

Extramural English engagement in a Danish context: A young learner perspective

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Abstract

The present dissertation is part of a larger project entitled *The younger, the better? A usage-based approach to the learning and teaching of English in Danish primary schools* (Cadierno & Eskildsen, 2014) (henceforth TYTB) financed by the Danish Council for Independent Research. The aim of TYTB is to investigate the importance of age for language learning also recognizing the importance of additional factors, such as, learner internal variables, and contextual variables such as the quantity and quality of English inside as well as outside the classroom. TYTB has tracked Danish learners who started learning English in the 1st and 3rd grade, respectively, from 2014 to 2017, providing a unique possibility of comparing children starting formal English instructions at different ages (1st grade = Early starters and 3rd grade = Later starters). Formal English instruction was lowered from the 3rd to the 1st grade in 2014.

This dissertation is related to one of the variables of interest in TYTB, namely, *outside school exposure* in investigating young (7-11years of age) Danish children's engagement in English-language activities outside school (henceforth EE, i.e., extramural English (see Sundqvist, 2009)). With the increasing digitalization of media and entertainment and this being mainly mediated in English, *the* global language of contemporary society (Henry & Cliffordson, 2015), it is becoming increasingly important to investigate the nature of engagement with EE, not least for children. Furthermore, it is a field where in only little research has been carried out (Wagner, 2015).

The aim of the dissertation is to advance knowledge on a variety of aspects of young children's engagement with EE and language learning from EE to obtain as broad yet detailed knowledge of the topic as possible. To this end, the dissertation employs a theoretical usage-based framework (Cadierno & Eskildsen, 2015) which is grounded in both cognitive (Ellis, 2007; Ellis, 2015) as well as poststructuralist theoretical notions (Pavlenko, 2002). This also means that the dissertation employs a mixed-methods framework (Dörnyei, 2007; Silverman, 2013). The dissertation draws on survey methodology through the use of language diaries (Bailey & Ochsner, 1983; Sundqvist & Sylvén, 2016) and statistical analysis, ethnographic interviews (Spradley, 1979) analyzed through Activity theory (Leontiev, see Lantolf & Thorne, 2006), and naturalistic video-based observations (Silverman, 2013) analyzed with point of departure in discourse analysis (Gee & Green, 1998). With this mixed framework, the dissertation contributes to research within SLA which seeks to bridge the gap between theoretical standpoints that, within SLA research, have often been thought to be irreconcilable, that is, the cognitive and the social (Hulstijn et al., 2014).

The research interests are investigated through the following research questions each addressed in individual studies:

RQ1: (addressed in paper 1)

(a) What Extramural English activities do Danish YELLs (young English language learners) engage in, and to what extent? (b) Are there gender-related differences?

(c) What gaming activities (in varying language modes) do Danish YELLs engage in, and to what extent? (b) Are there gender-related differences? (d) Is there a correlation between these gaming activities and vocabulary scores?

RQ2: (addressed in paper 2)

Which motives (social and cognitive) are children driven by in their use of English in L2 English-mediated activities? How do children engage with L2 English based on their motives?

RQ3: (addressed in paper 3)

How do young Danish children employ English productively as an affordance in the Extramural English (see below) space? How may this use be related to language learning?

The findings in study 1 with a population of 107 children, shows that Danish children on average engage almost 6 hours weekly in EE. Results showed that boys engage significantly more than girls, especially in gaming. Boys preferred engaging in gaming whereas girls preferred listening to music. Gaming habits were registered according to the language mode of the games, i.e., whether the games were with English speak and English text (GEE), English speak only (GEZ) or English text only (GZE). Results showed that gaming with both oral and written English input (GEE) and gaming with only written English input (GZE) were significantly related to vocabulary scores, in particularly for boys. Whereas GEE gaming had a stronger effect for Early starter boys, gaming with only written English input showed a significant effect only for Later Starter boys. The study thus attests to the importance of frequency of input. Moreover, the study confirms speculations put forth in previous research (Kuppens, 2010; Lefever, 2010) of possible correlations between gaming and language proficiency for young users.

While study 1 investigates the potentials of EE engagement through statistical methods and based on usage-based theoretical notions of the importance of frequency effects (Ellis, 2007; Ellis, 2015), study 2 investigates the specific nature of this engagement. Through ethnographic interviews (Spradley, 1979) and qualitative analysis (Activity theory (Leontiev, 1978. see, Lantolf & Thorne, 2006), the study investigates what 7-11-year-old Danish children (n = 15) make of the linguistic affordances (Van Lier, 2000) of the EE space based on their motives for engagement. Through the Activity theoretical analysis an exploratory examination was carried out as to the children's underlying *motives* (Lantolf & Thorne, 2006) for engagement with English as well as exploration of the actual engagement. The children engaged in their favorite EE activities while being interviewed.

Findings show that through motives such as finding English speakers and content very authentic and interesting, and more up to date than Danish content of the same nature, the children deliberately sought out

English-language activities. Thus, they engaged in activities such as gaming, gaming chats, watching gaming inspired videos on YouTube, following people on social media and making comments on their threads, etc. Through their engagement, the children engaged with the affordances in many ways that are considered beneficial for language learning. Through their enthusiasm and active and invested engagement (Lantolf & Pavlenko, 2001; Norton, 2013) with the EE space, the children noticed linguistic details and used strategies for understanding unknown words (Gass & Mackey, 2007; Swain, 2000). Through the interesting social space, some engaged with other English-speaking users thus being willing to communicate and finding opportunities to practice their English through higher cognitive and social motives. Not all engaged as willingly in the English language space, preferring instead to engage in Danish. Findings also show that the children in general liked school but perceived of the EE space as very different and more authentic. The study adds insights into an underresearched area by providing an emic view of young users' engagement, called for by Ushioda's (2008, p. 29).

Study 3 investigates productive uses of English in the extramural English space by looking at two datasets. Dataset one consists of the interview conversations from the ethnographic interview study (above) and dataset two consists of naturalistic recordings of three Danish boys (ages 10-11) playing computer games together at home. The analysis is based on Gee and Green's Discourse Analytical framework (Gee & Green, 1998). The study more specifically investigates which actions children carry out through their productive use of English. It was found that children primarily employ English for practical purposes and for styling valuable identities as competent members of the EE digital universe. The latter was often accomplished through the use of ludic language in the form of language play (cf, for example, Broner & Tarone, 2001; Cook, 2000). The study argues that through productive uses of L2 English in the extramural space, children co-create a social space for language learning, where valuable situated identities are carved out. Through their use of English, the children play with forms and meanings creating and showing awareness of language. The children also use English for practical purposes in that English is the mediational language of the EE universe and thus for purposes of transparency and avoiding misunderstandings, English is employed. The study adds new insights into the productive use of L2 in the wild where only few studies have been carried out (Wagner, 2015).

In sum, the studies show that the EE space is highly motivational, leading to many language learning opportunities not merely based on the frequency with which the children encounter the input. In a thorough exploration of the nature of the children's engagement in the EE space, it transpires that the children engaged actively with the input leading both to noticing and thus psycholinguistic data. Furthermore, the engagement is also to a large degree connected to the social realm and the motives the children have for engaging with EE (i.e., the EE space is seen as highly interesting, the content, the people, and, not least, the language are seen as very inspirational and up to date and for the latter, as very authentic). The children are thus motivated to invest

in engaging with the language (Norton, 2013) leading to many affordances (Van Lier, 2000) for language learning.

The implications are in particular relevant in terms of recognizing the learning potential of the extramural space and to draw on this in the school space. This means recognizing children as users of English, merely than only learners (Sockett, 2014; Ushioda, 2008, 2009), i.e., drawing on the experiences they bring to the table while also recognizing that they bring different experiences and beliefs.

The dissertation offers new empirical contributions to an area with only little existing research as well as theoretical and methodological contributions through the combination of usage-based cognitive and poststructuralist theoretical and methodological frameworks.

Resume

Herværende afhandling er udarbejdet som en del af et større forskningsprojekt *The younger, the better? A usage-based approach to the learning and teaching of English in Danish primary schools* (TYTB) (Cadierno & Eskildsen, 2014), som finansieres af Det Frie Forskningsråd. Projektet, TYTB, har til hensigt at undersøge alderens betydning for fremmedsproglæringen med inddragelse af en række variable, udover alder, af potentiel betydning for sproglæring, såsom kontekstuelle variable, for eksempel, kvantiteten og kvaliteten af engelsk i klasseværelset samt udenfor skolen. Projektet blev påbegyndt i 2014, hvor engelskundervisning blev ændret fra 3. klasse til 1. klasse og har i 3 tre år fulgt børn, der påbegyndte engelskundervisning i henholdsvis 1. og 3. klasse i 2014 (1. klasses start = Tidlige startere, 3. klasses start = Senere startere).

Undersøgelsesobjektet for herværende afhandling er danske 7-11-årige børns brug af engelsksprogede aktiviteter udenfor skolen (i en engelsk sammenhæng kaldet Extramural English (se Sundqvist, 2009), herefter EE). Da medier og underholdning i stigende grad er webbaserede og desuden i betydelig grad medieret på engelsk, vor tids ubestridte globale sprog (Henry & Cliffordson, 2015), er det i stigende omfang relevant at undersøge, hvordan EE bruges, ikke mindst af børn. Relevansen er desto større, idet forskningsområdet, altså yngre børns brug af engelsk i fritiden, er relativt uberørt (Sylvén & Sundqvist, 2012). Afhandlingen tager teoretisk afsæt i en sprogbrugsbaseret tilgang til læring (Cadierno & Eskildsen, 2015) som baseres i både kognitive (Ellis, 2007; Ellis, 2015) såvel som poststrukturalistiske (Pavlenko, 2002) tilgange til sprogbrug og læring. Derfor benytter afhandlingen sig også af et såkaldt mixed methods design (Dörnyei, 2007; Silverman, 2013). Det vil sige, afhandlingen benytter sig af både kvantitative og kvalitative metoder, såsom sprogdagbøger (Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012) analyseret med statistisk metode, etnografiske interviews (Spradley, 1979), som analyseres via Aktivitetsanalyse (Leontiev, se Lantolf & Thorne, 2006), samt naturalistiske videobaserede observationer (Silverman, 2013) som analyseres med brug af diskursanalyse (Gee & Green, 1998).

Undersøgelsesobjektet undersøges med udgangspunkt i de følgende tre forskningsspørgsmål:

FS1: (adresseret i artikel 1)

Hvilke engelsksprogede aktiviteter benytter yngre lærnere sig af? Vil hyppigheden af gaming have betydning for størrelsen af deres engelske ordforråd? Er der alders- eller kønsmæssige forskelle i yngre lærneres brug af EE og i forhold til udbyttet af denne deltagelse?

FS2: (adresseret i artikel 2)

Hvordan beskæftiger yngre danske børn sig med EE-aktiviteter, og kan måden hvorpå de engagerer sig relateres til sproglæring?

FS3: (adresseret i artikel 3)

Bruger yngre danske børn engelsk produktivt, når de beskæftiger sig med engelske aktiviteter i fritiden? Hvordan kommer dette, i givet fald, til udtryk og kan denne produktivitet relateres til sproglæring?

Studie 1 består af 107 lørnere, der har modtaget to ugentlige engelsktimer i et år ved dataindsamlingsstidspunktet. Opsummeret viste resultaterne for studie 1, at der var kønsrelaterede forskelle i forhold til, hvilke aktiviteter børnene engagerede sig i (drengene foretrak gaming, hvorimod pigerne foretrak at lytte til musik). Resultaterne viste også forskelle i forhold til intensiteten af brugen af EE (drengene brugte gennemsnitligt mere tid på EE end pigerne, især hvad angik gaming). Derudover viser resultaterne en sammenhæng mellem gaming og ordforrådstilegnelse. For især Tidlig starter drenge fandtes en sammenhæng mellem gaming med både engelsk tekst og tale og ordforråd, og for Senere starter drenge fandtes en sammenhæng mellem gaming med kun engelsk tekst og ordforråd. Hvor andre studier har påpeget muligheden for, at en sådan effekt mellem gaming og sproglæring fandtes for yngre børn, og har efterlyst forskning herom (Kuppens, 2010; Lefever, 2010), er studie 1 det første af sin slags til at påvise en sådan effekt for yngre børn, i dette studies tilfælde, helt ned til 8 år.

