically, often via avatars. However, overall, concrete improvements in language learning are hard to measure and capture, and to date the results are mixed in this regard (for example, Reinders and Wattana, 2012). Recent research with children and teenagers suggests that there is certainly a positive relationship between the frequency of extramural English use, mainly through digital screen-based media and gaming, and language learning. Learners who engage with such technologies are predicted to do better in language learning overall (e.g., De Wilde et al., 2020a, 2020b; Peters et al., 2019; Sun et al., 2016).

Studies focused on children playing commercial games have tended to measure growth in language development. Most research effort has focused to date on how gaming may impact children's and teenagers' vocabulary learning (such as Calvo-Ferrer, 2017; Cheng et al., 2022; Jassim and Dzakiria, 2019; Jensen, 2017; Peterson, 2013; Sundqvist and Sylvén, 2014; Vasileiadou and Makrina, 2017; Xu et al., 2020). Overall, it appears that frequent gaming is associated with benefits such as higher vocabulary scores. Jensen (2017), however, warns that the type of game matters, as games can be very different in terms of the linguistic input and output required.

In Zhang et al. (2009), the researchers analysed chat logs exchanged in a game called Quest Atlantis between teenagers from China and the USA. The native speaker/non-native speaker pairs were observed to interact in ways that lead to rich L2 learning over time. Turgut and Irgin (2009) observed and interviewed Turkish children playing online English games in internet cafes. Observations were conducted on three occasions and then the children were interviewed as well. The children learnt new vocabulary and they used strategies such as guessing meaning from context and looking up words in online dictionaries. Repeated game playing provided useful repetition which accelerated L2 learning. In Piirainen-Marsh and Tainio (2009), the researchers focused on game playing-related language use with Finnish boys and found that repetition was an important strategy for engaging with the second language. In Sweden, Sylvén and Sundqvist (2012) and Sundqvist and Sylvén (2014)

established links between L2 learning and playing multiplayer online role-playing games (MMORPGs) with 11- and 12-year-old children. They used questionnaires and a language diary to understand children's English use outside classrooms, including game playing, and used proficiency tests to measure their English gains following a period of time of game playing. Their findings indicated that frequent gamers outperformed moderate gamers and these children outperformed non-gamers. Particular benefits were observed for vocabulary learning, and boys outperformed girls. The study suggests that boys and girls may prefer different games and girls generally spend less time playing than boys. In fact, in addition to a focus on vocabulary or general language growth, studies also tend to compare girls' and boys' gaming habits. In a large-scale, European survey, Mascheroni and Ólafson (2014) showed that, out of all online activities, it was gaming that emerged as the most gendered activity. Boys tended to spend more time online gaming than girls. Similarly, more recently, Jensen's study (2017) conducted with Danish children (eight- and ten-year-olds) compared boys and girls and found that girls listened to music, watched TV and, as a third choice, spent time playing games. In contrast, boys spent most of their free time on games and watched TV or listened to music far less. In fact, overall, boys gamed five times more frequently than girls.

In addition to linguistic benefits, young learners' identity development has also been explored. Lam (2000; 2004) studied Chinese teenagers' identity development playing commercial games online with US peers, while Jeon's study (2014) explored the views of Korean young learners aged ten to fourteen, who had been playing intensively for many hours per day for months. The children in Jeon's study reported that they felt part of a gaming community, were relaxed and confident about using English during playing, and they also reported that their English was improving even though they considered language use and accuracy secondary to winning in the game. In a recent study, Jensen (2019) reports that when children are genuinely motivated, they deliberately choose and engage with content in L2 English rather than in their own language (L1). Their gaming is motivated by personal interest and a desire to become part of an English-speaking community. They see 'wild English' as genuine and authentic as opposed to school English that is not. This points to a gap in motivation between engagement with English inside and outside school, something that has already been observed with older learners in Sweden (Henry, 2014).

Much of the above-mentioned work reports on tightly controlled experimental studies narrowly focusing on just a few variables, and most of this work has come from just a handful of country contexts. Typically,

research is conducted in northern European contexts where the status of English is elevated, as it is widely used in the media as well as in everyday life. In these contexts (such as Denmark, Norway, Sweden, Belgium), children's extramural English use is likely to be at a high level because of their easy access to English both online and offline. To date, few studies have explored children's extramural English experiences, in particular, English gaming experiences in contexts outside Scandinavia and Europe. Furthermore, few studies have used a more open-ended exploratory approach rather than a tightly controlled experiment limited to measuring, for example, vocabulary. Our study aims to address these gaps. We followed a more holistic and exploratory approach focusing on young gamers' perspectives from four countries: Chile, China, Hungary and India.

All the above-mentioned studies in this review fall within the traditional paradigm of research 'on' children, although noteworthy is Butler's study (2015; 2017), where children in a Japanese primary classroom were asked to work in groups and design their own computer games for vocabulary learning that, in their view, were both effective and attractive. Another study that attempted to explore children's perspectives was Jensen's in Denmark (2019), where she used ethnographic interviews with gamers to try to seek their perspectives. Jensen (2019) describes how the children in her study were asked to take 'the interviewer on a guided tour through the English mediated activities they engaged in on a regular basis while being interviewed' (p. 78). This is a simple, yet innovative and insightful way of interviewing children as the interview moves away from the traditional question and answer format, relying on multimodal rather than purely verbal data. Moreover, it hands over control to the child who guides the adult through the online activities chosen by the child.

Our methodology also emphasised children's own perspectives. We invited children to participate in the study as 'experts' in the field of gaming. This decision was related to a commitment to acknowledging children as experts of their own lives and to giving them a voice. It has been argued that giving children voice, more space and opportunity to contribute more actively to research, is a desirable goal in ELT (Pinter, 2023b). This is because such input would complement the largely adult-focused and adult-motivated research that exists today. Taking children's perspectives seriously, listening to and acting on their voices in ELT, will lead to a better understanding of children's life worlds, their needs, interests and ever-changing priorities within language learning (Pinter and Zandian, 2014a, 2014b; Pinter, 2015, 2019; Pinter et al., 2016).

3

Research approach

Based on our interests, the gaps identified in the literature, and on what was feasible in the contexts, the following broad research questions were formulated.

Phase One

RQ 1: What (English/L2) online games are played by children (aged eight to fourteen) in the target contexts and what patterns (similarities and differences) if any, emerge from the questionnaire data across the contexts? The eventual target contexts were Chile, China, Hungary and India.

Phase Two

RQ2: How do children describe their game playing experiences? What linguistic and other benefits are evident from the data? Here, we focused on unique data sets from a handful of learners using a broadly ethnographic approach that aimed to hand over some control to the learners.

3.1 Phase One: Questionnaires

Learner questionnaires were collected from four countries (Chile, China, Hungary and India) and teacher questionnaires were collected from Hungary and India.

The original aim of this phase was to take stock of the types of English online games that were popular in the various country contexts. Initially, both learner questionnaires (Appendix One) and teacher questionnaires (Appendix Two) were designed to survey large numbers of students (200+ students in each country) and English language teachers (50+ teachers in each country).

We also originally planned to survey comparable student populations of both younger and older age groups (eight- to nine-year-olds, and ten- to eleven-year-olds), in state schools, plus the English language teachers from the same surveyed schools. This original design would have given us a comparative angle and an opportunity to report similarities and differences in the data sets in a systematic way. However, in the process of data collection, it became evident that we needed

to adjust our approach. First, instead of strictly collecting the same number of questionnaires from the same age groups in each context, we employed a convenience sampling approach, aiming to collect data from schools that the local researchers could gain access to through their personal and professional contacts. Relevant Covid-related restrictions, which were in place in different times in the different country contexts, also further complicated the data collection process.

This means that the age and number of children we surveyed varied from context to context. The overall aim of the questionnaire was to capture the variety of games and gaming habits of children between the ages of eight to fourteen. We did achieve this aim as we discovered that the same top commercial online games were popular in all contexts and children played a remarkable range of games everywhere. In addition to using convenience sampling, we also needed to adjust the questionnaire to the specific needs and circumstances of the children surveyed in the different contexts. For example, in China, the local researcher understood from initial conversations with teachers and parents that many children in fact played in L1 rather than English, so additional questions about playing habits in L1 were included. In other contexts, some questions were dropped or left blank.

Overall, the questionnaire data served as a 'baseline' for the second phase, offering rich insights and starting points which were then further explored with individual learners in the second phase. For example, if certain games were mentioned by many of the respondents in the survey, this information helped the researcher to formulate meaningful questions to start discussions and/or to contextualise the children's responses and contributions in the second phase.

Sections 4.1–4.4 give further details about the questionnaires in each country regarding the actual administration, the exact number, age and the type of students and schools we managed to reach, as well as the timing of the surveys which varied across contexts. For example, in some contexts,

the questionnaire data was collected right before the Covid-19 pandemic, while in other contexts, data collection occurred after the pandemic when schools finally started to re-open. This means that the impact of the pandemic is explicitly discussed in some of the data but not all.

With regard to the administration of the learner questionnaires, we originally envisaged a uniform process whereby, in each country, the collaborating researcher would visit schools and personally administer the survey tool in classrooms. Accordingly, the local researcher would have explained the purpose of the tool, revisited ethics-related issues such as explaining that survey completion was voluntary, that there were no right or wrong answers, and so on. We intended for the local researcher to be present while children filled in the questionnaire, helping with any issues such as interpreting questions, clarifying wording if necessary, and keeping an eye on any children who looked stuck or reluctant to continue. Instead, the administration of the questionnaires happened in different ways in different countries. In some cases, the local researcher did administer questionnaires personally, but in other cases, they could not access the schools directly so invited the local teachers to administer them. In still other cases, questionnaires had to be administered fully online.