Hvor studie 1 ved hjælp af statistisk metode påviser sammenhænge mellem gaming og ordforrådstilegnelse, går studie 2 ved hjælp af etnografiske interviews samt kvalitative analyser i detaljer med det egentlige engagement med EE. Ved hjælp af Aktivitetsteori (Leontiev, 1978, see Lantolf & Thorne, 2006), undersøger studiet, hvorledes danske børn (N =15) mellem 7-11 år helt praktisk beskæftiger sig med det engelske sprog udenfor skolen. Undersøgelsen tager udgangspunkt i etnografiske interviews, (Spradley, 1979) hvor børn deltager i deres foretrukne EE-aktiviteter, mens de bliver interviewet. Studiet viste, at de fleste deltagere engagerede sig aktivt i det engelsksprogede input. De foretrak i højere grad aktiviteter medieret på engelsk fremfor på dansk, for eksempel, når de chattede i spil, læste og lyttede til online aktiviteter, for eksempel gennem YouTube eller sociale medier. Måden at bruge engelsk på viste sig i høj grad at være styret af motiverne (cf. Aktivitetsteori) bag dette engagement, hvilket i høj grad var baseret på positiv identifikation med engelsktalende individer og engelsksprogede aktiviteter som værende 'cool'. Derudover var brugen også baseret på instrumentelle motiver, for eksempel blev engelsk brugt aktivt til at kunne avancere i spil, komme i højere levels (f.eks. ved at se walkthroughs på YouTube), og generelt blive inspirerede (f.eks. ved at følge kendte på sociale medier, abonnere på Lifehacks, osv.). I det hele taget virkede indholdet af aktiviteterne medieret på engelsk som værende gennemgående motiverende for de fleste. Et vigtigt fund i undersøgelsen var dog også, at ikke alle var lige begejstrede for at skulle navigere i et engelsksproget univers, hvilket formodentlig førte til et mindre aktivt engagement med engelsk og som følge heraf mindre læringspotentiale. Dette gør Van Lier's (2000) koncept affordans (brugspotentiale) relevant. Det vil sige, at man ikke bør betragte inputtet som en homogen størrelse, som alle tilegner sig på lige vis. Med andre ord, er faktorer såsom agens/handlekraft (Lantolf & Pavlenko, 2001) og investering (investment) (Norton, 2013) vigtige at inddrage. Studie 2 bidrager med viden omkring børns egentlige engagement med engelsk og potentiel læring uden for

skolen. Med andre ord, rækker resultaterne ud over den effekt, der blev påvist i studie 1 omkring fordelene ved hyppig brug af engelsk. Studiet peger nemlig på, at den hyppige brug er forankret i sociale bevæggrunde, og at det hyppige input opnås igennem forskellige medier med samme indhold, f.eks. både gaming og YouTube, og at denne interrelation synes at give endnu større potentiale for læring. Et resultat, der blev yderligere bekræftet i studie 3, hvor et sådant engagement også viste sig at understøttes af produktiv brug af den leksis, børnene møder gennem de engelsksprogede aktiviteter.

Studie 3 undersøgte børns produktive brug af engelsk i forbindelse med EE-engagement. Udover de etnografiske interviews, bestod dette studie også af naturalistiske gaming-optagelser af tre drenge (mellem 10-11 år) gaming i hjemmet. Deltagernes brug af engelsk blev analyseret ud fra en diskursanalytisk tilgang (Gee & Green, 1998), hvor fokus var rettet mod de specifikke handlinger, børnene udfører med brugen af engelsk. Studiet viste, at børn bruger engelsk produktivt både af praktiske og stilistiske årsager. Sidstnævnte blev opnået bl.a. igennem, såkaldte, sprogpil (Broner & Tarone, 2001). Endnu engang syntes EE-rummet at fordre aktiv brug af engelsk. I studie 3 knyttede denne brug sig meget tydeligt til positiv identifikation med engelsk. Engelsk fungerede som en måde, hvorpå deltagerne kunne signalere værdifuld identitet og blev derfor en slags in-gruppe markør (stilistisk brug), hvorved læringsmuligheder opstod (Arnseth & Silseth, 2012; Lam, 2004; Norton, 2013). Kort sagt viser resultaterne, at EE-rummet er særdeles motiverende og byder på mange muligheder for sprog-læring ikke blot på baggrund af hyppigheden, hvormed børnene mødte det engelsksproglige input, men også og i særdeleshed på baggrund af deres aktive engagement. Ved en analyse af børnenes specifikke brug af engelsk udenfor skolen, fremgik det, at børnene aktivt brugte sproget, hvorved de lagde mærke til (cf. Schmidt, 1990 begreb *noticing*) specifikke sproglige detaljer og derved kom i besiddelse af psykolingvistisk data, og derudover fremgik det, at brugen af engelsk var tæt knyttet til sociale motiver.

Derudover fandtes også aldersbetingede forskelle. Hvor alder ikke havde betydning for intensiteten af engagementet, så var alder til gengæld styrende for, hvordan børnene indgik i aktiviteterne. For eksempel chattede yngre børn ikke selv eller læste skrevne kommandoer i spil. Det vil sige, at børnenes engagement til dels var afhængigt af deres kognitive evner. Men da EE-rummet blev set af børnene som særdeles interessant både i forhold til indholdet og det engelske sprog, anvendte mange børn aktivt sproget også helt ned i en alder af 7.

En vigtig kontrast blev fundet i børnenes opfattelse af EE og engelsk i skolen, hvor det førstnævnte blev opfattet som værende mere autentisk og mere up to date, hvorimod det sidstnævnte blev opfattet som mindre 'cool'. Brug af engelsk uden for skolen syntes at være mere inspirerende og ordforrådslæringen baseret mere på brugerens eget aktive engagement. Denne finding kan ikke generaliseres, da den baseres på en lille population, men den peger dog på en vigtig tendens, man bør undersøge nærmere. Denne tendens, der er blevet fremhævet i forskning for ældre lærere af engelsk, viser, at engelsk uden for skolen i visse tilfælde kan føre til demotivation for at lære engelsk i skolen (for en gennemgang se, Henry, 2014).

Der følger en række implikationer af resultaterne. Især peger afhandlingen på, at det er vigtigt for lærerstanden at anerkende og inddrage det læringspotentiale, der ligger i EE-rummet og derved at anerkende det potentiale, børnene kommer med. Det betyder som minimum, at man i skolesituationen bør anerkende børns rolle som aktive brugere af engelsk, snarere end blot lærere, dvs. søge at trække på de oplevelser og erfaringer, de har, samtidig med man også må anerkende, at disse kan være meget forskelligartede. Det sidste årti er aldersgrænsen for engelskundervisningen på tværs af Europa blevet sænket, idet alderen tillægges afgørende betydning for evnen til optimal læring af sprog (Muñoz, 2014; Muñoz & Singleton, 2011). Herværende afhandling bidrager til en nuancering af dette fokus ved at påpege vigtigheden af at inddrage EE som en faktor i sproglæringen, der ikke bør udelades i fremtidig planlægning af engelsk sproglæring.

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1 Introduction

The aim of the present chapter is to introduce the topic, background, and motivation for the present dissertation. Additionally, the outline of the dissertation is described, and key terms are defined.

1.1 The younger, the better?

The present project is part of the research project *The younger, the better? A usage-based approach to learning and teaching of English in Danish primary schools* (Cadierno & Eskildsen, 2014) (henceforth TYTB), funded by the Danish Independent Council for Research (grant no. DFF 4001 00046). The principal investigator was Professor Teresa Cadierno, and co-investigator was Associate Professor Søren Wind Eskildsen. The project was launched in 2014, ended in 2018, and investigates the importance of age, contextual and socio-affective factors for foreign language learning in a Danish context.

In 2014, the onset of English lessons in Danish primary schools was lowered from the 3rd grade to the 1st grade, thus offering a unique opportunity to investigate and compare the English language development of early starters (1st grade), as well as later starters (3rd grade). This lowering of starting age follows a general trend worldwide based on the notion that age of onset is important for language learning (cf. also Enever, 2011; Jaekel, Schurig, Florian, & Ritter, 2017). The assumption is that there is a certain age or period (critical period) within which language learning is optimal. According to a strong version of the so-called critical period hypothesis (CPH), as proposed by Lenneberg (1967), the critical period for language learning is believed to be before puberty, after which it becomes impossible to acquire a native-like command of language due to loss of brain plasticity and maturational constraints (cf. also DeKeyser, 2012; Long, 2005). Some researchers argue that the period, rather than being critical, is optimal, that is, after this period ultimate attainment becomes harder (Werker & Tees, 2005). However, recent research points to the importance of distinguishing between whether the language is learnt in a foreign language context versus a naturalistic setting, since age in foreign language settings seem to be of lesser importance than in naturalistic settings. Muñoz (2014) notes:

research on the impact of age in naturalistic learning settings has consistently shown an older learners' short-term advantage (or initial faster learning rate) but a younger learners' long-term advantage (or higher ultimate attainment) ... In contrast with such findings, research in the last decade in a foreign language context has shown that early starters do not outperform late starters when the amount of instruction or exposure is controlled for, even after many years of study. Rather in such situations, older school learners are observed to outperform younger school learners after the same hours of instruction. (p. 466- 467).

Muñoz (2014) thus concludes, along with a number of other researchers (Jia & Aaronson, 2003; Jia, Aaronson, & Wu, 2002; Moyer, 2009, 2014), that age interacts with many other variables in a complex relationship.

Research is thus increasingly focusing on additional factors, besides age, that may be of importance to language learning.

Among the factors that have an influence on language learning are individual factors, such as, motivation, gender, anxiety, foreign language competence beliefs. (see, for example, Djigunović, 1993; Dörnyei, 2009a; Lindgren & Muñoz, 2013; Muñoz & Singleton, 2011; Nikolov, 2009). Also, contextual factors, such as the classroom, are important (Djigunovic & Basaric, 2007; Dörnyei, 2009a; Ushioda, 2008). And finally, and of pivotal relevance to the present thesis, the amount and quality of exposure to the second language (henceforth L2) outside the classroom has been found to be of great significance for language learning (see, for example, Kuppens, 2010; Lefever, 2010; Olsson, 2011; Piirainen-Marsh, 2011; Piirainen-Marsh & Tainio, 2009; Sockett, 2014; Sockett & Kusyk, 2015; Sundqvist, 2009; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012; Turgut & İrgin, 2009).

The TYTB project (Cadierno & Eskildsen, 2014, p. 5) poses the following research questions (henceforth RQs):

Will there be differences between earlier (age 7) and later (age 9) starters of English language learning in their rate of learning and short-term L2 proficiency (i.e., after 2 years of instruction) with respect to the following language dimensions: listening comprehension, reading comprehension, speaking, writing, grammar, and pronunciation?

What is the role of inside-school quantity and quality of exposure to and use of English in children's rate of L2 learning and short-term L2 proficiency? To what extent is this variable a good predictor of faster rate of learning and higher level of short-term L2 attainment?

What is the role of out-of-school quantity and quality of exposure to and use of English in children's rate of L2 learning and short-term L2 proficiency? To what extent is this variable a good predictor of faster rate of learning and higher level of short-term L2 attainment?

What role do children's motivation and attitudes towards learning and parents' attitudes, level of education, and (perceived) proficiency in and professional use of English have in children's rate of L2 learning and short-term L2 proficiency? To what extent are these variables good predictors of faster rate of learning and higher level of short-term L2 attainment?

The present PhD project *Extramural English engagement in a Danish context: A young learner perspective* is related to RQ 3 by investigating the role of out-of-school exposure to English for young learners and its relation to English language learning in a Danish context.