A further issue relating to administration was whether to include or exclude non-gamers. In some contexts where the country researchers were able to access classrooms, both gamers and non-gamers filled in the questionnaires. In other contexts, however, some non-gamer children and/or their parents declined to participate, so only enthusiastic gamers within the class completed the questionnaire. This difference in administration further complicated our original intention of carrying out a simple comparative analysis of questionnaire responses across the four contexts.

All in all, we collected over 600 responses to the questionnaires from children. This data set offers an interesting and rich tapestry of insights with each country representing a snapshot of gaming habits from a specific group of children.

3.2 Phase Two: Case studies

The aim of the second phase was to work more closely with a small number of avid gamers in each context to gain deeper understanding of the complexities of children's experiences with online games. We wanted to involve the children as active agents by inviting them to decide collaboratively with us what to focus on, what data to record, and what to pay attention to. Our decision to work *with* the children in different contexts was motivated

by our curiosity and desire to understand their gaming worlds. Naturally, the way we worked with the case study children also varied due to the local constraints in the different contexts. Interviews were chosen because they are suitable to explore participants' lived experiences and complex patterns of behaviour (Denzin and Lincoln, 2005). In fact, we explored so-called 'alternative' interviewing techniques to ensure that we were not just harvesting soundbites, i.e. the children were not just telling us what they thought we wanted to hear (Pinter, 2023a). From an epistemological view, this approach is in line with approaches that reject mere 'data extraction' (Spyrou, 2023) and promote instead the co-construction and co-creation of knowledge (Benjamin, 2021), in this case, between the adult researcher and the child. This type of data is less about children answering adult questions and more about listening, respect, trust, reciprocity and relationality (Held, 2020), and acknowledging the epistemic authority of the other (Spyrou, 2023), as well as the limits of the adult's understanding. Such an approach allows for more playful techniques to be employed in the research process and the data elicitation may take visual, art-based or sensory approaches to working with children. The main aim is for children to enter and shape the research space and the research conversation on their own terms. This way of working is also helpful in reducing the impact of the inevitable power gap between the adult and the child. The more time adults and children are able to spend together, the more likely it is that barriers can be broken down so that better relationships and rapport can be established.

We followed the work of well-known sociologists, such as James and Prout (1997; 2015) who suggest that listening to children's voices is meaningful only if adults are able to create conditions where children can express themselves and feel able, willing and motivated to share their insights. We used a variety of alternative modes of interviewing based on the age, the ability and the willingness of children to express themselves. Even though we started out with a broad set of questions that we brainstormed together (see Appendix three), we adjusted this list considerably and took cues from the children themselves. We wanted to listen to children's own explanations of why they play, how often and with whom, and what they get out of gaming in terms of L2 learning and/or other benefits. We also wanted to capture online game playing in real time, holistically, on screen, alongside the 'live commentary' of what was happening during play sessions. This meant that we adapted the questions according to what was meaningful in the co-construction of these gaming conversations. We asked children to demonstrate how they play and/or to teach the adult how to

play and offer commentary on their own or the adult's play. In some cases, we revisited the same conversations several times in order to explore children's observations more deeply or to establish new connections between their ideas.

Accordingly, each data set in this phase is unique. In some contexts, individual children worked with the researcher, while in others, small groups participated. The groups comprised of friends and this worked well because in groups children can build on each other's contributions and speak up with confidence. Some country researchers conducted face-to-face interviews with the same children meeting up several times, whereas others were only able to undertake online Zoom interviews. Nevertheless, our aim was for the researchers to forge close relationships with the children so that questions and experiences could be explored deeply and meaningfully. The country summaries (4.1–4.4) each give further details about the nature of the qualitative interviews used and the extent to which the children's voices and their agency could be foregrounded. We recognise, though, that this was not the same across the data sets.



4

Findings in four countries

We have summarised the most interesting and unique aspects of the data collected in each country context. Each section explores specific insights into the children's gaming experiences.

4.1 Hungary

4.1.1 English teaching and learning context

Hungary is a small country in central Europe with a population of about 9.7 million (Hungarian Central Statistical Office, 2023). The official language is Hungarian and it is a relatively monolingual and monocultural country. The school system is divided into primary level for six- to fourteen-year-olds, and secondary level for fourteen- to eighteen-year-olds. Mainstream education at all levels is still rather teacher-centred and concerned with transmitting information (OECD, 2017). In primary schools for instance, teaching tends to be textbook-based, learners work mainly alone and are tested frequently through methods that emphasise memorisation and reproduction of facts (Eurydice, 2022).

It is compulsory for pupils to start learning a foreign language (FL) in Year 4 (aged ten years). English is the most popular language, followed by German, and pupils are expected to achieve a lower intermediate level by Year 12 (aged 18). Pupils study for two to three hours a week which is in line with the European average (Navracsics and Molnár, 2017), but despite this, the foreign language knowledge of Hungarians is lower than the European average (Flash Eurobarometer, 2018). One reason for this may be the rather traditional FL teaching methods that are used. In general, grammar-translation approaches are favoured over more communicative ones and this probably hinders rather than helps pupils' second language development (Navracsics and Molnár, 2017).

4.1.2 Data collection

Children's data

Phase One: Questionnaires

From January–March 2020, 101 questionnaires were collected from two local state schools plus seven from a third school. The questionnaires (written in Hungarian) were administered in person, and in the main, whole classes volunteered to participate. Questionnaires were completed by 108 pupils, 54 boys and 54 girls, aged between eight to fourteen years.

Phase Two: Case studies

From October–December 2022, semi-structured interviews with five pupils from one of the previously mentioned local state schools were conducted. Five boys from the same grade eight class (aged 13–14 years) volunteered because they were curious about this research and wanted their voices to be heard about children around the world playing games. The boys are referred to as Boy 1, Boy 2, Boy 3, Boy 4 and Boy 5. There were five face-to-face interviews on school premises and two online interviews. Each boy was interviewed on three occasions. The interviews were conducted in English in accordance with the boys' wishes, lasted between 15 and 40 minutes and were recorded and transcribed verbatim.

The three rounds of interviews occurred in slightly different formats, as summarised in Table 1. Round One (interview one) was a group interview with all five boys. Rounds Two and Three (interviews two and three) each consisted of two paired interviews and one online interview. The interviews unfolded in similar ways, guided by core questions to elicit information linked to the research questions, but other topics were explored as they arose. Three boys used media tools to help them communicate their messages about gaming. Boy 2 (in interview two) showed and talked about a YouTube video of Sprocket, his favourite game. In both online interviews, Boys 1 and 4 employed a think-aloud strategy where they simultaneously played games and described what they were doing and thinking

while playing. They played Trackmania, Cuphead and Super Mario Maker.

Table 1: Interview formats

Interview date	Format
Round One October 2022	Face-to-face group interview Boys 1, 2, 3, 4, 5
Round Two October– November 2022	Two face-to-face paired interviews Boys 2 and 5 (YouTube video shown) Boys 3 and 4 Online interview: Boy 1 Think-aloud
Round Three December 2022	Two face-to-face paired interviews Boys 2 and 5 Boys 1 and 3 Online interview: Boy 4 Think-aloud

Teachers' data

Between February 2020 and December 2022, 54 teacher questionnaires were also collected in Hungary, in either paper or online versions, from primary teachers in the north-west region.

4.1.3 Data analysis and findings

Children's data

For the Phase One questionnaires, responses to closed questions were tallied and the resulting numbers converted into percentages. For Phase Two interviews, interview data was coded by placing it into thematic categories which were then interpreted to address the research questions. This section provides a brief overview of key findings. 'Gaming habits of Hungarian children' draws on Phase One questionnaire data and addresses Research Question 1 (RQ1) and the online games children play. 'Linguistic benefits of gaming' draws on Phase Two interview data and addresses RQ3, children's perceptions of gaming benefits and RQ4, the linguistic gains of game playing.

Gaming habits of Hungarian children: A snapshot

Hungarian children play a huge variety of games, they play in English and they play often. Over ninety-four different games from fourteen different genres were mentioned in the questionnaires. The top five games were in order of popularity: Minecraft mentioned by fourteen boys and eighteen girls; Grand Theft Auto V (eight boys, one girl); Brawl Stars (one boy, seven girls); Fortnite (fourteen boys, six girls) and Sims 4 (fourteen girls). Hungarian children

play games almost exclusively in English because, as the interviewees in Phase Two explained, there are few games with a Hungarian interface and in-game videos. Furthermore, Hungarian children play a lot. They indicated that approximately 81 per cent of them play every day or several times a week, with boys (91 per cent) playing more than girls (72 per cent).

Differences emerged in the data in the types of games boys and girls play, and who they play with. In general, boys tended towards multiplayer action games such as Brawl Stars, and Grand Theft Auto which involve live online collaboration with others, whereas girls tended towards single player games such as Sims, preferring to play alone. Regarding playing partners, i.e. who children play with, these can be divided into categories of family members; friends in real life (IRLs); alone; non-IRL friends which refers to people met online. The boys themselves used the abbreviation 'IRL' to refer to an 'in real life' friend rather than an online friend. According to them, 'IRL' is an accepted term in the gaming world.

Table 2 'Playing partners' shows who the children play with. For instance, 37 per cent of boys and 44 per cent of girls play with family members such as siblings, parents, and cousins. Table 2 indicates that there are not big differences in the percentage of boys and girls who play with family, IRL friends or alone, but far more boys than girls play with non-IRL friends, 60 per cent of boys compared to 22 per cent of girls.

Table 2: Playing partners

Playing partner	Boy	Girls
Family	37%	44%
IRL friends	63%	48%
Alone	28%	33%
Non-IRL friends	60%	22%

That 60 per cent of boys play multiplayer games with non-IRLs is interesting because of the impact it may have on English language development. When children play with family, IRL friends or alone, the games are in English but the interaction is in Hungarian as they play with Hungarian speakers. However, when children play with non-IRLs, both the game and interaction is mainly in English because, as the Phase Two interviewees maintain, the non-IRLs are generally non-Hungarian speakers from outside Hungary. It seems, therefore, that the boys provide themselves with more opportunities than the girls for meaningful interaction in English, and this arguably may foster L2 acquisition.

Linguistic benefits of gaming: Through the children's eyes

The five boys in Phase Two emphasised that for them, one main gain from gaming is linguistic. They suggested that much of their English language, as much as 80–95 per cent, had developed as a result of gaming and not formal schooling. As Boy 5 stated, 'in school we learn grammar and we practise the new words. Online we really speak it, you use it.'

There appeared to be a mismatch between the English level the boys used with the researcher, and the English level studied at school. At school, they studied from Project 5 (Hutchinson, 2015), a lower intermediate book. In the interviews, they communicated at an upper-intermediate level and, in second language learning terms, this is a significant difference. They were fairly fluent and used clear pronunciation. They used uncommon lexis flexibly and accurately, for example, *turrets, exhaust, leak conversations to my IRLs, strategising and out-smarting my opponents, roebuck, pheasant, wild boar*. This range of lexis was combined with accurate and appropriate use of complex grammar structures such as *Minecraft ... would be perfect for studying, I managed to stop it from happening*. In their eyes, it was gaming that enabled them to advance beyond the required school level.

How they advanced their English 'in the wild' through gaming may be related to who they play with. These five boys play almost exclusively with non-IRLs from, for example, America, Japan, UK, Romania and Slovakia. They speak and write in English using communication media such as Discord, Facebook, Messenger and a Translator tool that 'helps us so that we can speak' (Boy 3). Interaction revolves around three areas.

1. Practical issues such as organising playing time.
2. Gameplay such as 'Tactics in a game', 'Go from point number 1', 'Come over here!' (Boy 5).
3. Friendship topics such as discussions about real life problems with family, school or their love lives.

One boy, for instance, described how he had been indiscrete about something online, had been threatened with exposure, but had solved the situation with the help of his online friends. Four of the five boys appeared to establish real friendships with their non-IRLs and could count on them for support and, indeed, felt safer in their online than real life relationships. As Boy 2 said, 'it's easier... because you don't really know them IRL so you can talk about whatever you want. So it won't be embarrassing.'

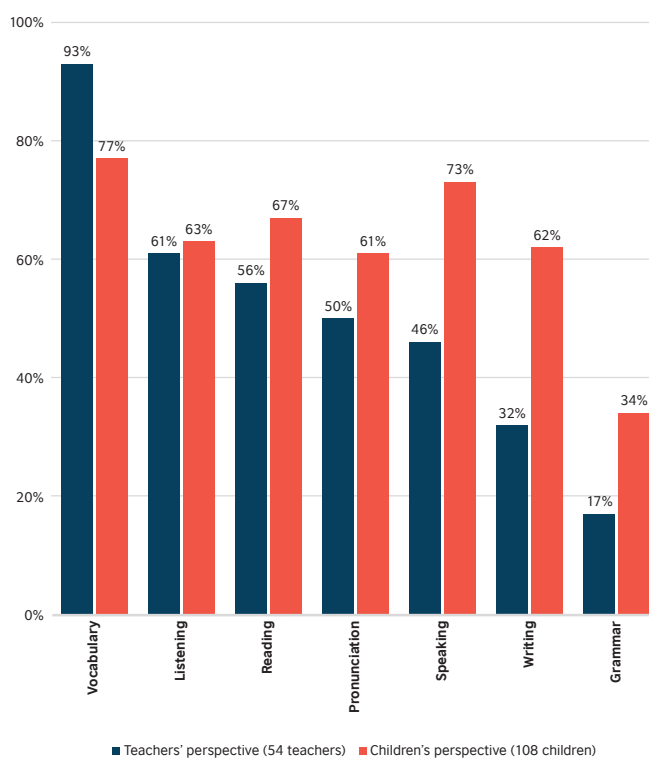
Interacting in English about practical issues and gameplay is routine and requires a fairly limited range of linguistic resources. In contrast, interacting in English about friendship topics is complex, requires the boys to negotiate meaning and so is unpredictable. These three features of complexity, negotiated meaning, and unpredictability align with the principle of 'pushed output' (Swain, 1985), so central to second language acquisition (Swain, 2000). Conceivably, the amount of meaningful output the boys engaged in may foster their linguistic development.

Teachers' data

The finding below relates to RQ4 and the linguistic benefits of gaming through teachers' eyes.

For all teachers, gaming positively impacts on pupils' English language development, especially on vocabulary acquisition. Teachers and children had to indicate on their respective surveys those language components that they felt were fostered through gaming and Figure 1 presents the results. 'English language component' identifies seven aspects of English, 'Teachers' perspectives' and 'Children's perspectives' report the percentage of teachers or children who marked a given language component as benefitting from gaming.

Figure 1: Impact of gaming



There is some agreement between teachers and children over the linguistic benefits of gaming. Both perceive vocabulary as benefitting the most, as indicated by 93 per cent of teachers and 77 per cent of children, and grammar the least. Responses

for listening, reading and pronunciation are fairly similar ranging between 50 and 67 per cent. However, there is a difference in opinion regarding the two output skills of speaking and writing. For children, the impact of gaming on these skills was far greater than for teachers, at 73 per cent for speaking and 62 per cent for writing compared to the teachers' 46 per cent (speaking) and 32 per cent (writing).

While we should be cautious in interpreting responses from self-reported surveys such as these, especially with children (see 5.1 for a discussion of working with children's data), the difference is interesting. It perhaps indicates that teachers are unaware of how children really use English in video games, such as how much they speak and write when playing, or that teachers simply underestimate just how beneficial gaming is on overall language development. Whatever the reasons, this finding echoes the call for further research into precisely what aspects of English are developed as a result of online gaming.

Teachers were positive about the benefits of gaming. Several already use educational games such as Kahoot and most want to learn how to incorporate games into teaching. Teacher training programmes, therefore, should perhaps address the use of video games in primary English teaching, to help teachers channel their enthusiasm for gaming to benefit language learning.

4.1.4 Summary

To sum up, this section highlighted the following. First, Hungarian children play a wide range of games in English and they play a lot. Second, the interviewed boys perceive English language development as one main benefit of gaming and they choose to play multiplayer games which increases opportunities for meaningful interaction, and this, they feel, is one main reason why their English develops through gaming. Third, teachers also see gaming as beneficial, although they may possibly underestimate just how beneficial it is. They are keen and willing to learn how to use video games in the classroom.

4.2 Chile

4.2.1 English teaching and learning context

During the past decades, the teaching of English has become key for future development in different countries across the globe and Chile is no exception. According to the National English Strategy (2014), the goal of the Chilean government is to become a developed country by the end of this decade. English plays a crucial role in this objective, since English is the lingua franca for cultural and commercial integration. In addition, the Chilean government has focused on creating different initiatives and programmes to provide opportunities for Chileans to develop their abilities in English. One of these measures is to extend the teaching of English from pre-primary and throughout working life.

Despite these efforts, there is still a big gap that needs to be addressed in schools, which are under resourced, with students achieving very low levels of English proficiency. In 2022, Chile was positioned 45th out of 111 countries in the EF ranking (EF, 2022).

4.2.2 Data collection

Phase One: Questionnaires

The first phase of this project consisted of conducting questionnaires with children across the country during 2021 and 2022. Because of sanitary conditions due to Covid-19, some questionnaires were distributed in face-to-face visits while others were sent to parents via school contacts using Google Forms. A total of 71 children from eight schools participated in the first phase of this study. The children came from both rural and urban areas. The majority of children were from Santiago while some were from the North and Southern parts of Chile. In terms of gender distribution, there were 43 girls, 26 boys, one child who identified as 'no gender' and another as 'I don't know'.

Phase Two: Case studies

The second phase of the study aimed at carrying out in-depth individual and group interviews with different children from different cities in Chile. For this phase, data was gathered from some of the children who had participated in Phase One and some new children, who were also avid gamers, were invited to participate. Table 3 below shows a summary of the participants.

Table 3: Summary of Chilean participants in in-depth interviews

Individual interviews	Boy, 10 years old, Iquique
	Boy, 14 years old, Santiago
	Girl, 15 years old, Rancagua
	Girl, 15 years old, Rancagua
Group interview	6 boys, 10–11 years old, Santiago

The in-depth interviews consisted of inviting children to meet up four to five times, both individually and in groups, to develop rapport and trust so that the children could speak freely and confidently with the adult researcher. Each session started by asking the questions about different topics related to video games and learning. This was followed by observation of the children playing their favourite or chosen game and children were invited to comment on their play. During these sessions, children were always willing to talk about the video games in general, were enthusiastic to share anecdotes and appeared to be keen on meeting up again and again.

Regarding contextual issues, there were some challenges in Phase Two concerning data collection. It was difficult to conduct Phase Two in public or state-run schools due to the lack of wifi or a robust internet connection to support the online games that the children played.

4.2.3 Data analysis and findings

The findings below relate to RQ1, the games that children play, then to RQ3, what children feel they learn from gaming, and RQ4 relating to linguistic and other benefits.

Data from the questionnaires revealed that in Chile, too, children played a huge variety of games. Their favourite features of video games consisted of having chances to talk to people from other countries, playing with friends and talking with new people. For example, Child 2 (Ch 2) said, 'I play with people from other countries.' Child 3 (Ch 3) said, 'I meet new people'. Respondents drew special attention to the characters in games, for example, Child 5 commented that one of the best things about playing video games was that 'you can change the characters' clothes'. A great variety of games and having an attractive interface in games ('things look real') were also regarded as important by the children. Among the positive aspects of playing video games, children mentioned that they are a space for 'having fun', 'releasing stress', and 'relaxing'.