1.2 Extramural English engagement in a Danish context: a young learner perspective

The present dissertation gains relevance through the increasingly important status of English worldwide, as the lingua franca of the world, or simply, a “basic educational skill” (Ushioda, 2006, 2011). Denmark, being a relatively small country with only 5.7 million inhabitants, has been apt to embrace English. It is used as a medium of instruction in many Danish university degrees, for trade, and for science (Kirchmeier-Andersen,

2007). The immense importance placed on English can also be seen in the aforementioned governmental decision to lower the starting age of learning English, from the 3rd to the 1st grade. However, nowhere is the presence of English perhaps more influential than in media and digital entertainment. Arnseth and Sileth (2012) note “at an early stage, young people engage with globalized youth culture that offers multiple practices for participation – a culture children and youth to a great extent engage with through the use of computers and the internet” (p. 26). A 2016 Danish report established that 90% of Danish children ages 3 to 12 have access to a tablet in their home, and more than 90% have access to a smartphone (Thorhauge, Buhl, & Keiding Lindholm, 2016). Furthermore, the European Survey EU Kids Online (Mascheroni & Ólafsson, 2014) shows that, whereas the average European child goes online at the age of nine, Danish children go online at the age of seven. Furthermore, whereas 79% of European children use the internet daily, the number is 94% for Danish children. Finally, 77% of Danish children have access to the internet in their own bedroom compared to 55% of European children (Mascheroni & Ólafsson, 2014). It thus seems that Danish children have extensive access to online media. With the status of English worldwide and its function as a global lingua franca, it may be speculated that a great deal of children’s online engagement is mediated in English. In fact, as previously mentioned, studies from other countries on young learners (which will be discussed in more detail in the following chapter (2)) show that young learners engage substantially with English outside school, making studies on the nature and effect of such engagement highly relevant.

The present dissertation contributes to research on extramural contexts for young learners by addressing the following research questions:

RQ1: (addressed in paper 1)

(a) What Extramural English activities do Danish YELLs (young English language learners) engage in, and to what extent? (b) Are there gender-related differences?

(c) What gaming activities (in varying language modes) do Danish YELLs engage in, and to what extent? (b) Are there gender-related differences? (d) Is there a correlation between these gaming activities and vocabulary scores?

RQ2: (addressed in paper 2)

Which motives (social and cognitive) are children driven by in their use of English in L2 English-mediated activities? How do children engage with L2 English based on their motives?

RQ3: (addressed in paper 3)

How do young Danish children employ English productively as an affordance in the Extramural English (see below) space? How may this use be related to language learning?

By stating these research questions, this dissertation maps the content of extramural English activities engaged in by young Danish users (ages 7-11), explores whether language learning is related to such use, and provides

detailed knowledge on how children engage with extramural English activities. This dissertation thereby adds to a field of research for young learners where, so far, only little research has been carried out.

1.3 Key terms

1.3.1 Extramural English

The term Extramural English (henceforth EE) is employed in the present dissertation (Sundqvist, 2009; Sundqvist & Sylvén, 2016) for English encountered through engagement in English-language activities outside school. Extramural English encompasses engagement in activities outside school mediated in English. These activities are engaged in for the purpose of leisure, with or without an intent to learn English. Extramural English is defined as: "...the English that learners come in contact with or are involved in outside the walls of the classroom" (Sundqvist, 2009, p. 1). The term covers both English input (e.g., television viewing, listening to music, listening to oral input during a game, etc.) as well as interaction and output (having conversations in English, singing, etc.), including, for example, physical interactions (i.e. meeting and talking to someone in English face-to-face) and reading (e.g., traditional books or viewing and reading various texts online) (p. 25). Many different terms are used for such engagement, such as, "'out-of-class', 'out-of-school', 'after-school', 'extracurricular' and 'non-formal' and 'informal'; 'self-instructed', 'non-instructed' and 'naturalistic'; 'independent', 'self-directed' and 'autonomous' language learning" (Benson, 2011, p. 9), to which can be added Toffoli and Socket's term (2010) online informal learning of English, 'OILE', and Benson's term "language learning beyond the classroom" (2011, p. 9). The EE term, on the other hand, does not include *learning*, which is explicitly or implicitly present in all the other terms mentioned above. As pointed out by Sundqvist and Sylvén (2016, p. 8), their EE term avoids the potential problem of viewing learning as a conscious process and in contrast to acquisition, which happens implicitly (cf. Krashen, 1981). Extramural English engagement may imply both intentional as well as unintentional learning (Sundqvist, 2009; Sundqvist & Sylvén, 2016). That is, while engaging in extramural English activities, users may both deliberately set out to learn the language or they may learn parts of the language incidentally merely by engaging in the activities.¹ Huckin and Coady (1999) note that it is commonly agreed that save for the most common words (a couple of thousands), vocabulary learning happens incidentally which means words are learnt as a by-product of engaging in an activity (Huckin & Coady, 1999, p. 182). That is, while an individual engages in, for example, reading for leisure, s/he may simultaneously, unintentionally learn features of the mediating language. Most researchers agree that incidental learning requires awareness (Laufer and Hulstijn, 2001) and requires users to focus their attention on the language stimulus, without necessarily consciously processing the stimulus

¹ In activity theoretical (AT) terms such learning is also called "learning through activity" (Lompscher, 1999, p. 13). In AT, incidental learning is understood as "learning in various activity modes (play, everyday communication, work, etc.) without any special learning goal (incidental learning as a result of activity directed towards other goals than learning)" (Lompscher, 1999, p. 13-14). This term is employed in study 2, as AT is employed as the main theoretical and methodological framework in that study.

(Rieder, 2003, p. 28).²Intentional and unintentional learning may best be viewed as existing on a continuum as incidental learning may become intentional, that is, the user may, at times, merely engage with the language for understanding and engagement, but may, at other times, deliberately be trying to learn some parts of the language through engagement (McLaughlin, 1990; Rieder, 2003; Sundqvist & Sylvén, 2016). EE thus serves as an umbrella term for intentional and unintentional learning of which the latter may be incidental, or implicit (Sundqvist & Sylvén, 2016, p. 8-9; see also N. Ellis, 1994).

1.3.2 User rather than learner

Closely related to the use of the term EE is the use of the term *user* of EE rather than *learner*. In choosing this term, I follow Sockett's terminology (2014, p. 14).³ Sockett (see also Cook, 2002; R. Ellis, 2003; Lantolf & Pavlenko, 2001; Ushioda, 2009) suggests that *language user*, rather than *language learner* is more appropriate in the context of incidental learning precisely because engagement may not necessarily be aimed at learning the language but simply at engaging in fun activities that happen to be mediated in English (or any other L2 in principle) (cf. also Sundqvist and Sylvén's arguments above for using the term EE rather than a term with *learning* in it). This dissertation also employs the term *user* as it is better able to capture the *identity* of the child during EE engagement, in other words, the primary aim of the child in his/her engagement in EE activities is presumably entertainment, rather than language learning, in contrast, the aim or participation in formal English education is to learn a language.

1.3.3 Young (users)

The term *young* in the present dissertation covers the age-group between 6-11 (in the present dissertation the youngest participants are 7 years of age). This cut off point and term is taken from G. Ellis (2014) in her framework aimed for transparency and ease of comparison across studies. Ellis, however, uses the term *primary* rather than *young*, as her terminology is related to educational contexts. Needless to say, such connotations are not appropriate in the present context and thus, the term *young* is employed instead.

1.3.4 ESL

This dissertation does not distinguish between the terms EFL (learning English as a foreign language, typically in a formal setting) and ESL (learning English as a second language, typically in the setting in which the language is spoken) (Gass & Selinker, 2001), instead both are subsumed under the general term ESL (or L2 English) (Sundqvist & Sylvén, 2016). With the current role of English as the lingua franca of the world, a "basic educational skill" (Ushioda, 2006, 2011), there are no clear-cut boundaries of use or learning, that is, in many non-English speaking countries, English is encountered on a daily basis (e.g., through the internet,

² Incidental learning is a controversial notion in SLA especially regarding the presence or absence of consciousness in the learning process (see, e.g., N. Ellis, 1995; McLaughlin, 1990; Rieder, 2003; Schmidt, 1990; Van Patten, 1994). This disagreement was in particularly debated in the 90s (see, e.g., AILA review 11, 1994 which was devoted to the issue).

³ It should be noted that the term *learner* is employed in study 1 which was carried out in the early stages of the project, and when I had not come across the distinction between user and learner yet.

television, etc.). Consequently, ESL seems a more appropriate term, representing a continuum of use and learning. Examples range from a traditional EFL learner of English, who only encounters English in a formal setting, to a learner who is enrolled in formal English schooling, but also engages in English use outside the educational setting, or a learner/user immersed in the L2 environment, as well as the numerous, different types of uses in between (see Sundqvist & Sylvén, 2016, for a good discussion of the use of ESL rather than EFL).

1.4 Outline of dissertation

The present dissertation is structured as follows: after this introductory chapter (1), chapter two presents previous studies on EE and language learning. Hereafter, the theoretical foundation of the dissertation is introduced in chapter three. Chapter four relates the methodological framework. Subsequently, in chapter 5, the findings are presented along with contributions and limitations of these. Chapter six is a discussion of the findings, as well as implications. Chapter seven presents avenues for future research. Chapter eight presents the conclusion. Hereafter, the main articles of the thesis follow.

2 Previous research on extramural English language learning

The present chapter presents existing research within EE language learning for young users. It opens with a short introduction of general research on older users, as well as a detailed study within each area of research (*Engagement in general EE, TV and series viewing, etc., Gaming and Engagement in affinity spaces*). These individual studies have been included for their complementary nature; either introducing a similar finding to findings on young users (e.g., EE use in general, TV and series viewing, gaming), or introducing research that has not been carried out with young users (e.g., *affinity spaces*). Hereafter, the chapter focuses in more detail on the primary target group of the dissertation, namely studies on young users (11 years of age and below).

2.1 Studies on language learning through EE engagement for older users

Research on extramural English contact and learning is still a relatively young field (Spector & Ross, 2008). However, it is a growing area of research, not least within research on English as opposed to other languages, given the status of global English and the unlimited online access in many geographical contexts. Studies on extramural English mostly focus on children above the age of ten (Sylvén & Sundqvist, 2012). Such studies have, in general, found that extramural English contact is beneficial for learning English. The focus of this research has, in some cases, been extramural contact in general (e.g., watching TV/online material, gaming, reading, writing, talking (Olsson, 2011; Sundqvist, 2009, see Sundqvist & Sylvén, 2016 for a comprehensive overview)), and in other cases on watching TV, and the like (TV, online material, online streaming, etc.) (d'Ydewalle & Van de Poel, 1999; Koolstra & Beentjes, 1999; Rodgers & Webb, 2011; Rupérez Micola, Bris, & Estañol, 2009; Sockett, 2014; Sockett & Kusyk, 2015). Studies have also focused on gaming (online games, chatting when gaming, etc.) (Nardi, Ly, & Harris, 2007; Peterson, 2010, 2012, 2016; Rama, Black, van Es, & Warschauer, 2012; Scholz, 2017; Steinkuehler, 2006b; Sundqvist, 2009; Sundqvist & Wikström, 2015; Thorne, Black, & Sykes, 2009; Vosburg, 2017), as well as the use of affinity spaces (Gee, 2007b, for a review of fan fiction writing see Thorne, Black and Sykes, 2010; Ryu, 2013; Sauro, 2017; Sockett & Toffoli, 2012). Gaming studies, in particular, have increased over the past decade, especially within CALL (computer assisted language learning), with an increased interest in educational games (for an overview see, Peterson, 2016; Sundqvist & Sylvén, 2016).⁴

Studies in general have found that engagement in EE activities promotes language learning. Before attention is turned to studies on young users, a few examples from studies on older users (above the age of 11) follow below.

2.1.1 General EE engagement and language learning

Ollson (2011), in her study on 37 Swedish ninth graders' general engagement in EE, found a correlation between time spent on EE and the ability to use varied written vocabulary and longer sentences, as well as a

⁴ Given the focus on non-formal, extramural learning, educational CALL research on games is not discussed in the present dissertation.

more refined use of registers (for the interrelation between EE and register development see also Sockett, 2012). The content and frequency of students' EE engagement was elicited through a language diary. Proficiency was measured through written production. Students were asked to produce written texts on a specific topic, namely, the plane crash in the Hudson River in 2009, about which they were asked to write a newspaper article and a personal account in a letter/email, thus reflecting different genres. A clear correlation was found between EE engagement and test results. Moreover, it was found that boys obtained the highest scores on both tests and engaged more extensively in EE outside school than girls, reflecting gender differences within EE use also found in other studies (see, e.g., Lefever, 2010; Sundqvist, 2009; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012). As possible explanations of the benefits of EE for language learning, Olsson mentioned abundant input, but argued that other factors may be more, or equally important. In particular, she highlighted the importance of the motivational EE environment characterized by large degrees of autonomy, that is, the users choose the activities themselves, leading to intrinsic motivation and a large degree of willingness to engage in the activities.