At the same time, video games can also help children concentrate better and develop sustained attention. Child 7 mentions 'having to pay attention' while Child 10 (Ch 10) 'not losing concentration' when asked about the best pieces of advice that can be given to someone to help them play their favourite video game better. The children also reported using other skills when playing, such as perseverance. It is important 'not to give up in the middle of the fight' (Ch10) and use effective strategies such as, 'use your mind well as this is a game with strategy' (Ch11). Children also mentioned that 'competition, killing, shooting, and fighting monsters' (as in Minecraft) were all enjoyable aspects of playing.

Types of games played by Chilean children

During the interviews, children elaborated and commented on the different games they played. Table 4 summarises the different games mentioned. Minecraft and Roblox are among the most popular games.

Table 4: Most popular games played by interviewees in Chile.

Minecraft	Make it Meme (haz tu meme)	Brawl Stars	Fortnite
League of Legends	The Gartic Phone	Just Dance	Need for Speed
Granny	Red Flags	Clash Royale	Roblox: Adopt me City
Mortal Kombat	Arctic Foam	Roblox Brookhaven	Roblox: Doors
Rocket League	Roblox	Among Us	Roblox: Uno
GTA 5	Valorant	FIFA	Roblox: Murder Mystery 2

Strategies used by children when playing video games

Amongst the different responses collected in the interviews, it was possible to observe that children gained and developed a wide variety of learning strategies by playing video games. One of the most frequently mentioned was social strategies, such as keeping in contact with older friends and maintaining contact with friends while on holidays or days off. Furthermore, metacognitive strategies emerged from the data too, especially when children were asked about what they could do to become a better player. Children suggested watching tutorials on YouTube, practising until one ‘becomes a master’ or asking for help from peers or other players.

Video games were also used as a source of creativity for the children. Figure 2 shows how video games inspired play dough creation (Picture 1), Perler beads (Picture 2) and a fanzine for a Spanish language class (Pictures 3 and 4)

Figure 2: Examples of artefacts created based on videogames.



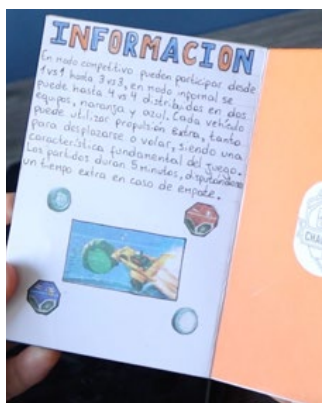
Picture 1



Picture 2



Picture 3



Picture 4

Languages used by Chilean children to play video games

English is used in some games such as Roblox games, Brookhaven or Answer and Die, where the instructions are in English and children have to use English words in order to answer the questions successfully and score points in the game.

In another popular game, Granny, the main objective is to escape from the evil, grandma. This game presents a great source for learning English since the names of the objects and the instructions come fully in English. In order to survive, players should follow simple instructions such as ‘drop’ something or ‘start’ and then read and respond to more complex sentences like ‘I cannot start the car yet’.

Minecraft was singled out by the children as particularly useful for learning English vocabulary. Children suggested that it was great for learning names of animals and fruits, particularly suitable for younger children. For example, in this extract the children suggest you can learn the names of minerals.

Interviewer What can we learn by playing Minecraft?

Child 1 About everything

Child 2 About minerals

Interviewer Ahh the name of the minerals ...

Child 1 like silver, type of trees, coal, copper, diamond, emerald.

Data collected from the children revealed that Chilean children use multiple languages when playing games. In addition to English, Spanish was also frequently used to play online. Many games are automatically switched to Spanish because Chile is located in the South American region. In addition, since the main server is often based in Brazil, children not only use Spanish and English but also come across other players who use Portuguese.

It was possible to observe the multiplicity of languages being used by the children. For instance, there were examples of children using Spanish words such as: *qué?* (‘what?’); *dulces* (‘sweets’); *me llamas* (‘call me’); *estás chateando en privado con ...* (‘you are chatting in private with...’) and words in English such as *relax* and *even though*. There were other examples of how children interact using, in this case, English, Spanish and Portuguese. For example, a child wrote, *cd a gun* another child wrote in Portuguese, *Eu usei raio x achando que era apressa* (‘I used x-ray thinking it was a rush’) and another

child said, *Hola* ('Hello') in Spanish. Such multilingual interactions appear to be the norm and switching between these languages does not slow interactions down. Children have different strategies to deal with unknown words or expressions and they mentioned, for instance, using Google Translate and asking for help from a grown-up, parents, older siblings or friends.

4.2.4 Summary

In Chile, children play online games both with friends and with peers who happen to log in online. They use a wide range of strategies to get masterful in the games and they tend to use a mixture of languages (English, Spanish and Portuguese) to chat with each other and follow instructions in the games.

4.3 India

4.3.1 The English teaching-learning context

India is multilingual country with a huge number of languages used and with English having a special status. The medium of instruction is the mother tongue in public schools that offer free education until age 14 (under the Right to Education Act 2009¹), while in fee-paying private schools, it is English. Children who participated in this study spoke more than one language to varying degrees of competence, in addition to English, and all of them were at least bilingual. Data was collected from schools in Delhi and Hyderabad and multiple languages are spoken in both contexts. Languages used in Delhi schools were Hindi, Bhojpuri, Urdu, Avadhi, Mythili, Haryanvi, Bengali, Marathi, French, German, Spanish and Chinese. Languages used in Hyderabad were Telugu, Urdu, Marwadi, Gujarati, Bengali, Kannada, Tamil and Lambadi.

In this report, PS refers to public schools (middle grades), PPS refers to privately funded primary schools and PMS refers to privately funded middle schools. Data was collected from these three school types. Public schools are wholly funded by the government and children attend them free of charge while private schools generate their own funding through various sources such as student tuition, private grants and endowments. Primary schools have students from grades 1–5 while middle schools from grades 6–8. English as a subject is offered from grade 1 in the schools and studied throughout schooling.

1 Right of child to free and compulsory education: Every child of the age of six to fourteen years shall have the right to free and compulsory education in a neighbourhood school till the completion of his or her elementary education. <https://cdnbbsr.s3waas.gov.in/s380537a945c7aaa788ccfcdf1b99b5d8f/uploads/2022/12/2022122141-1.pdf>

4.3.2 Data collection

Children's data

Phase One: Questionnaires

The study was carried out in two cities of India, namely Delhi and Hyderabad, during November and December 2021. For Phase One, questionnaire data was collected with the help of teachers working in these schools. The questionnaires in public schools were distributed in Hindi while in private primary and middle schools in English. The details about student numbers, age and gender are presented in Table 5.

Table 5: Type of schools and learners surveyed in India

	No. of schools	No. of students	Age in years	Gender	
				F	M
Public School (PS)	5	29	12	1	4
			13–14	9	15
Private Primary School (PPS)	1	89	7–8	15	20
			9–10	24	28
			11	1	1
Private Middle School (PMS)	15	41	9–10	1	3
			11–12	6	7
			13–14	16	8
	21	159	Total	73	86

Phase Two: Case studies

For Phase Two, in-depth interviews with two students and two focus groups of three children each were conducted in Hyderabad during February and March 2023. These were all learners from private middle schools and the interviews were conducted in English.

Teachers' data

During November and December 2021, 45 teachers from different school types responded to the teachers' questionnaire in the two cities of Delhi and Hyderabad. They included teachers who did not teach the questionnaire participants. The questionnaire focused on teachers' awareness of children's gaming habits and the benefits that they perceived, and also, if in their view, games could be incorporated into their classes.

4.3.3 Data analysis and findings

Children's data

The analysis of the questionnaire data highlighted certain unique features for the different school types. Therefore, the data will be summarised according to school types: public schools (PS), private primary schools (PPS) and private middle schools (PMS).

English language use

Public school (PS) children mostly used Hindi or their home language at home, but a mix of Hindi and English outside school, whereas many private primary school (PPS) children used mother tongue at home but tried to use more English outside. Many private middle school (PMS) children used English at home as well, 'I use it when I can't express my emotions/feelings in Telugu'. One can visualise a continuum from public schools at one end and private middle schools at the other in the way local/home languages vis-à-vis English are used in that children from private middle schools tend to make English their lingua franca both at home and outside as they progress to higher classes.

The majority of children (75 per cent) reported that they liked English for a variety of reasons. English holds a kind of glamour for children in public schools and private primary schools and comments included, 'I like the accent and the way it's used' or 'I use it to speak a nice accent and be a nice person.' In contrast, for private middle school children, it is the language of everyday use, 'I like it because I can freely express what I want to say' or 'I can use it easily.'

Children use English outside school for the following reasons: 'To ask questions in tuition classes' (public school), 'I use it when I go to malls, playground and shops' (private primary school) and 'Outside school I use English pretty much everywhere. It's my most comfortable language' (private middle school).

Gaming among children

Two thirds of the public school children play online games in English, while for the other two groups, about 50 per cent play online games. With regard to the type of games, a wide range of different games are played such as action, interaction, fiction, puzzles, spelling games, adventure, simulations, escape room and role plays. Children mentioned the following games: Subway Surfers, SuperStar Ateez, Cooking Fever, Roblox (Adopt Me), Minecraft, BGMI, Plants vs Zombie, GTA 5, Sukodono, Among Us, Car driving 3D, Finding the Imposter, Fortnite, Dragon Mania Legends, Bed Wars, Scribbl IO, Valorant CSS and Shadow Fight. Although there were no major

differences between the schools in terms of games played, public school and private primary school did tend to play more puzzles, spelling and word games.

A few children from public schools and private primary schools play online games in their local languages. This is because this way they can spend time with their family. One student commented: 'I love playing Hindi games because they are hard – I love hard games.'

There were more children from public schools who play several times a week compared to the children from other types of school, and just as a third of the public school children play for two to eight hours a week, a third of the other two groups play for one to two hours a week. Thus, a larger number of public school children play online games more frequently and for longer hours than their counterparts. As regards their playing partners, it seems to change with age. A substantial proportion of children in private primary schools play with their parents, siblings, friends from and outside school whereas 41 per cent from public schools play with siblings and 21 per cent on their own. Half of the private middle school children play on their own, too.

For the question, 'For someone who has never played an online game, can you explain the rules?' most children responded: 'Of course!' Below are examples of what children wrote.

Public school

'First I'll tell them about the game, then the rules of the game and then give them some tips.'
'It's played between two to six players with every player having four tokens.'

Private primary school

'I've taught all my friends all the important stuff.'
'You need to draw, survive – First write code. org, next press sign in, then press on sign in with microsoft after that press dance party, finally start making your dance party. If you start a game you can't leave it.'

Private middle school

'It's simple, you need to collect money and then buy swords, jumps and belts. Once you get jumps and start finding islands you will get more money and more ninja sites and of course cheer and then you have to rank up and get elements.'

It is clear that these children are quite conversant with the games they play and can confidently talk about them. Public school children can in fact give the rules quite clearly, in simple language. The language complexity and the content seem to get better as we go towards older children in private schools.

That children are well-versed in the games they play is also evident when they mention three best things about their favourite game (question 17).

Public school

'Focus, helped others, learnt to write.'
'Talk happens while playing with friends.'
'You use your brain to play, we don't need any partner to play online games, discover new words, helps to plan strategies, dealing with victory and defeat.'

Private primary school

'Action, fun, adventure.'
'Challenging, humour, helps my confidence.'
'Fortnite doesn't show blood if we get killed.'
'Improves spelling, helps me to write proper sentences.'

Private middle school

'Get to play with friends, I get occupied and don't walk around being bored. I can become better and play tournaments and get fame.'
'Creativity, hand eye coordination, playing with my brother.'
'When I win, I can have fun, I can relax, can improve my imagination.'
'Like the cars in the game, it's realistic, I get completely involved.'

Children also offer tips for playing their game well (question 18). Some of the tips are general such as 'Practise, understand the rules of the game, explore new things', or 'know everything, keep your focus on the game, don't trick the other person', while others are specific to certain games. For example, 'In GTA 5, you can hide in someone's home, only you can save yourself from police, you can use thermal mode in sniper, you have to push your joystick for flying plane.' Other examples include:

Public school

'Complete the game according to time, play according to rules, speak fast.'
'Collect all of the free coins you can get daily, getting all pieces free should be your goal, change the game now and then.'
'Upgrade troops, join a clan, upgrade defenses.'

Private primary school

'Don't go big at the start, have good reflex skills, do the necessary things first.'
'Put your focus view on top to see enemy action, always carry a weapon, first find or collect weapons.'
'Know everything, keep your focus on the game, don't trick the other person.'

Private middle school

'Hand eye coordination is good, train your hands for fast movement, have a fast computer.'
'Read more books, do not overindulge yourself, keep practicing.'
'Never loot in the open areas, be in a cover, take fight in shrink zone, sniping improves your aim.'

All children are able to give tips that are concise, well-worded, with imperatives both in the affirmative/ assertive (e.g., 'Pay attention to', 'Buy extra keys') and in the negative (e.g., 'Never loot', 'Don't go big at the start') and capture the most significant aspects from their perspectives.

Benefits of gaming

In response to question 20 about the perceived linguistic benefits of gaming, children focused on speaking (55 per cent of public school pupils mentioned this), followed by reading (33 per cent of private primary schoolers and 44 per cent of private middle schoolers) and vocabulary (46 per cent of private middle schoolers). Children did not report any significant benefit with regard to writing skills. However, children wrote responses to the questionnaire questions in English, and judging from their responses above, their English appears to be quite well developed. This is impressive for both the public school children where the medium of instruction is their local language, and the private primary school children given their young age of seven to ten years. It should be noted that in their normal English classes, teachers find it challenging to get children to write even short compositions in English.

No significant trend emerged concerning other skill benefits (question 21) such as collaboration, creativity, communication, critical thinking and the like.

For Phase Two, in-depth interviews with two children and two focus groups of three children from private middle school provided deeper insights into their gaming habits and a peek into their individual perceptions. The interviews lasted about 20–30 minutes and centred around the questions in Appendix three. These discussions were audio-recorded and later transcribed. A clear picture emerged from these one-on-one chats about the young, 'expert' gamers. Overall, they are able to see things in perspective, to see the good and not-so-good effects of gaming and have, in fact, taken a responsible approach to a future course of action. Some of their comments were very perceptive given their young age. One said, 'When you lose at a particular level, you get angry. It's good to get frustrated a bit, because it's a sign that you have to stop playing.' Another stated, 'Puzzles can make your

mind sharper, they increase your creativity, ability to multi-task; If you're too much addicted, it's a bad thing, just ignore everything else, that's a bad thing.'

One pupil from a group interview focused on learning strategies thus.

Pupil 1	When you're not able to go through the level or can't defeat the opponent, you're giving up in virtual reality, then what about reality? (He's thinking aloud)
Interviewer	Erm ... so ...
Pupil 1	If I'm not able to do a certain task, I give up and do something else ... the problem is, it happens in reality ... I'm not able to do a certain equation in maths, I give up and try to avoid it.
Interviewer	What do you do then?
Pupil 1	You just meditate and take a break, and get back to the task.

It is worth mentioning that regardless of the school type, there is little adult supervision or intervention. Children seem to be aware of what they are doing. Interestingly, children have developed their own ethical and moral norms and are guided by them. One pupil said, 'There are cheat codes, but cheating or hacking is wrong ... but if you get more skilled at the game, it's way better. In Bedrock, you really need to click your mouse very fast ... there are many efficient ways to play ...'

Teachers' data

Of the 45 teachers, seven (15 per cent) were not aware that their children played games and did not believe that they could use games in their teaching. The rest, however, were quite conversant with the gaming habits of children including the names of games they played. Teachers saw benefits in the areas of English language development as well as other skills such as collaboration, communication, and creativity. Some of these teachers played games themselves, such as Sudoku, Scrabble, and some 'British Council games' and were aware of how they benefitted from games. They indicated that games fostered, 'quick thinking and creativity,' 'vocabulary development,' 'interactive teaching techniques,' 'play-way method,' and they liked 'to be in line with the new generation.'

Teachers were generally well inclined towards the possibility of using games in class as they saw games as a helpful tool in the development of language skills, particularly vocabulary, grammar, pronunciation and writing. They commented for instance that, 'Quizzes, word play and pictionary can help in building knowledge of the language and enhance their interest in learning'; 'It makes the process of language learning smooth and fun-filled.' Some teachers were of the view that games could be used to 'evaluate', 'recapitulate the concept' taught', or to 'reinforce the topic'.

A few teachers, however, were clearly anti-games as they categorically said 'no' to the question, 'Have you ever thought of incorporating online games into your classes?' One stated, 'I don't believe in this type of learning.'

4.3.4 Summary

Playing online games for many children in this study started or got intense during the pandemic, as school closures afforded a lot more time to explore this new mode, which they had learnt to use for online study purposes, without the usual burden of schoolwork or parental supervision. It provided opportunities to use the electronic devices that they otherwise had not had access to.

It was probably the first time most children from public schools had the chance to use a digital gadget, mostly the mobile phone which also had to be used by other siblings for online classes. It was surprising that, contrary to the common belief that children of private schools from better socio-economic backgrounds indulge in non-scholastic tasks such as gaming, this study revealed that a larger proportion of children from the public schools played games for longer hours more frequently and benefitted from them in significant ways. Although the absence of adult supervision was one of the main reasons they were able to develop an interest in online games, there was no major instance of guilt or secrecy that came to light. Children spoke very honestly about the positive effects of gaming. In fact, some children in public schools vehemently argued in favour of gaming to parents when their teacher arranged individual parent-child meetings. Addiction or playing at the cost of your schoolwork, everyone seemed to understand, was not a good thing. However, they had discovered a new world that provided ample excitement, fun and learning beyond the school classroom which they were not willing to let go of.

However, there seem to be groups of children in each of these schools that are under much tighter parental supervision/control. To the question 'Would you like to play online games in the future?' their answers were revealing and include, 'Yes, I would, the second I'm allowed to,' 'When I'm older and free, I might try out a few games since I'll be allowed to.' A small minority though felt that gaming was not for them, 'I won't indulge myself too much into games as I have seen and heard of people getting addicted and doing anything to play more games ... I'd rather read English books.'

Teachers in this study seemed a little lukewarm about the whole idea of gaming or saw a limited role for games in their classroom, although many teachers were aware of the exciting gaming world of children and the benefits it offered. We would need to delve deeper into teachers' conceptions of games and their potential for teaching-learning which is beyond the scope of this study. If we go by what children as 'experts' are saying, we can learn a good deal about what they find enjoyable and how they would like to learn, so we could incorporate their ideas into our classroom pedagogy. This way the in-school experience of children can reflect real life out-of-school and be made more interesting and worthwhile.

4.4 China

4.4.1 The English teaching-learning context and the role of video games

The Chinese government actively promoted English education in the 1990s and 2000s as part of its open-up policy and the growing trends of globalisation. Early English education was introduced with most children in Chinese cities starting to learn English in the third grade. In the National College Entrance Exam, Gaokao, English holds equal weight to Chinese and maths. Parents in Chinese society also place a strong emphasis on English as a vital skill and a pathway to international education opportunities for their children. However, recently, fresh debates have emerged regarding the role of English in China's education system, with concerns over excessive time and energy dedicated to English learning, particularly among young children. Calls have been made to reduce the weight of English in Gaokao and adopt more communicative and interactive approaches to English teaching (Zhao, 2016). In fact, in 2021 the Chinese government implemented a policy change by banning for-profit, after-school tutoring in core subjects, including English, aiming to alleviate academic pressure and restore a healthier work-life balance for families.