2.1.2 Studies on Watching English-language programs for older users

Research within watching television, series, shows, online clips, etc. has mainly focused either on the benefits of subtitles or on the uptake of larger chunks from watching TV series (cf. references above). Rodgers and Webb (2011) found that encountering the same linguistic item (word) ten times is conducive for language learning. Thus, watching the same shows (i.e., more episodes than one of the same series rather than many unrelated shows) will lead to the possibilities of encountering the same linguistic items on more than one occasion. As a consequence, the possibilities for learning new vocabulary will be enhanced. Kussyk and Sockett's research on online informal learning of English (OILE) (2012) present findings which confirm this argument. The study, grounded in Dynamics System Theory, was carried out with non-specialist university students (not studying English) at a French university. The aim of the study was to examine possible correlations between frequent series watching and learning of L2, English, lexis (frequently occurring *chunks*, see below). Through a questionnaire, the researchers elicited information, among other factors, on OILE watching habits, participants' self-assessed level of understanding when watching series with (L1 or L2) or without subtitles, as well as participants' perceptions of understanding and learning English through the engagement.

Self-assessments of English proficiency levels were also obtained based on the Common European Framework of Reference for Language. Based on the reported OILE habits, the participants were divided into two groups regardless of the language mode (+/- subtitles (L1 or L2): regular viewers, those watching series more than once a week, and non-regular watchers (i.e., all other viewers). Vocabulary knowledge was measured by use of the Vocabulary Knowledge Scale (VKS) (Paribakht & Wesche, 1993) based on frequently occurring 4-gram

chunks⁵ from the so-called HHOLD corpus (for an in-depth discussion of this corpus see Sockett, 2014, p. 64-70). This corpus was developed by identifying the 50 most frequently occurring 4-gram chunks in the five most popular American TV series at the time, based on the theoretical usage-based assumption that language learning is largely chunk-based rather than the acquisition of lexis and grammar (N. Ellis, 2007, cf. also chapter 3). The VKS test adjusted and employed in the study⁶ tested the most commonly occurring 4-gram chunks; thus, being able to test whether frequent viewers were more proficient in 4-gram chunks than non-regular viewers. The VKS test consists of 4 levels of proficiency; a phrase is given, and the informant is asked to self-assess, whether for level 1), I don't remember having heard X phrase before, and for level 2), I have heard X phrase before, but I don't know what it means, level 3), I think I know what X phrase means. I think it means_____ (give translation in L1), and the highest level of proficiency, level 4), I know what X phrase means. It means_____ (give translation in L1) (Sockett, 2014, p. 97-98. See also Paribakht & Wesche (1993), p. 15).

Findings showed that 81% of the regular viewers stated they understood 70% or more of the language whereas only 49,5% of the non-regular viewers stated they understood 70% or more. In relation to the VKS test, the researchers analyzed translations made at level 4 of the VKS test, that is, instances where participants had stated ultimate proficiency "I know what this phrase means. It means_____(translation)". In relation to level 4, the scores of the two groups (regular and non-regular viewers) differed significantly, with frequent viewers gaining significantly higher scores in the ability to understand and translate the given chunk. To ensure that proficiency was not the cause of the viewing rather than the other way around (cf. also Kuppens, 2010, below), the researchers examined the self-rated proficiency for a subset of viewers and found that they (in this case viewers who had stated B1 proficiency) were evenly distributed across the groups (regular and non-regular viewers) and thus, ability to understand the language was not the reason for watching the series. The researchers also divided the 4-gram chunks according to internal rank of frequency, that is, the 50 most commonly occurring chunks were also divided to see if the chunks that occurred most frequently were better learnt than those that occurred less frequently, which was indeed the case. The regular viewers also did better on the most frequently occurring 4-gram chunks than others, thus testifying to the importance of frequency of occurrence, in keeping with usage-based approaches to language learning (N. Ellis, 2007). Besides the importance of frequency of input, the researchers also mentioned the possibility of language learning through attention to meaning which leads to noticing, which is clearly a factor in series watching (Kusyk & Sockett, 2012, p. 47).

⁵ A 4-gram chunk is a cluster of 4 words commonly occurring together, such as, e.g., 'I want you to' (Sockett, 2014, p. 67).

⁶ For a detailed description of the adaptation of the VKS and the change made, see Kusyk and Sockett (2012, p. 50)

2.1.3 Studies on playing digital games for older users

A great deal of research has been carried out on engagement in digital games and language learning for older users. Research has been of both a quantitative and a qualitative nature. As both quantitative and qualitative gaming studies are presented in the section on young users, and a quantitative study on gaming is represented through *general engagement in EE*, this section presents a qualitative study on gaming for older users. Vosburg (2017) conducted a qualitative study based on activity theory. Sixteen American, male, third semester college students were recruited to play the MMORG (massive multiplayer online roleplaying game) World of Warcraft (WoW) on a German server for eight weeks. They were divided into two groups with eight people in each. The aim of the study was to examine the effects of native speaker presence on the server and how group dynamics affect the language learning experience, more specifically players' productive use of the L2, their motivation and confidence in L2 use. The two groups played the game with a German native speaker, termed a language guide (LG), who was recruited for the purpose to ensure that there would be a model German speaker present each time. The LG's instructions were to "let conversations arrive organically based on learners' wish to speak in German" (p. 63). WoW was chosen for its popularity, and the fact that previous research has found that it is beneficial for language learning for its promotion of interaction through, among other things, immediate feedback, the collaboration through teamwork, creating a sense of community membership, and thus socialization into a community of practice. Thus, participation may lead to linguistic knowledge, and more broadly to gaining pragmatic knowledge. Vocabulary is better retained and it potentially leads to improved proficiency in reading, writing, speaking and listening (see, Vosburg, 2017, pp. 60-61). Participants were divided into the groups based on their previous experiences with playing WoW. Each group consisted of a frequent WoW player and a novice to WoW, as well as an LG. The rest of the participants were randomly assigned to the groups. Participants had to attend two 90-minute gaming sessions weekly. In keeping with extramural engagement, the participants, including the LG played from their own homes (i.e., each logging onto the server individually). They played on a German server and were asked to use as much German as possible. Chat transcripts were saved from each session. They were also asked to keep journals for language reflection which were discussed in a final interview. They were interviewed a total of three times during the study; after a week, midway and after the study had ended. The primary focus of the interviews was "within-group interactions" (p. 64) and the participants' motivations for gaming and interacting, as well as "how interactions and motivation were perceived by individuals and possibly affected their TL production" (p. 64). Chat logs and the interviews were analyzed to investigate the importance of native speaker presence and group dynamics. Findings showed that the participants in both groups found the LG to be the single most important factor in relation to motivation and language practice and gains (a similar finding is reported in Rankin, Gold, & Gooch, 2006). Participants overwhelmingly stated that they felt motivated to communicate in German due to the presence of the LG and benefitted greatly from the feedback and interaction that she provided. However, group dynamics were primarily, and consistently so, seen as a negative influence, as the groups had little in

common, and thus little to talk about apart from basic game topics, and, furthermore, experienced different levels of motivation for learning German (some were highly motivated, and others merely wished to pass their class). Thus, the potential benefits of being socialized into a community of practice seem to have been absent.

2.1.4 Studies on the use of affinity spaces for older users

As mentioned, research has also been conducted on fan fiction and the use in general of affinity spaces (cf. above). Affinity spaces refer to the phenomenon of engaging in various practices surrounding a common topic, such as, for example, a game or a popular series (Gee, 2007a). Thus, a game, such as, for example WoW, will have fan pages, perhaps an Instagram or Twitter profile, bulletin boards, fan fiction, sites and wikis, etc. It has been acknowledged that the interrelation of using multiple sites for the same domain of interest may provide powerful opportunities for learning (Arnseth, 2006; Gee, 2007a, 2007b; Ryu, 2013; Sauro, 2017; Sockett, 2014; Squire, 2011; Thorne, 2008). For the present purpose, a study on the use of affinity spaces for gaming is presented, as, based on the findings of the present study, this seems to be the most relevant affinity space for young users. The interrelation between engagement in both gaming and affinity spaces for language learning has received only little research interest (Ryu, 2013). To fill this gap, Ryu (2013) investigated engagement in gaming and “beyond-game culture” in relation to the online game Civilization (henceforth CIV) (p. 288). The aim of Ryu’s study was to investigate how L2 gamers (i.e., with other L1s than English) participate in incidental⁷ English language learning through playing CIV and through beyond-game culture on the fan website civfanatics.com (henceforth CIVF). And how, consequently, these types of engagement, gaming and the use of the fan website becomes an interrelated activity in relation to language learning. An activity theoretical framework was employed. Eleven participants were recruited in total. Six main participants were recruited based on their L2 English status, their explicit interest in language learning and their engagement on CIVF at least once a week. In addition to the main participants, five peripheral participants were also followed on the site. Observations and interviews were employed for the study. Communication (written chats) was downloaded from CIVF and language learning incidents were recorded. Additionally, to obtain an understanding of the participants’ language learning, email interviews were conducted on several occasions which enabled the researcher to revisit questions and gain an accurate picture of the language learning. As it was not possible to record gameplay, interviews on the topic of language learning through gaming were conducted. The relationship between gaming and beyond-game culture was also explored through interviews based on the recordings of engagement at CIVF and the preceding interviews.

Findings showed that players learned various terms and words from playing CIV, especially through abundant repetitions of key words and phrases. Furthermore, the participants engaged in strategies for understanding unknown words, such as asking a parent or consulting dictionaries. According to Ryu, language learning from

⁷ Ryu does not use the term incidental but notes that the participants engaged in the activities for enjoyment rather than for language learning which merely became a, in the words of one of the participants, “bonus on the side” (p. 293).

gaming was limited. However, the words and terms that were learned through situated learning through gaming were used on CIVF. Consequently, such words were important in that they enabled participation on CIVF providing players appropriate terminology related to key concepts. Also, and importantly, gaming encouraged players to go to CIVF to enhance game play and thus would serve as a “trigger to encourage game players to participate in the activity of language learning through beyond-game culture” (p. 293). In terms of language learning on CIVF, the participants would have to use English when discussing strategy and skills in reading (other’s posts) and writing (own posts). The site has an English only policy (Ryu, 2013, p. 294). Thus, they could engage in “negotiation for meaning” and “collaborative interaction” in English (p. 293), considered of great importance for language learning (cf. Gass & Mackey, 2007; Reinders & Wattana, 2011). In beyond-game culture, the players would be able to practice their grammar, although this was a point of disagreement among the participants, that is, whether it is possible to learn correct grammar from non-native speakers. Players would also use reading and writing interchangeably, in the latter using imitation and copying for meaningful activities, thus potentially leading to language learning (see, e.g., Lantolf & Thorne, 2006). Seeing that the engagement was considered meaningful in that it promoted game advancement, the players would put in more efforts on CIVF. This drive would lead the players to affordances for learning in beyond-game culture and thus the two types of activities were interrelated and best viewed together.

In sum, research on EE engagement for older users for a number of different activities shows that such engagement may, and, in many cases, does, lead to language learning.

2.2 Studies on language learning through EE engagement for young users

As mentioned above, to date, very few studies have been carried out with young learners, with research within the field being primarily of a quantitative nature. As found for older users, most research for young users on EE has found a positive relationship between EE engagement and language learning.

Below, a review is given of studies on younger users and EE engagement and language learning. Research is grouped and presented according to source of engagement. The review starts out with studies on younger users and *EE engagement in general* followed by studies on *watching TV-programs, internet related content, etc. in a subtitled or non-subtitled mode*. Finally, studies on *gaming* are presented. To date, to my knowledge, no studies have been carried out on younger users and their engagement in *affinity spaces*.

2.2.1 General EE engagement and language learning for young users

In an Icelandic study, Lefever (2010) investigated the EE habits of 182 Icelandic children and their receptive and productive English language skills. The participants were between 7-8 years of age, none had received any English lessons prior to the study. Thus, whatever English skills the children had, they could only be attributed to EE exposure. The aim was, in part, to substantiate findings from previous Icelandic studies that had shown that Icelandic children come to their first English lessons with substantial English skills (for details of these Icelandic studies see Lefever 2010, p. 2). The researcher gathered information on EE habits through interviews

with the children and their parents separately. English language proficiency (reading, listening and communication skills) was also tested to identify possible relations between EE engagement and proficiency. The children were subjected to three tests; oral communication skills (taken from a previous Icelandic study (Torfadóttir, 2006)), which included questions about EE engagement and perceptions of learning from this engagement, listening skills (also from (Torfadóttir, 2006)), and reading skills (based on Cambridge Examination for Young learners). Parents were asked to fill out a questionnaire and, a subset of the parents to participate in interviews to gain knowledge on sources for extramural contact and the children's interest in learning English. It was found that the children engaged in many EE activities outside school, especially watching TV, videos, clips online, much of this not subtitled, playing video games and listening to music. Findings on proficiency showed that Icelandic children already at the age of seven to eight have basic English skills, prior to having received formal English education in school. In general, the highest scores were obtained through the listening test which was attributed to the substantial amount of listening the children engaged in outside school (i.e., through films, gaming and music). The reading test showed very basic reading skills for most of the children. As for communicative abilities, the children differed with a clear gender difference, the boys outscoring the girls. Based on the test scores, the children were divided into three groups. Group one consisted of children with very simple basic skills, they were able to understand the interviewer for the most part but unable to communicate themselves. Group two comprised children who were able to communicate through simple conversation. Group three consisted of children who were able to respond using "advanced syntax and grammar" (for example, using a variety of tense form, p. 8) and who had an extended vocabulary and used "chunks" (p. 8). These children needed little if any prompting from the interviewer. 75% of the girls obtained scores that placed them in group one whereas the boys were evenly distributed in the three groups. The oldest children scored slightly better overall in the tests than the younger children. Parents attributed their children's language learning to EE contact and their interest in learning English. Lefever speculates that the boys' superior conversational skills may be grounded in their habits of playing videogames. The study itself is not able to confirm the relation between conversational skills and gaming but refers to earlier research from Iceland where it was found that boys game more than girls.

Lindgren and Muñoz (2013) in the ELLiE project (Early language learning in Europe), with 865 participants from Croatia, England⁸, Italy, the Netherlands, Poland, Spain, and Sweden investigated the importance of, among other variables, EE exposure and cognate linguistic distance on listening and reading skills. The participants were children between the ages of 10-11 years of age. The researchers gathered EE data through parental questionnaires. EE activities investigated were: *Watching (possibly) subtitled films, Playing computer games, Listening to music, Reading and Speaking* in the L2. Listening and Reading skills were measured through tests that were designed for the purpose by the research team. It was found that European children on average engaged in five hours of EE weekly, however, with substantial differences between the countries, for

⁸ For participants with English as an L1, the proficiency measures of interest were based on Spanish and French.

example, the Swedish children on average engaged eight hours weekly compared to the Italian children with a mean exposure of only three hours weekly (p. 115). EE engagement was able to predict some learning. The biggest predictor of the EE variables for language learning was Watching films (possibly subtitled), followed far behind by Listening to music and Playing video games. However, cognate linguistic distance was found to be the strongest predictor of both reading and listening skills. Importantly, however, the researchers note that the Croatian children scored above average on the tests, even with Croatian being the language with the largest cognate linguistic distance from English that EE exposure may compensate for cognate linguistic difference.

Djigunovic (2014) conducted a longitudinal qualitative interview study with six Croatian learners of English. Half started learning English in the first grade and were between 6-7 years old at the time the study was commenced; the other half started having English lessons in the third grade and were between 9-10 years old when the study was commenced. The researcher followed the children for three years. The aim of the study was to investigate how the context of learning interacts with age and proficiency. This was done by investigating individual characteristics such as attitudes, motivation and self-concept and contextual factors, such as the attitudes of teachers and parents, amount of home support in the learning process, exposure to English in class, and through EE as well as parents' socioeconomic status (p. 421-422). Oral proficiency was measured once a year using a two-part oral task (designed by the researcher for the purpose), exposure and socioeconomic status was measured through parental questionnaires. Annual interviews were conducted with the children on the nature of their learning experience in regards to EE engagement, attitudes, motivation and self-concept (the interview guide was taken from the ELLiE project (cf. Lindgren & Muñoz, 2013). In relation to EE exposure, Djigunovic concluded that the older starters were more exposed to EE than younger starters and this had a greater effect on their learning; not only due to the greater amount of exposure, but also because the younger learners seemed more interested in and motivated for classroom activities than the older learners. For example, Djigunovic describes a learner who strongly disliked English in school but engaged to a large degree in EE activities and, as a result, showed advanced scores on the proficiency tests. The researcher concludes it is advisable to start English lessons earlier, as motivation for learning English is affected by various contextual factors, such as, EE engagement.

Kuppens (2010) conducted a study of 361 Flemish Dutch-speaking, children in the last year of primary education (average age 11). They had received no English instruction prior to the study and thus, as in Lefever's study (2010), English proficiency could only be ascribed to their extramural habits. Through a survey on EE habits filled out by the participants and two translation tests made for the purpose of the study (English-Dutch and Dutch-English), Kuppens investigated the relationship between EE habits and translation skills. The EE habits singled out for elaboration were *Watching English language programs and movies with Dutch subtitles*, *Playing computer games* and *Listening to music*. Findings showed that the boys engaged in more gaming and internet use than the girls. Effects, from watching English-subtitled TV, were found for both genders on both

translation tests. Interestingly, on the English-to-Dutch translation test, there was a stronger effect for the girls (p. 78). The researcher argued this may be due to different ways of watching the programs, for which evidence was found, but, unfortunately not provided nor detailed. Findings also showed an effect, though limited, of playing computer games on the English-to-Dutch translation test. The limited effect was speculated to be a consequence of not distinguishing between types of computer games, that is, all types of games were represented in the same category even if some games may have had extensive English input and others hardly any. The researcher noted that the language mode may potentially be very important as the English encountered may be in the form of merely a single word, such as, for example, *Start*, whereas engaging in online multiplayer games may involve listening to, or reading, elaborate narratives as well as forming friendships through online chats, being also highly motivating language learning (p.79).⁹ Information on the use of English language programs without subtitles was also procured. However, the findings were not included in the analysis based on the argument that engagement in such programs demands prior knowledge of English, that is, Kuppens argued that the user needs to understand English to be able to engage with oral input meaningfully without L1 subtitles. However, she points to the importance of fan-related practices (affinity spaces) for young users, noting how viewers of subtitled series and programs may seek out non-subtitled or “monolingual” affinity spaces), such as fan sites, blogs, etc., even when they only have minimal linguistic skills. She speculates that this may lead to language learning, but calls for future research that investigates how such affinity spaces are used by young people (p. 79).

2.2.2 Studies on watching English-language programs for young users

Watching subtitled programs is beneficial for language learning due to the active, and cognitively complex role on part of the viewer (Lindgren & Muñoz, 2013. see also ; Perego, Del Missier, Porta, & Mosconi, 2010). Research has shown that viewers simultaneously automatically attend to both the oral as well as the visual input (subtitles), while, of course, also engaging in watching the actual program (d'Ydewalle & Van de Poel, 1999). Studies on watching subtitled television in the L2 have found mixed results for language learning depending on age. d'Ydewalle and Van de Poel (1999) conducted an experimental quantitative study with 327 Belgian Dutch-speaking, children between 8-12 years of age to investigate the effects of spoken and subtitled foreign language input. The foreign languages tested were Danish and French representing languages that are linguistically closely related to Dutch (Danish) and linguistically distant from Dutch (French). In the experiment the children watched a cartoon with the foreign language either in the spoken or written mode to see which mode was more conducive for language learning. The children were divided into four groups: one group with Dutch subtitles and French oral input, one with French subtitles and Dutch oral input, and similarly for the Danish condition; one group with Danish subtitles and Dutch oral input, one group with the opposite condition: Dutch subtitles and Danish oral input. The children were subsequently tested on receptive

⁹ The benefits of such games are also highlighted by Sylvén and Sundqvist (2012) noting that they provide opportunities for “scaffolded interaction” (p. 315) (through chats) and exposure to a varied vocabulary.

vocabulary, morphology and syntax through tests made by the research team (for details see d'Ydewalle & Van de Poel, 1999, p. 232 - 233). Test results, with the strongest results for the vocabulary test, showed more significant results for the Danish condition than the French condition, thus seemingly showing that degree of (cognate) relatedness matters, confirming research findings on cognate relatedness in general (see Lindgren & Muñoz, 2013). Overall results showed that the auditory stimuli (i.e., oral input, and more specifically Danish oral input) were more conducive to learning than the subtitles. This result is in direct contrast to results with adult learners under similar conditions showing stronger results for the visual stimuli in the form of subtitles in the L2. d'Ydewalle and Van de Poel speculate that this may be because adult learners are better readers than children. In sum, this study showed that learning did occur from watching TV, but for children this age, the oral mode was more conducive for language learning than the written mode. D'Ydewalle & Van der Poel (1999) also found less significance of use for younger children (8 years) and speculate that older children as opposed to younger children gain more from, in their case, watching subtitled movies most likely given older children's ability to read faster than younger children; a finding corroborated by Koolstra and Bentjes (1999) who also examined the effects of subtitled television and found effects to be stronger for children in the sixth grade than children in the fourth grade (see also Unsworth et. al. (2014) below).

In a Dutch study, Unsworth, Persson, Prins, and De Bot (2014) investigating very young learners, below the age of eight, found no significant effect of extramural engagement for TV and "other media" (p. 6). The research team investigated the importance of extramural exposure, among other variables (classroom exposure, teacher proficiency and aptitude) for 168 Dutch-speaking children. EE exposure was measured through parental questionnaires and receptive grammar and vocabulary skills were measured through Trog2 and PPVT4 respectively. The input outside school was measured in three rounds with a rising average exposure starting at 38 minutes of weekly exposure, over 144 minutes ending at 155 minutes of weekly exposure. As mentioned, EE exposure was not found to be a significant predictor of vocabulary nor grammar scores. The researchers speculate that the lack of effect may be grounded in the relatively modest amount of exposure found for this age group with 155 minutes weekly as the highest end point. Furthermore, the researchers only had access to a limited set of data on extramural use and thus lack of sufficient numbers of participants may also have affected the results.

2.2.3 Studies on playing digital games for young users

In an ethnographic study employing conversation analysis (CA), Piirainen Marsh and Tainio (2009) analyzed five hours of video recordings of young Finnish boys (aged 10-14) playing the game Final Fantasy at home. Through CA analysis of the players' interactions, screen play and engagement in the game, the researchers found that the boys made use of the linguistic affordances offered through the game in their use of imitations and repetitions of gaming terminology. The researchers identified four types of imitations/repetitions. Type 1 was characterized by being a repetition immediately following the repeated utterance, such as "fixed phrases or routine constructions that are in some way salient in context" (p. 159). This also involves imitating different

accents and thereby displaying competence and playing with identity. Type 2 was “anticipatory repetition” (p. 160) where players would utter a game-related term or phrase immediately before hearing the utterance in the game in anticipation of its use. Such uses, they argued, clearly display linguistic competence and gaming expertise. The third type of repetition was a so-called recontextualization defined as “reproducing utterances drawn from the game in new contexts” (p. 163). For example, a phrase heard one day for one specific scene in the game is used the following day to describe a similar scene. Type 4, a so-called expansion represented incidents where players expanded on the gameplay language by adding their own comments in the L2. Such repetitions and imitations of fixed phrases and constructions provided the players a means to engage in collaborative play. Repetitions provide opportunities for noticing details about the language by bringing it to use and thus facilitates learning. Moreover, fixed phrases and constructions, in turn, become part of the players’ linguistic repertoire to be used in new contexts (p. 165, see also Piirainen-Marsh, 2011).