Amidst these changes, there is a growing debate about the role of video games in education. Concerns about the well-being and development of children playing video games persist (Cao et. al, 2022), leading to restrictions introduced in 2021, to counter the potential negative impacts on children's physical and mental well-being and academic performance. At the same time, there is also some recognition of the educational value of video games in enhancing learning outcomes. Educators and researchers believe that well-designed games used in the right contexts can promote cognitive skills, problem-solving abilities, and foster creativity among students (Hartanto et. al., 2018; Yu and Tsuei, 2022). Educational games aligned with subjects such as maths, science and English learning have been promoted by technology companies and educational institutions. In addition, China's video game market has experienced remarkable growth, becoming one of the largest in the world. This growth has prompted educators and policymakers to recognise the potential of incorporating video games for educational purposes.

4.4.2 Data collection

Phase One: Questionnaires

In China, the questionnaire was administered online using the popular Chinese survey platform Wen Juan Xing in late 2021 and early 2022, allowing for broader participation across different regions of China during the pandemic. A total of 102 children from diverse age groups, genders, school types and city types took part in the survey. Table 6 shows the age of the participating children in the survey.

Table 6: Age of children participating in the survey

Age	Survey Participation (%)
7–8	32
9–10	35
11–12	10
13–15	23

Gender distribution was balanced, with 52 per cent male and 48 per cent female participants. The majority of participants (80 per cent) attended public schools, while 20 per cent were enrolled in private schools. The survey covered six cities Nanjing, Xiamen, Fuzhou, Shanghai, Shaoxing and Shantou. Most participants (77 per cent) were from first and second tier cities, known for their advanced infrastructure and educational resources, while the remaining 23 per cent were from third and fourth tier cities, which are typically smaller and less developed.

Phase Two: Case studies

Semi-structured individual interviews with three Chinese children using Zoom and WeChat video platforms were used. The participants were a nine-year-old girl in grade four and two eleven-year-old boys in grade six. Each interview lasted for 20 to 30 minutes. Children were asked questions used across the four countries, but additional areas were explored such as children's experiences of playing Chinese games, given that participants did not play English games regularly.

4.4.3 Data analysis and findings

Based on the results of the questionnaire, a significant portion of the children (82 per cent) expressed positive attitudes towards the English language. Moreover, a large majority (88 per cent) had participated in outside-of-school English training programs, indicating the widespread use of supplementary English learning resources among urban Chinese families.

Only 37 per cent of the participants reported playing online games in English, including many games specifically designed for learning English. This indicates that while a substantial number of Chinese

children engage in online gaming, most do not focus on English-language games. The types of games played varied among the participants. Popular choices included Khan Academy Kids, English reading/vocabulary/listening games (e.g., iEnglish, PalFish, Duolingo), English maths games, Scratch Jr., Minecraft, and adventure/action games such as Subnautica, Monument Valley and GTA. These games offer a diverse range of learning opportunities and entertainment experiences.

For participants who do play English online games, they reported spending an average of approximately one and a half hours per week playing online video games. This suggests online gaming does not consume a significant amount of children's time.

According to the questionnaire results, children identified several positive aspects of playing their favourite online English games. The top answers highlighted the appeal of attractive characters and pretty colours, the excitement and stimulation derived from gameplay, the ability to unlock new skills and progress to higher levels, the presence of interesting plots and the opportunity to play with friends. These aspects contribute to the enjoyment and engagement experienced by children while playing games.

When asked about their interest in trying online games in English in the future, the responses varied. Some children expressed their willingness to try if their parents allowed it or if they have more time available. Their motivation stems from the desire to improve their English skills and expand their circle of international friends. On the other hand, some children indicated that they would not be interested in playing online games in English due to the perceived time commitment or because their parents would not permit them. These responses reflect the influence of parental restrictions and concerns about the potential time consumption associated with online gaming.

The interviews with the three children revealed several findings. Firstly, the children mentioned playing a variety of games that incorporated English learning elements. These included English learning games designed by their English teachers, Khan Academy kids games for learning maths and English, English reading games on the iEnglish learning app, ARK: Survival Evolved, Minecraft (Chinese version), and Scratch for coding games.

When asked about their perceptions of good and bad games, the children highlighted the importance of fun, interactivity, and challenge in games. They appreciated games that provided rewards and introduced new knowledge and ideas. In terms of the benefits of playing games, the children mentioned

that it helped them develop observation skills, quick decision-making, and teamwork. They also noted that games allowed them to explore and learn about different content areas while having fun competing with friends and interacting with others. One child commented, 'It is a complicated feeling when playing games. I get excited not only about competing with friends, but also about helping each other and going through difficulties together.' On the other hand, the children recognised some disadvantages of gaming, such as potential negative impacts on their eyes and brain due to excessive stimulation and time consumption. When one boy talked about rules for his own child in the future, he said, 'If I have children, I will definitely allow them to play all kinds of games. But I will also set very strict rules about what grades they should achieve for school subjects.' This shows that children have concerns about games taking up too much time, leaving less time for studying and developing other skills.

Regarding learning English through games, the children acknowledged that games could help them learn vocabulary, phrases and sentence structures. They believed that using games made learning English more interactive and enjoyable. However, they also pointed out that except for games designed for English learning, there is not much English involved in the online games that they play for entertainment. One child pointed out, 'Even when English words appeared in the games, it was usually easy to guess their meanings.'

In addition to the individual interviews, a short video was also recorded while the two boys were playing the Chinese version of Minecraft together. During gameplay, the researcher observed that the children predominantly used Chinese to communicate with their friends. They employed Chinese for game tactics, commenting on the game's content, and for interacting with each other. They only used minimal English phrases such as *follow me*, *okay* and *nice*.

4.4.4 Summary

Overall, the questionnaire findings and individual interviews provide a mixed reality of children playing online English games in China. Firstly, with regard to Research Question 1, a variety of online video games were played by Chinese children including both popular games for entertainment and games for educational purposes. In terms of English online games, however, only a small percentage of Chinese children actively engage in playing English video games. Negative views from schools and parents, limited time due to heavy coursework, and restricted access to technology and the internet, particularly in rural areas, contribute to this low participation rate. Also, Chinese remains the dominant language in video games, as popular games have been

translated into Chinese. Only a small fraction of older children in major cities have access to international gaming platforms, where they are motivated to use English for communication with international players.

Secondly, with regard to Research Questions 3 and 4, Chinese children acknowledge the many benefits associated with playing games such as cognitive, social and psychological benefits, but they are also highly aware of the negative effects of playing too many games. As for English learning, both the questionnaire and interview data show that Chinese children do not consider video games as an important tool for learning English. They have various alternative methods such as private tutoring, group lessons and reading apps. Since English is rarely used in popular video games, children tend to overlook English words even when they occasionally appear.

Thirdly, data from this study suggests that in China, English video games are predominantly designed and played for educational purposes. Mobile apps and online platforms for English learning incorporate different types of games to cater to the needs of children learning English. While some parents and teachers recognise the benefits of games and may permit or encourage their children to play certain video games, the focus is primarily on educational objectives.

Looking ahead, Chinese children will undoubtedly continue to be motivated by the immersive and interactive elements that make video games enjoyable. As the demand for communicative English education and high-quality educational experiences grows, we can expect the emergence of more educational games and games with educational benefits. With recent policy changes providing children with more after-school free time, parents may increasingly view video games as an alternative means for their children to learn English and connect with the global community. Additionally, the Chinese government will play a central role in shaping English education and the incorporation of online games for young learners.

5

Discussion, implications and recommendations

5.1 Complexities of our interpretations

RQ1. What (English/L2) online games are played by children (aged eight to fourteen) in the target contexts and what patterns, if any, emerge from the questionnaire data across the contexts?

Instead of patterns, we discovered huge complexity. In all four contexts, children are familiar with and play a huge range of online games in English, but we also discovered that each gamer is unique and their game playing practices are influenced by a large set of influences. We found evidence that children in the different contexts engaged in all three types of games discussed by Sundqvist (2013), i.e., single player, multiple player and massively multiple player games. We were struck by the sheer variety of games, both commercial and educational, that children listed as being familiar with and/or having had experience of playing. In all four contexts, children played online games although those who were younger and who had access to L1 games were less likely to play in L2 English. The array of games familiar to children is almost impossible to account for, as new games become available all the time. Most children who play tend to play a variety of games with more than one gaming partner. They play alone, with friends and or family members and some play with others they do not know online.

RQ2. How do children describe their game playing experiences? What linguistic and other benefits are evident from the data?

The children were extremely enthusiastic about their games and were able to describe them, give advice about how to play, how to progress, what strategies to use and how to succeed or win, but they were also knowledgeable and realistic about the potential problems, drawbacks and challenges. They reported various benefits (linguistic, as well as others) related to online gaming and were more than happy to share short, real time gaming sessions with us, some of which showcased multi-tasking by using more than one device at a time (both a smartphone and tablet device) or navigating multilingual communication

in play. Children were keen to explain the rules, and in some cases, taught the adult how to play. They shared sophisticated insights about both the advantages and disadvantages of gaming and were able to reflect on their motivations to play as well as what they learnt. Teachers were struck by how knowledgeable some children were about games and gaming and they were also surprised by the various benefits the children claimed they gained from gaming. To recap, the children mentioned gains in English language, and development in their observational, social, cognitive and metacognitive skills.

Our data overall suggests that children's game playing and what they actually benefit from in this process is unique to each individual with a huge array of contextual factors that appear to be key. Uncovering this complexity is the first step towards trying to understand children's game-playing behaviours and the link between gaming and language learning. Our study has begun to draw attention to this complexity, but future studies need to explore these issues further both via large-scale exploratory longitudinal studies and more focused studies targeted at understanding the relationship between these key factors.

Using Bronfenbrenner's (1992) ecological systems theory, see Figure 3, we began to tease out the important issues that need attention when trying to account for children's game playing in L2.