A Turkish study (Turgut & İrgin, 2009) on ten children between the age of 10-14 playing computer games in an internet café explored questions relating to young gamers’ perception of their own learning through gaming at internet cafes and the possible relations between gaming and vocabulary learning. The children were observed playing computer games at the café on three occasions and after each ‘session’ were interviewed, using a semi-structured interview guide. Data was analyzed through a phenomenological analysis. The analysis showed that Turkish children playing games at an internet café had opportunities for vocabulary learning through their use of strategies for understanding unknown vocabulary, for example using online translation tools, guessing from the context and asking friends. And furthermore, it was argued that the highly repetitious linguistic environment potentially could enhance learning by providing frequent input.

Sundqvist and Sylvén have published two Swedish EE gaming studies based on a data from a 2010 pilot study. In the first study (Sylvén & Sundqvist, 2012), the researchers investigated the relation between frequency of gaming, types of games and English proficiency, as well as potential gender-related differences, for 86 Swedish children between the ages of 11-12. The researchers obtained information on the children’s EE habits through a one week language diary (henceforth LD) and a questionnaire. The LD asked for daily engagement in the following categories: *Reading books*, *Reading newspapers/magazines*, *Watching TV*, *Watching films*, *Using the internet*, *Playing digital games*, *Listening to Music* and *Other*. Proficiency scores were obtained through a self-made vocabulary test (based on validated tests) (for details, see p. 309). The vocabulary test consisted of two receptive and one productive part. They were devised to not specifically test extramural vocabulary. The researchers also used test results from the national school test for English proficiency. The researchers found that, on average, Swedish children between the ages of 11-12 engaged in 9.4 hours of EE weekly, with no significant gender differences. However, for engagement in digital gaming, a significant gender difference was found with the boys gaming on average 4.4 hours weekly as opposed to only 1.1 hours for the girls. The most popular activity engaged in was playing digital games, followed by watching TV and listening to music,

whereupon watching films and using the internet followed. Other activities were negligible. They also found that boys and girls played different types of digital games with boys playing games such as Call of Duty, Counter-Strike and World of Warcraft and girls, on the other hand played games such as, for example, the Sims, Restaurant City and Zoo Tycoon (p. 311). Such gender-related differences have also been found in Swedish national surveys, thus reflecting a general trend in Sweden (p. 311).

Firstly, based on the frequency of their gaming habits (as noted in the LD), the children were divided into three groups: non-gamers, moderate gamers and frequent gamers, the latter gaming more than five hours weekly. Initial results showed that group one comprised twice as many girls as boys whereas more boys were represented in the Frequent gamer group (group three). Secondly, the test scores were correlated with EE engagement. Based on the grouping of gaming habits, the three gaming groups were correlated with the test scores. Findings showed a statistically significant positive relation between gaming and all parts of the vocabulary test with frequent gamers outperforming moderate gamers in turn outperforming non-gamers. The boys outperformed the girls on all parts of the test. Similar test results were obtained for the national English test, however, without any gender-related differences. Sylvén and Sundqvist argue that the boys outperformed the girls, on the self-made test, based not only on frequency of EE engagement, but also because of the type of games they played, as such games (cf. above) provide learners the opportunity to engage with “rich target language input as well as scaffolded interaction” (p. 315, for a discussion of types of games and the affordances offered by such games, see also Sundqvist, 2013).

In the second study based on the 2010 pilot, Sundqvist and Sylvén (2014) investigated 76 younger learners, aged 10-11 years of age. The aim of this study, among others, was to investigate the relationship between engagement with digital games and gender, motivation, self-assessed proficiency and strategies for speaking English (p. 8). Similar to the 2012 study, questionnaires and language diaries were used to obtain data on extramural English engagement. Findings showed that on average the children engaged in 7.2 hours of weekly EE with significant gender differences; the boys engaged 11.5 hours as opposed to the girls who engaged in 5.1 hours. The boys engaged in digital gaming and watching movies significantly more than the girls. The findings on the types of games played mirrored the findings from the previous 2012 study.

As in the 2012 study, informants were divided into groups based on their gaming habits. However, to reflect the age of the informants, the frequent gamer group comprised gamers gaming more than 4 hours weekly, as opposed to 5 hours for the older group in the 2012 study (cf. above). Findings showed that the non-gamer group comprised primarily of girls, the moderate gamer groups had an equal mix of boys and girls whereas the frequent gamer group primarily consisted of boys (88%). Children across the groups in general assessed their English abilities as “good”. However, no children in the frequent gamer group assessed their abilities as “very bad” (p. 16) which, in contrast, was the case both in the non-gamer and moderate gamer groups. Common for all children were an assessment of their own English abilities as being good. However, the researchers found

an interesting tendency for proportionally fewer frequent gamers to self-assess their English abilities as “good” or “very good” (p. 16). The researcher speculated that given frequent gamers’ extended contact with extramural English, they may be confronted with and thus realize their own linguistic limitations to a greater extent than non- and moderate gamers (p. 16). Motivation for learning English was found to be high across all groups.

Sundqvist and Sylvén list several factors, besides frequency of engagement, that may explain the correlation between engagement in digital gaming and language learning. With a point of departure in Gee’s 36 learning principles at play in gaming (2007b, see p. 220-227), the motivational nature of the environment, the abundant L2 input and output, and the possibilities for engaging in “negotiation for meaning” between co-players (in a safe and positive atmosphere) are highlighted as highly beneficial for language learning (Sundqvist & Sylvén, 2014, p. 6). In connection with motivation, Sylvén and Sundqvist (2012) draw on Dörnyei’s (2009b) L2 ideal self which, it is argued, in a gaming environment, represents the taking on of an identity/avatar and imagining oneself as an ideal performer of that identity (2012, p. 307); such performance potentially entails use of the L2, and the “willingness to communicate” (Sylvén & Sundqvist, 2012, p. 12. cf. Reinders & Wattana (2010)). In regards to the ideal L2 environment, providing both L2 input and output, the researchers point to several factors found to be beneficial for language learning, such as, “negotiation for meaning”, and the possibilities of entering into collaborative dialogue (Swain, 2000) with more experienced peers. Collaborative dialogue provides opportunities, seen as ideal for L2 learning, for scaffolding or acquiring input within the proximal zone of development (i.e. input that lies within “the distance between the learner’s actual and potential development” (Sylvén & Sundqvist, 2012, p. 305, cf. Vygotsky, 1978). To this, they add that vocabulary can be learnt not only through engaging with peers but also through the context of the game.

2.3 Summary of previous research

The findings presented above, representing studies of both qualitative and quantitative nature, convincingly show that EE engagement may lead to language learning for both young as well as older users. However, age seems to matter in that studies with very young users, below the age of six, show little (d’Ydewalle & Van de Poel, 1999; Kuppens, 2010) or no effect (Unsworth et al., 2014). Gender, too, seems important in relation to gaming, with boys engaging significantly more than girls, and also outscoring girls on proficiency tests (Lefever, 2010; Sylvén & Sundqvist, 2012). Different benefits for language learning through EE engagement are noted for different activities. Watching subtitled TV, etc. may lead to language learning in that engaging with the three stimuli at once (i.e., the content itself, the subtitles and the auditory stimuli). Such activity is beneficial for language learning in that this tri-part engagement happens automatically and is cognitively demanding. Furthermore, viewing subtitled TV may also lead to language learning due to frequency of engagement and attention to meaning, leading to noticing (Kusyk & Sockett, 2012). The former aspect (i.e., frequency of input) is mentioned by many as being a language learning benefit that comes with EE engagement

in general (Olsson, 2011; Ryu, 2013; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012; Turgut & İrgin, 2009). For engagement in gaming, many advantages are mentioned depending on the nature of the games, that is, it may be that certain types of games are more facilitative for learning, such as games with dense language input, as opposed to games with less language input (Kuppens, 2010; Sylvén & Sundqvist, 2012). Online multiplayer games are mentioned as good spaces for scaffolded interaction with native speakers, for negotiation of meaning, and willingness to communicate (Sundqvist & Sylvén, 2014). Productive uses of English are seen as being beneficial also through imitation and repetition of the linguistic input, which leads to noticing of and attention to the language, and possibilities of signaling stance and creating an affective environment (Piirainen-Marsh & Tainio, 2009). It also provides the users the possibilities of trying out different expressions in their written productions (Ryu, 2013). EE use also prompts the users to employ various strategies for understanding unknown words, thus making them engage actively with the input (Ryu, 2013; Turgut & İrgin, 2009).

2.4 The gap in EE research for young users

In keeping with the findings presented in the previous sections, Ortega (2015) notes that findings related to EE use and language learning among older users demand the attention of SLA researchers, and should prompt further research (p. 358). Such research is rare (Wagner, 2015). Furthermore, the review on young users' engagement in EE shows that studies on young users are primarily of a quantitative nature with some qualitative elements. As a consequence, there are only few findings to document positive and significant correlations between EE and language learning for young users (Sundqvist & Sylvén, 2014). Thus, more studies are needed to substantiate the claims of these studies. Furthermore, hardly any studies detail the actual nature of the engagement for young users from a user (emic) perspective which has been called for by Ushioda (2008), arguing that such research, carried out in different settings, will do much to confirm, and add to existing findings, as well as to SLA theorizing (2008, p. 29). Research has primarily investigated which areas of proficiency are affected by EE engagement, but not how children actually engage with the activities and how such engagement may bring about language learning. In short, much more research on EE is needed both of a qualitative and quantitative nature.

2.4.1 Filling the gap in research for young users

The present dissertation aims to partly fill this gap by addressing the following research questions:

RQ1: (addressed in paper 1)

- (a) What Extramural English activities do Danish YELLs (young English language learners) engage in, and to what extent? (b) Are there gender-related differences?

(c) What gaming activities (in varying language modes) do Danish YELLs engage in, and to what extent? (b) Are there gender-related differences? (d) Is there a correlation between these gaming activities and vocabulary scores?

RQ2: (addressed in paper 2)

Which motives (social and cognitive) are children driven by in their use of English in L2 English-mediated activities? How do children engage with L2 English based on their motives?

RQ3: (addressed in paper 3)

How do young Danish children employ English productively as an affordance in the Extramural English (see below) space? How may this use be related to language learning?

3 Theoretical background

The purpose of the present chapter is to present the theoretical framework of the dissertation. Firstly, a brief introduction to the theoretical framework is given. Subsequently, the theoretical framework of the thesis, a usage-based approach to language learning with a cognitive, as well as social (poststructuralist) focus, is presented. Finally, the theoretical approach is summarized.

3.1 The theoretical framework

The present dissertation employs both cognitive and social theoretical constructs. Only little research within SLA, in general, has incorporated both the cognitive and the social side of learning (Hulstijn et al., 2014). However, rather than working from an isolated perspective, there is a growing recognition that a holistic approach may better be able to account for language learning processes (Douglas Fir Group, 2016; Hulstijn et al., 2014; Steffensen & Kramersch, 2017). Or, at the very basic, SLA researchers within both frameworks will benefit from recognizing that both approaches can bring valuable insights into the language learning process merely from different but equally valid perspectives (Douglas Fir Group, 2016; Hulstijn et al., 2014). The social/cognitive divide, or the question whether such divide indeed exists, was the topic of debate at a colloquium featuring several prominent scholars, at the AAAL conference in 2013, resulting in a paper with contributions from several of these researchers (see Hulstijn et al., 2014).¹⁰ In this paper, the researchers collectively argue that social and cognitive approaches are reconcilable and compatible, and specific methods and findings should be acknowledged across these approaches (Hulstijn et al., 2014, p. 362). In general, by now, many SLA researchers promote a transdisciplinary SLA, acknowledging the ecological nature of language learning (Douglas Fir Group, 2016; Steffensen & Kramersch, 2017). The present dissertation aims to take a holistic approach to language learning, incorporating both cognitive as well as social theoretical assumptions, and methodologies, thereby acknowledging the fruitful and complimentary nature of both approaches. Importantly, the theoretical foundation of the dissertation is not posited as a new unified framework, but rather as an attempt to draw on existing cognitive and social approaches (theoretically as well as methodologically) for a wider and more holistic perspective on language learning. In what follows, the cognitive and social usage-based approaches, employed in the present dissertation, will be presented. For clarity, each framework is discussed separately after which they are connected in a summary.

3.2 Basic theoretical assumptions

This thesis is grounded in the assumption that language learning happens through usage (N. Ellis, 2015; Tomasello, 2009). At the most basic level, this means the notion of an innate universal grammar is not embraced (Chomsky, 1986), but rather the idea that language develops out of actual concrete usage of the language and evolves from general learning abilities, rather than a specific language faculty (Tomasello, 2009). The usage-based approach is made up by a variety of approaches, such as Cognitive Linguistics, Complexity

¹⁰ These were Bigelow, M., Ellis, N.C., DeKeyser, R., Lantolf, J.P., Mackey, A. Ortega, L., Talmy, S. and Young, R.F.

theory, Conversation analysis, Ethnomethodology, Dynamic systems theory, Emergentism-Connectionism, Identity theory, Sociocultural theory, and theories of social action (Ortega, 2015, p. 354, 370). Most of these approaches either take a cognitive or social approach to language learning. The cognitive usage-based approach employed in the present dissertation is based largely on the writings of Nick C. Ellis, a prominent scholar within the field. For the socially-inspired approach, the dissertation relies on a poststructuralist framework, which encompasses a number of socially-inspired constructs and theories that have arisen as part of the so-called social turn in SLA (Block, 2003).

3.3 The Cognitive Usage-based approach

The basic tenet of cognitive usage-based linguistics is that language learning happens through usage through which linguistic units are abstracted (Tomasello, 2009). Consequently, learning language is not learning a set of abstract rules (grammar), rather, it is learning, and abstracting through use, many thousand constructions based on their frequency in the input. Constructions are “form-meaning mappings” (N. Ellis, 2007, p. 78), and may consist of a single word (lexical item) or can be more complex, consisting of groups of words that commonly occur together, such as, exemplified by Ellis, “one, two, three”, or, “once upon a time” (2007, p. 78). Constructions thus represent conventionalized ways of expressing certain meanings that become entrenched through usage in the learner’s mind as language knowledge.

Given the view that language is based on constructions (i.e., not stored as a system or rules: grammatical, lexical and syntactical), language is seen as symbolic (N. Ellis, 2015; N. Ellis & Cadierno, 2009; N. C. Ellis & Ferreira-Junior, 2009; Goldberg, 2003). In this view, semantic content and communicative functions are guiding principles for construction-based learning, thereby rejecting the idea that the learner is guided by parameters, principles and formal rules (Tomasello, 2009, p. 100). That is, specific functions (pragmatic, semantic, and discourse-related) are associated with specific (syntactic, lexical and morphological) forms (Ellis, 2007).

Frequency of input is thus vital as ‘constructions’ are abstracted by the learners and users of the language based on the regularities with which they occur; “learners have to *figure* language out” (N. Ellis, 2002, p. 144). The importance of input and the frequency with which it occurs makes important: 1) number of times of exposure (including construction and type/token frequency), 2) recency of exposure, and 3) number of times we experience certain elements together (in conjunction). Factors 1 and 2 provide stronger memories for the input and more fluent accessibility in that constructions that are experienced on many occasions, or that have just been experienced, are more pertinent in our memory (N. Ellis, 2015, p. 51). Type/token frequency respectively, relate to, how often a specific construction appears in the input, and, token frequency, to how likely a form is to appear in a given slot, such as for example, the regular past tense form ‘ed’, which is more frequently found in the slot reserved for verbs, than is an irregular past tense form. The third factor, or, the frequency with which certain elements are found together, affects the promotion of associations between these elements and,

consequently, affects our perceptions and categorizations of these as naturally occurring in specific contexts (N. Ellis, 2015; Hoey, 2005). Other input-related factors, such as redundancy, salience, and L1 transfer are also relevant in usage-based approaches (N. Ellis, 2007; N. Ellis, 2015; N. Ellis & Cadierno, 2009). However, for the purpose of this dissertation, these factors are not considered, and thus not discussed. The usage-based approach described above, as is evident, has a focus on the cognitive side of language learning. It follows from this approach, in particular in relation to L1 learning, that most language learning is implicit (i.e., happens without conscious operations) (N. Ellis, 2005, 2007). Ellis (2007) notes “we ‘know’ far too many linguistic regularities for us to have explicitly learned them” (p. 88). However, this is where L2 acquisition differs notably from L1 acquisition, in that, given a normal developmental trajectory, linguistic features do not go unnoticed in L1 acquisition, ultimately causing learners to fail to learn these. This, on the other hand, often happens in L2 acquisition, where learners often will transfer aspects from their L1 to their L2, and where “learnt attention” often hinders the implicit learning of some features of the L2 (N. Ellis, 2007, p. 88).

As mentioned in the introduction (chapter 1), both implicit and incidental learning are of relevance to EE engagement. Most researchers agree that incidental learning requires awareness (Laufer and Hulstijn, 2001) and requires users to focus their attention on the language stimulus without, necessarily consciously processing the stimulus (Rieder, 2003, p. 28). Attention to input, also without the intention to learn, is generally found to be facilitative for language learning (N. Ellis, 2005; Lantolf & Thorne, 2006; Lantolf & Thorne, 2007; Laufer & Hulstijn, 2001; Lee & Pulido, 2017; McCafferty, Roebuck, & Wayland, 2001; Schmidt, 1990). This insight is highly relevant in connection with EE engagement, which often happens without the intention to learn. Attention to the mediating language may be brought about by frequency effects; input is noticed for its regular and frequent occurrence in the input (N. Ellis, 2005; N. Ellis, 2015). The user may also notice the input through extended efforts to understand it (Laufer & Hulstijn, 2001; McCafferty et al., 2001; VanPatten, 2015), or because it facilitates engagement in meaningful activities (Elley, 1989; Huckin & Coady, 1999; Lee & Pulido, 2017). Specific vocabulary, being central to the goal of the activity, may also receive special focus. This may be through, for example, engaging with the language productively (Gass & Mackey, 2007; Lantolf & Thorne, 2006; Lantolf & Thorne, 2007; McCafferty et al., 2001). Swain (2000), for example, in her early work,¹¹ focused on productive output and the benefits of this. Based on work with immersion school children in Canada, Swain concluded that children who did not engage in productive use of language failed to achieve native-like proficiency even after years of being immersed in the language. This led her to believe that language learning cannot be based on input alone. Rather, Swain argued, productive use may be the aid learners need to move from semantic understanding to syntactic production. Output also provides opportunities for *hypothesis testing* (Swain, 2000), that is, it provides the learner with a chance to try out his or her ideas of how to use the language, which in turn may lead to a confirmation or rejection of the hypothesis. If the hypothesis is rejected,

¹¹ In her later work, Swain has taken a more socially-oriented approach to learning being heavily inspired by sociocultural theory (Swain, 2000)

the learner may in turn, *notice a gap* in his/her interlanguage (Swain, 2000). Furthermore, Ellis (2007) notes that the mental processes involved in using language productively pave the way for “automatization (N. Ellis, 2007, p. 91) (i.e., fluent and automatic production) (Gass & Mackey, 2007, p. 181). Psycholinguistic research in general supports the benefits of productive use of language for language learning, arguing that frequency effects happen both as an effect of recognition (input) and as an effect of generation (productive use). Both factors are important (Harley, 2013). Another example of the positive effects of attention to language for incidental learning is McCafferty, et. al.’s (2001) study. In this specific study attention was brought on by ‘functionality’ of language. In an experimental study on foreign language learning, the researchers found that words closely connected to carrying out goal directed actions in a specific task were better retained than less prominent words in the tasks. Words closely connected to carrying out the goals of the tasks, were words generated by the learners themselves, or pre-given task words that learners actively used themselves, or words that needed defining for learners to proceed with the activity (p. 292). In sum, a focus on language through various means can provide psycholinguistic data which enhances language learning because relevant linguistic items are highlighted thus facilitating noticing (N. Ellis, 2015). Thus, engaging with the L2 via input and interaction is thought to aid the psycholinguistic mental processes. Such factors could be highly relevant to EE engagement as, potentially, the users are exposed to a great amount of input and may use this input productively with other L2 speakers.

However, the social and cultural dimensions of language learning are also recognized by most scholars within the usage-based framework (see, for example, Cadierno & Eskildsen, 2015; Douglas Fir Group, 2016; N. Ellis, 2015; Søren W Eskildsen & Markee, 2018; Steffensen & Kramsch, 2017). That is, usage-based naturally means *in usage* which implies that our learning happens through participation in social interactions with others, in different cultural contexts, where individuals bring various personal intentions to the task of communication and people engage in creating intersubjectivity (N. Ellis, 2015).

To investigate also the importance of the social factors of importance to language learning, the present dissertation employs a poststructuralist framework, as such an approach enables a productive way of framing the interrelation between the social context and cognitive processes (Pavlenko, 2002, p. 291).

3.4 The poststructuralist approach

The poststructuralist framework views language use and learning within a social framework. Language is seen to construct and reproduce social relation wherefore the social is of immense importance also to L2 learning. (Pavlenko, 2002, p. 283). The poststructuralist view has three major theoretical implications (Pavlenko, 2002): 1) language is seen as symbolic capital (Bourdieu, 1991) and a site for identity construction (Firth & Wagner, 2007; Lantolf & Pavlenko, 2001; Le Page & Tabouret-Keller, 1985; Norton, 2013; Pavlenko, 2002). 2) language acquisition is viewed as language socialization which means that language learning is not merely a cognitive process, but also a process of becoming member of a culture (Lave & Wenger, 1991; Norton, 2013;

Pavlenko, 2002). 3) The agentive nature of L2 users is of key importance in the learning process, necessitating a view of language learning as an active rather than merely passive process (Ortega, 2015; Pavlenko, 2002; Van Lier, 2000). These three overall theoretical constructs are presented below.

3.4.1 Symbolic capital and identity

Viewing language as symbolic capital, which, by extension serves as a site for identity construction, entails and necessitates a dynamic and contextual approach to language (Pavlenko, 2002). Bourdieu (1991) notes that certain styles, accents and languages come to be of particular symbolic value, whereas others do not for historical, cultural and political reasons. To Bourdieu, language use is contextual and the context (both global and local) decides the value of the language. Thus, some styles, languages, and expressions have more value in specific contexts than others and the task of the speaker is to produce contextually valued language (Bourdieu, 1991). It follows that valuable languages or styles come to be equated with valuable identities. Candlin (2001) notes "...communication exists both as a means of asserting identity and of getting things done" (p. xix, see also Norton, 2013). Such equation of powerful languages, and discourses with valuable identities happens even at a very early age (Pavlenko, 2002). This is very clearly shown by Orellana (1994) in her study on bilingual Spanish and English speaking children who speak English when they play-act to be superheroes. In her study, one child, Carlos, states that he wants to give up his Spanish and only speak English when he grows up because: "Batman doesn't speak Spanish. Superman doesn't speak Spanish. Peter Pan doesn't speak Spanish, either." (p. 185), clearly signaling that English is the language of power and prestige providing its speakers with valuable identities. Such recognition is of importance in the EE context where, as noted in the introduction, English, in general, seems to have acquired, and increasingly so, a very valuable position due to historical, cultural and political reasons being heavily promoted both from official hold and from ordinary, especially young, people.

In poststructuralist theories, identity is viewed as: "multiple, multifaceted and dynamic" (Barcelos, 2015, p. 305. See also Douglas Fir Group, 2016; Ortega, 2015; Steffensen and Kramsch, 2017). Such a view is in sharp contrast with structuralist notions of identity as being unified and stable regardless of place and time (Block, 2003, p. 79). Identity is referred to by a number of different names in poststructuralist research, such as *identifications*, *subjectivities* and *positions* (Block, 2009), more or less covering the same basic construct, (i.e., that of a dynamic multifaceted, multiple construct (Block, 2009; Pavlenko, 2002)). Some definitions, however, distinguish between a stable identity versus a more situational identity, such as Gee (2014) who distinguishes between *socially situated identities* and *core identities*. The former matches the poststructuralist notion of identity and the latter describes a more stable sense of identity (to be elaborated below in connection with the notion of communities of practice).