Children are living in layers of contextual realities including family, school, peers, community, mass media, culture/society, the global world, and so forth. These factors are also interconnected and thus influence children's game-playing behaviours and perceptions in a complicated manner. Family contexts, peer relationships, school types, as well as access to mobile devices and phones, all mediate how and what children end up playing in their free time. Some children play with their classmates after school and use online games as an opportunity to relax and hang out with their friends (for example, some children in Chile) while others play with

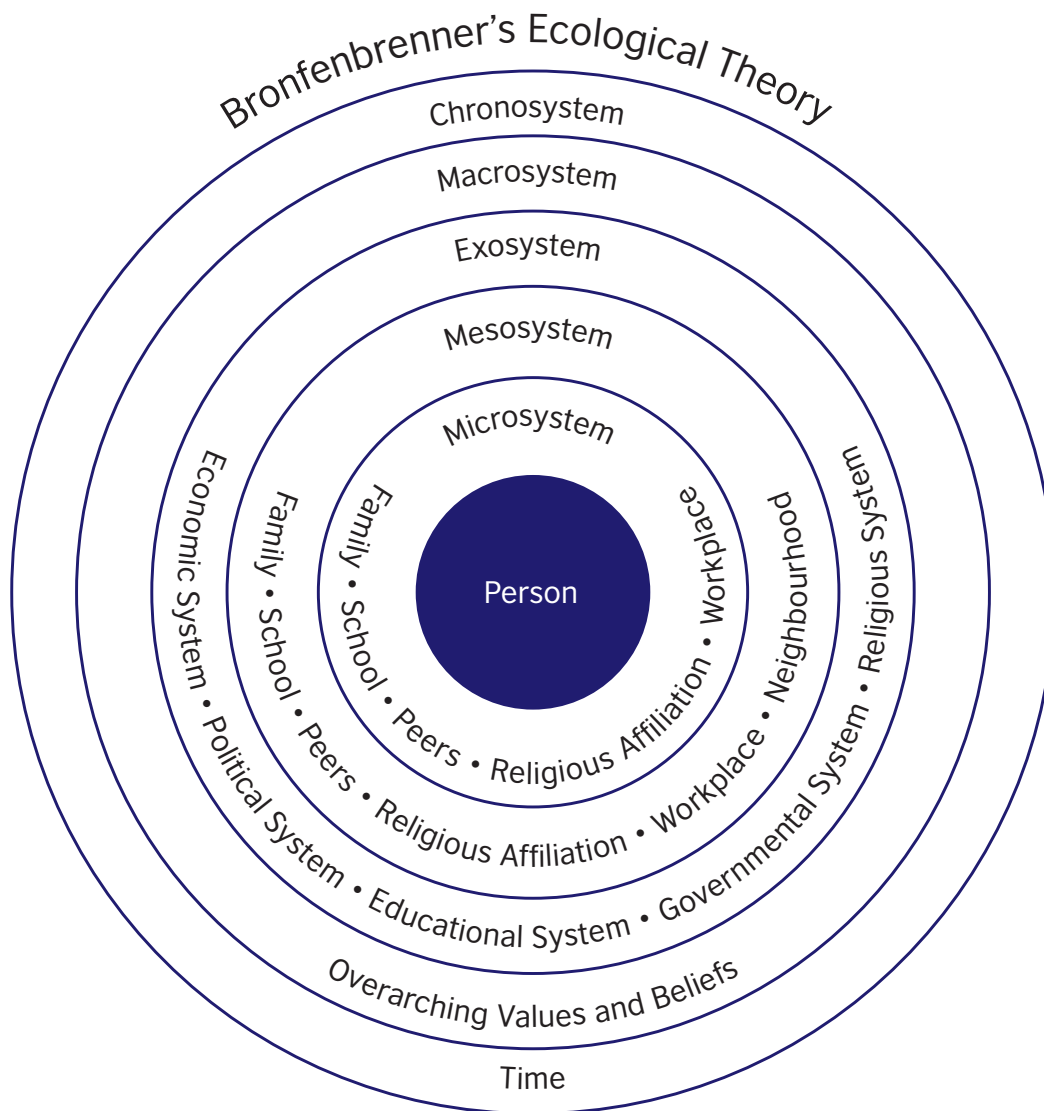


Figure 3: An adapted illustrated model of Bronfenbrenners' Ecological Theory

whoever happens to be logged on at the same time (for example, some children in Hungary and in Chile). There is an overlap between playing for just fun, entertainment and/or learning. Some children felt they were not really learning anything new in the L2 (English) whereas others were proactive and intentional in their focus on learning new language and used the language as much as possible during gaming. This is presumably linked to their motivation and their identity development as English language learners (see Jensen, 2019) and whether they might perceive engaging online as an authentic way of learning and using the language.

Many commercial games that are originally designed for entertainment purposes may have functions that turn out to be motivational and useful for children's English learning (for example, repetitive exposure to words and expressions). There were substantial variabilities in terms of the quality and quantity of interaction during any given game. In some game playing, only isolated phrases and words were used

in English (for example, in some activities described by Chilean children) while in others, sophisticated English well above the level expected of the learners at school was observed (for example, in Hungary). Our data showed that some children who were proactive, made use of external resources to be competitive players, such as using machine translation, reading game manuals, watching tutorial videos, and consulting with the gaming community about their gaming strategies. All this proactive engagement will greatly contribute to their English learning potentially.

In some contexts, children reported playing mainly in their L1. For example, in China both official policy and parents restrict children's gaming activities whereas in other contexts, children reported that they were able to play indefinitely, especially during Covid-19 times (for example, in India). Children's game playing behaviours can be greatly influenced by global issues such as the pandemic, local policy changes, and the swift advancement of digital

technologies and the main drive for playing games may have been very different before and after the pandemic. One may wonder if playing with AI in the future will make children more addicted to game-playing. We have very limited understanding of such potential influences.

One issue of great contention is how to define actual outcomes and benefits of playing. What may be enhanced through game playing may not just be the often-studied formal aspects of language such as vocabulary learning but other types of abilities and skills. These might include, for example, digital pragmatics, that is pragmatic knowledge and skills for online communication, or even non-linguistic abilities such as problem solving and creativity. Indeed, many children reported such benefits and were able to show or narrate evidence for these perceived benefits. For instance, one Hungarian participant described and illustrated in detail, how his problem-solving skills were fostered by the demands of the game *Scrap Mechanic* in which players design, construct and deploy vehicles and machines and then share their creations online.

Children's views and perspectives are important and their insights are extremely valuable. However, we must remember that even though we attempted to carefully co-construct the interviews, what children tell us or do not tell us and show us and do not show us is the product of the context of place and time and also our relationship with them. Their voices are always contextually mediated (Spyrou, 2011). In this sense, we must be cautious about our ultimate interpretations of the results and what implications we draw. For example, some children mentioned to the adult researcher that their parents hold conflicting views about gaming and they need to hide from them the facts about how much they play online. Some children commented that they decided to put fewer hours per week play time in the questionnaire because any adult would be shocked to know the truth. Such comments indicate how carefully responses were curated.

In this study we focused on talking to avid gamers and barely heard from children who do not play. There were children in every context who declined to fill in the questionnaire or abandoned the questionnaire half-way through. This could be because they did not play online games, were not allowed or were not interested at all, or were not comfortable about reporting what they played, or they just did not have an interest in participating in this study. These children's voices are important, too, and future studies should consider including them. It is important to understand why some children do not find gaming interesting or motivating. It is possible that they engage in other extramural

activities in English such as listening to music, watching TV, using social media networks in English, joining English clubs, and so on.

Future research should also be conducted to understand the above complexities better, especially by conducting studies that are longitudinal and follow gamers over a longer period of time, perhaps for several months. It is important for adult researchers to observe children or measure their language growth in relation to games, but it is also crucial to continue talking to the children about their experiences and perspectives. As Jensen rightly comments: 'Despite a growing interest in language learning in the wild, still only few studies have investigated young users' (7–11 years old or younger) extramural language learning', (Jensen, 2019, p. 82).

Finally, we noticed that children made occasional reference to safety issues online and talked about the importance of being vigilant when playing with unfamiliar gamers online and mentioned rules that helped them to protect themselves from harm online. While exploring these issues and questions was outside the scope of this study, it must be emphasised that future research that explores online safety issues is of paramount importance, especially because the pace of change is staggeringly fast and new potential types of harm can quickly emerge.

5.2 Implications for teachers

Many learners perceive a gap between their interest in and motivation for the arguably more authentic English they meet 'in the wild' and the less authentic English they encounter in the classroom. Teachers therefore should strive to bring their learners' outside world of gaming into the ELT classroom to enhance pupils' enthusiasm for English learning. This does not just mean simply introducing gamification techniques into lessons but rather becoming more aware of learners' real-world gaming and other extramural activities and then incorporating these experiences into classroom practice. Gaming is a dynamic ever-evolving area, new games are released continuously, so it is important to talk to children regularly about what they do outside the classroom and perhaps use this feedback as a basis for designing learning tasks. For instance, in Phase Two of this project, the Hungarian participants suggested using *Minecraft* to teach Art and Design, or about 3D models, or concepts of electricity, given that players have to use Redstone (a fictional version of electricity) when playing *Minecraft*. They suggested that with games such as *Farming Simulator*, they construct something at home then describe in class what they had done. Clearly, these ideas are a little vague in terms of pedagogy, but do provide a useful starting point for teachers.

Below are a list of sample activities to illustrate how teachers can tweak their regular classroom activities to bring learners' gaming 'in the wild', into the ELT classroom.

Learner activities for higher English proficiency levels

1. Create and deliver short mini-presentations about their games for the class.
2. Design language learning games or apps based on their familiarity and appreciation of features of good games they play online.
3. Teach their peers vocabulary and phrases they learnt from online games;
4. Participate in game-based discussions such as:
 - ranking activities: *Rank these seven games in order of the best to worst.*
 - problem solving: *Match the gamer profile to the appropriate game.*
 - class discussions: *How can the skills you learned in game X be used in everyday situations such as ... ?*
5. Prepare for each other, sets of rules of popular games that contain errors. Pupils swap the rules and correct the errors in the fastest time possible.

Learner activities for lower English proficiency levels

1. Create, then conduct their own simple 'Video Game' class survey using: *Do you play ...? How often do you play ...? Who do you play with?* and report back their findings to the whole class.
2. Prepare simple quizzes about popular video games for their peers to answer.
3. Draw, then present and describe their own video game characters.
4. Bring to class a screenshot of their favourite game, then use it to practise language forms such as *there is/there are*, colours' singular and plurals and so on.
5. Decorate their classroom with English language game visuals such as game graphics or characters.

Teachers could be encouraged to incorporate more game-based learning in teaching, not just educational but also commercial games which are often of equal value (Xu et al., 2020). The relatively little research that exists into this area, indicates that many teachers lack knowledge of the educational and commercial games available and the pedagogic know-how to use them. It is, for example, challenging to find suitable games that fit with the curriculum and teacher selection tends to

be based on what they already know and believe about games rather than a deliberate consideration of what the learning context requires (Acquah and Katz, 2020). Interestingly, an individual's personal experience of gaming does not necessarily mean they can or do use games for teaching and learning. This is a phenomenon that Blume's (2020) study with pre-service EFL teachers in Germany revealed: although these so-called digital natives were positive about digital and game-based learning, only a small proportion actually used such games in their own language learning.

Therefore, one huge task of ELT teacher education is to equip teachers with the knowledge and skills they need to exploit the English learning that is happening 'in the wild' and make meaningful connections between out-of-classroom and classroom learning.

5.3 Conclusion

We set out to gain insight into the children's world of gaming, what they do, how they play, and what they learn in the wild. While interpreting children's voices is never straightforward, we feel that this study has allowed us to peek into their worlds. We have learnt about their experiences, views and priorities through their eyes.

From our four-country study, a fascinating picture has emerged of a mosaic-like gaming world made up of differences but where children are also united by their similarities. The different country contexts very much shaped the findings. For instance, in Hungary, few Hungarian language games exist so children play in and through English. In China, the dominant gaming language is Chinese. Chile's geographical location and India's multilingual context means that multiple languages are used when gaming. All these differences impact on children's English (and other language) learning.

The similarities, however, were also obvious. Children across the world voiced similar benefits such as how social skills, teamwork, problem-solving and creativity are fostered by the demands of gaming. They identified similar strategies needed to play successfully and often played similar games. They communicated similar concerns such as the addictive nature of gaming. Indeed, most children seemed more aware than their parents or teachers about their gaming worlds: what they do; how they play and what they learn.

Importantly, this study has illuminated pathways forward for us, the research community, to explore further. More studies, especially those that seek children's views about gaming, are needed to continue building our understanding of L2 learning

and other learning opportunities outside the classroom. This is echoed by Jensen (2017; 2019). For example, if teachers appreciate what aspects of English or other languages, are developed through gaming, and how children learn, and this is based on insights directly drawn from the learner, they can perhaps start to modify their teaching to build on learning that happens through gaming. Naturally, this greater understanding of young learners' game playing in the wild should inform teacher education. Gaming is a powerful resource; it is happening in the wild and teacher education can perhaps start to help teachers bring this resource into the classroom to the benefit of language learning.



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Appendices

Appendix One: Learner questionnaire








English Online Games Survey for Children



Yourself

1. Name:
School: Class:
2. How old are you?
3. Are you male or female?
4. Which language(s) do you use/speak at home?
.....

English

5. Do you like English? Please circle.   
6. If you said **YES** to question 5, please tell us what you like about English:
 **Online!**
7. Do you ever use English outside school?  
If you answered **YES**, jump to **Q8**. If you answered **NO**, jump to **Q9**.
8.  **Online!** Please tell us when and why you use it.

Online Games in English

9. Do you play online games in English?



If you answered **YES**, jump to **Q10**.

If you answered **NO**, jump to **Q22**.

10. Who do you play online games with? Please tick. (Multiple selections)

- My parents
- My brother(s) and/or sister(s)
- Other members of my family
- Friends from school
- Friends who go to a different school
- People I know online
- People I don't know online
- I play games on my own.
- Others _____

11. How often do you play online games?

- Every day
- Several times a week
- Once a week
- Less than once a week

12. How many hours per week do you spend playing online games?

- Less than 2
- 2–5
- 5–8
- 8–11
- 11–14
- 14+

13. Do you play English online games ... ? (Multiple selections)

- On computer at home
- Tablet at home
- Smartphone
- Others _____

14. Which type(s) of online game do you play?

- Action
- Adventure
- Dressing up
- Escape the room
- Interaction fiction
- Puzzle
- Role-playing
- Simulation
- Others _____

15. What's the name of your favourite game or games?

Online!

16. Imagine that someone has never played your favourite online game. Can you explain what the rules are?

Online!

17. What are the three best things about playing your favourite online game?
-
 -
 -
18. What are your three top tips about how to do well in your favourite game?
-
 -
 -
19. Where did you first learn about your favourite game? (Multiple selections)
- From friends at school From friends outside school
- From friends online Others _____
20. Do you think playing games in English can help you improve your English language skills? If so, which skills does it help you improve? (Multiple selections)
- Speaking Writing Listening
- Reading Vocabulary Grammar
- Pronunciation Others _____
21. Does playing online games help you develop any other skills apart from English? If so, which skills does it help you develop? (Multiple selections)
- Communication Collaboration Creativity
- Problem-solving Critical thinking Citizenship
- Digital literacy Others _____

End for Gamers

For Non-gamers

22. Select the reason(s) **why you don't currently play online games in English.** (Multiple selection)
- I don't like playing online games. / I prefer doing other things in my free time.
- I prefer playing games in my own language.
- I don't know enough English words to play them in English.
- I don't have access to a computer, tablet or mobile phone to play games on.
- My parents don't allow me to play online games.
- Others _____

23. Do you play online games in your first/native language?



If you answered **YES**, which ones?

Online!

24. Would you like to try playing online games in English in the future? Please tell us why or why not.

Thank You!

Appendix Two: Teacher questionnaire

English Online Games Survey for Teachers



Yourself

Name: Country:

School:

Years of teaching experience (any/ all subjects): years

Years of English teaching experience: years

Male / Female / Other:

English Online Games (Students)

1. Are you aware that some of the children you teach play English online games outside the class in their free time? YES NO

2. If **Yes**, which games do they play?

Online!

3. Do you think children who play English online games outside the class benefit from this experience in term of their English?

YES

NO

I don't know.

3-1. If **Yes**, what kind of English language related benefits have you observed?

- | | | |
|--|---------------------------------------|------------------------------------|
| <input type="checkbox"/> Speaking | <input type="checkbox"/> Writing | <input type="checkbox"/> Listening |
| <input type="checkbox"/> Reading | <input type="checkbox"/> Vocabulary | <input type="checkbox"/> Grammar |
| <input type="checkbox"/> Pronunciation | <input type="checkbox"/> Others _____ | _____ |

3-2. Have you observed any other benefits?

- | | | |
|---|--|--------------------------------------|
| <input type="checkbox"/> Communication | <input type="checkbox"/> Collaboration | <input type="checkbox"/> Creativity |
| <input type="checkbox"/> Problem-solving | <input type="checkbox"/> Critical thinking | <input type="checkbox"/> Citizenship |
| <input type="checkbox"/> Digital literacy | <input type="checkbox"/> Others _____ | _____ |

4. Are you aware that some children play online games in other languages than English? YES NO

If **Yes**, in what language(s) do they play online games?

English Online Games (Yourself)

5. Do **YOU** play English online games in your free time?

YES

NO

6. If **Yes**, which games do **YOU** play?

 **Online!**

7. Do you play online games in other languages?

YES

NO

If **Yes**, which one(s)

8. What benefits does game playing in English give you, if any?

 **Online!**

9. Do you ever recommend English online games to pupils in your classes?

YES

NO

Why? / Why not?

10. Have you ever thought of incorporating English online games into your classes?

YES

NO

Why? / Why not?

Thank You!

Appendix Three: Interview questions and prompts for avid gamers

Series of interviews with possible questions:

1. Introductions (name, age, languages spoken, date/time of the interview) and warm-up questions relevant in the context, what is the interview about, checking consent, emphasizing children's expertise, talking about the recording device, etc.
2. How long have you been playing? How much do you play?
3. What is your favourite (interactive) game in English (or the top 3 you enjoy playing)?
4. Who do you play with?
5. What do you enjoy about game xyz?
6. Describe the 'best time' / 'best experience', is it the moment of winning?
7. Do you think you learn anything in English? What are you learning along the way? Maybe not just English ...? Other things?
8. How do you decide when to play? When to stop? Does it ever get boring?
9. How do you feel when you play? Always the same or different? Excited, relaxed, nervous, etc.? Examples for some? Why?
10. Good things and not such good things about games? Any problems or disadvantages?
11. What sort of things do you say to each other or write to each other while playing?
12. Do you play in different languages?
13. What do (your) parents or parents in general and teachers think about games?
14. When you have children will you encourage them to play games? Why or why not?
15. In your class / school / family do others play? Do you talk about it at school / at home? Those who don't play, why don't they play? What do you think?
16. Can you show me what to do / how to play xyz?
17. If I want to learn this game, what is your advice? Can you show me?
18. How do you get better?
19. Show me important features of the game.
20. Anything else that is important about you (as a gamer) or about playing that you would like to share. Something I did not ask about?
21. Draw yourself as a gamer?
22. Anything you are proud of? Anything you would like to achieve?
23. Take screenshots (if consent covers this).

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