In the present dissertation, *identity* refers to the contextual, multiple and dynamic social poststructuralist sense of identity. Viewing identity as multiple entails that it is not "unified" (cf. above), that is, one may

simultaneously be a professor and a self-made handyman (and have various other identities; gamer, father, F1 fanatic); such identities are merely enacted at different times and in different contexts (Barcelos, 2015; Douglas Fir Group, 2016; Firth & Wagner, 1997, 2007; Le Page & Tabouret-Keller, 1985; Norton, 2013; Pavlenko, 2002). Viewing identities as multifaceted and dynamic means that identities are constantly subject to change across contexts and times and are subject to various constraints (Lemke, 2008). Identity is not something we can freely choose, but is, as mentioned, constrained by different factors and subject to negotiation with our surroundings (Douglas Fir Group, 2016). Identities can also be imagined (i.e., can reflect our aspirations and hopes of who we wish to become (Norton, 2013)), thus setting the agenda for actions taken by the individual. The notion of and the aspirations towards an imagined identity within SLA has been refined within motivational studies especially by Dörnyei in his notion of an ideal future L2 self, which the learner aspires towards serving as a motivational force (Dörnyei, 2006, 2009a). A number of studies have shown how identity construction, and imagined identities, are linked to language learning (Kanno & Norton, 2003; Pavlenko & Norton, 2007). Norton (2013), for example, in a diary study describes how Mai, a Vietnamese immigrant to Canada, ends up dropping out of her English class because the teaching is far removed from her ‘imagined identity’ (p. 8-9). That is, Mai, who works in a clothes factory, imagines herself working at an office in the future, as someone who dresses smart and speaks and writes English. However, to Mai, English classes seem far removed from being able to assist in the attainment of her goal, being that they focus on the past lives of the learners and with no focus on the future. Mai thus invests little in class and eventually drops out. Mai’s example shows that acquiring or living an identity through language, apart from being important for language learning, does not only come from an active choice on part of the individual but rather it is negotiated with the context and sometimes denied, albeit not necessarily purposefully. A successful negotiation of identity is discussed in Wagner (2015). Wagner (2015), in a naturalistic learning setting, in the wild shows how Arun, a newcomer to Denmark working in a supermarket, manages to position himself as a competent clerk, rather than a foreigner with low proficiency. A customer asks a question which Arun does not hear initially and thus asks to have repeated. The customer interprets this as a sign of lack of proficiency and repeats the questions using foreigner-directed talk (i.e., slow pronunciation). Arun then, by taking the customer to the correct shelf where the requested item is and informing the customer that he had just re-stocked the shelf with this very item, manages to position himself as a competent speaker of Danish and thus rejects the identity as a low-proficiency foreigner. Such examples show that identity is a contributing factor in shaping the language learning experience and is open for negotiation (Douglas Fir Group, 2016; Norton, 2013; Pavlenko, 2002).

3.4.2 Site for socialization and agency

The view that language learning is language socialization is related to two factors; 1) our ‘subject positions’/identities (cf. above) grants or denies us access to the L2 and L2 communities, and 2) available identities inform the level of agency and investment (cf. Mai’s lack of investment due to lack of relatable teaching) (Pavlenko, 2002, p. 286). The idea of communities of practice evolves from Lave and Wenger

(1991). The idea is that people learn, often without setting out to do so, through their membership in communities of practice, also known as situated learning (Lave & Wenger, 1991). That is, people learn from social participation with each other, and through their engagement in different communities. Participation in such communities is inspired by a common ground around which the community is formed, for example, participating in an online gaming community. Through such engagement, bonds are formed and a sense of belonging gives willingness to share ideas and knowledge. The practice that takes place within the community is the core reason for the community's existence and through such practices, identities are simultaneously created and performed (Wenger, McDermott, & Snyder, 2002). Language use is inevitably connected to communities of practice, in that specific communities acquire their own way of communicating (cf. for example, the extended use of acronyms in online gaming chats (Thorne et al., 2009, p. 808)). Thorne, Black and Sykes (2009) note, on language socialization, that learning how to speak a language is also learning how to participate in specific communities of practice (p. 803). This means, as cited by Thorne, et.al. (2009), that language learning and use are not merely centered around producing grammatically correct utterances but, very importantly, also about learning how to speak in socially and pragmatically relevant ways (Garrett, 2008, p. 190). For example, within the framework of language socialization (Schieffelin & Ochs, 1986; Scollon & Scollon, 1981), Lam (2004) studied the use of code-switching between Cantonese and English in a bilingual chat room (community of practice) by two young Chinese immigrants to the US. Lam found that the code-switching in the chat room served to create and maintain a common ethnic identity between the chatters who were all immigrants of different ethnicity. The chat room, moreover, offered the possibility to practice English in a safe environment thus offering ways to develop fluency and confidence (p. 59). This was a unique opportunity for language learning as engaging in English with English-speaking individuals outside the chat room was found to be difficult and marginalizing. On the basis of her study, Lam notes that "language learning is intricately related to the construction of social roles, cultural affiliations, beliefs, values, and behavioral practices among participants in a community" (2004, p. 46). This, in turn, means, as also noted by Thorne et. al. (2009), that language learning and socialization are inextricably linked, given the mediating role of language as the tool through which the knowledge and practices of a community are acquired. Thus, while learning a given language, the learner also acquires social competence related to the community in which the particular language is used (p. 46, see also Lantolf and Pavlenko, 2001). Lam's study also testifies to the importance of agency, in that the participants managed to create learning opportunities through their own initiative.

Communities of practice are also variously called Discourses (Gee, 2014). As related above, Gee operates with two notions of identity: a stable identity and a socially situated identity. These notions are tied to Discourse analysis, a theoretical construct as well as methodology employed in both capacities in the present dissertation.

¹² . Inspired by Foucault (1972, 1980), some scholars within discourse analysis distinguish between two types

¹² Discourse analysis as a method will be elaborated in chapter 4, Methodology.

of discourse: Discourses (capital D) and discourse (lower case d) (Gee, 2014). In this instance, discourses (lowercase 'd') refers to language-in-action (Gee, 2014, p. 52). Discourses (capital 'D') refer to, in Gee's words "being different kinds of people" (p. 52). Getting recognized as a particular type of person (having a specific identity, such as belonging to a specific community of practice) is important in order to engage in a Discourse, thus extending beyond mastering a way of talking, although language (your discourses) is of paramount importance. For example, to master the Discourse of being a street gang member, you need to know how to act, what to engage in (e.g., probably not knitting), what to think (e.g., that academia is boring beyond belief), using the right symbols (e.g., not wear feminine attire), objects and tools (e.g., use guns) and of course speaking the right way, or knowing how to engage in proper discourse (e.g., not be meek or formal) (p. 52). It is easily seen how identities in such a view are subject to negotiation and cannot merely be enacted on demand or desire (as stated above). Discourse analysis may thus illuminate the ways in which Discourses are enacted (i.e., look at agency, through for example, examining the particulars of the various discourses in which people engage).

As mentioned, agency is also given a prominent role in poststructuralist research on language learning. Pavlenko (2002) notes that within poststructuralist theorizing the L2 learner is not a passive recipient of input, but, rather, an individual endowed with many different and changeable identities (p. 293). This view makes important: 1) the notion of affordances (J. J. Gibson, 2014; Larsen-Freeman, 2007; Van Lier, 2000, 2007; Verspoor, De Bot, & Lowie, 2011) and 2) the notion of investment (Norton, 2013).

The notion of affordance is taken from James Gibson (2014). It relates to environment specific properties that an organism in the environment can make relevant and act on (Van Lier, 2000, p. 252). An affordance does not in itself bring about action it only *affords* the action. Van Lier explains:

what becomes an affordance depends on what the organism does, what it wants, and what is useful for it. In the forest a leaf can offer very different affordances to different organisms. It can offer crawling on for a tree frog, cutting for an ant, food for a caterpillar, shade for a spider, medicine for a shaman, and so on. In all cases the leaf is the same: its properties do not change; it is just that different properties are perceived and acted upon by different organisms. Parallels to language can easily be drawn. If the language learner is active and engaged, she will perceive linguistic affordances and use them for linguistic action. (p. 252)

Much research, notably within activity theory, makes relevant the notion of affordances, and is thus highly compatible with poststructuralist approaches to language learning (Lantolf & Pavlenko, 2001, p. 144), by demonstrating how different learners, when engaging in the same tasks, in fact engage in different activities because they bring to the task different motives, and understandings of the task (Coughlan & Duff, 1994; Douglas Fir Group, 2016; Gillette, 1994; Lantolf & Pavlenko, 2001; Lantolf & Thorne, 2006; Swain, 2000). Thus, different outcomes will result from such engagement. In other words, learning is not seen merely a

process of acquisition of input (cf. *the acquisition metaphor* (Sfard, 1998)), but rather also as one of *participation*, in which learners are seen as actively engaged in their own learning process (Donato, 2000; Sfard, 1998).¹³ Importantly, the participation metaphor is also tied to the notion of communities of practice in that participation is seen as a means to becoming a member of different groups (Sfard, 1998) as shown in Lam's (2004) study. Gillette's (1994) (Activity theoretical) study illustrates the importance of the nature of engagement with the affordances. In a study on American university students learning French, Gillette found that students' learning strategies differed widely depending on their motives in class. One group found French class an imposition that merely had to be lived through and invested (to use Norton's term, cf. below) very little in learning French, whereas another group had very positive attitudes towards French and engaged in class with strategies particularly aimed at learning the language. Thus, students engaging in the same task were in reality engaged in different activities (i.e., the activity of going through the motions and getting it over with as opposed to the activity of actively investing in learning a language) (i.e., they *perceived* (cf., Van Lier, 2000) differently of the linguistic affordances). Therefore, it is necessary to look at the learner in action or the specifics of the activity, rather than merely looking at available input (Van Lier, 2000, p. 253). Lantolf and Pavlenko (2001) argue that learners will approach a learning task based on personal significance. That is, learners will act on what seems significant to them, based on the possibilities it offers, and will invest (cf. Norton, 2013) accordingly.

As mentioned, according to activity theory, affordances are perceived or left unnoticed to a large part based on the motives that an individual brings to the task. As activity theory is centrally concerned with motives and the ensuing actions thereof, it serves as a very useful tool to investigate what goes on within different communities of practice (Lave & Wenger, 1991, see also; ; Roth & Lee, 2007; Ushioda, 2007). Engagement with the language in an activity system is intimately linked to the goals and motives of the agents, as it functions as the means through which the agents accomplish their goals (Roth & Lee, 2007).¹⁴

The notion of investment (also mentioned by Lantolf and Pavlenko (2001) above) is highly relevant in relation to agency and not least identity. Norton (2013) developed the construct, inspired by Bourdieu (1991), to explain and to tie together learner identity and learner commitment to learn a language (2013, p. 3). In this view investment in the language is, simultaneously, investment in one's identity (Dornyei & Ushioda, 2009, p. 4). Investment on behalf of the learner will happen if learning the language offers symbolic (such as friendship, language, prestige) and material resources (such as money) of interest to the learner (p. 6).

The construct of investment is complementary to the notion of motivation. Motivation has played, and continues to do so, a considerable role within language learning theories as being of great importance for

¹³ Importantly, Sfard (1998) in her analysis of the two metaphors of learning warns against the exclusive use of one metaphor over the other arguing that learning happens as a complex interrelation between the two and thus researchers should consider both.

¹⁴ See also Methodology (chapter 4)

language learning (Dörnyei, 2009b; R. C. Gardner, 1988; Henry, 2014a, 2014b; Nikolov, 1999, 2009; Ryan & Deci, 2000; Ushioda, 2007). However, Norton (2013), through her theoretical construct *investment*, argues, and has shown, in a number of empirical studies (for an overview consult Norton, 2013), that motivation for learning a language does not necessarily entail investment in learning the language, as the learner may be unable to engage in language learning for various reasons, such as exclusion from discourses for reasons of power and gender (cf., Bourdieu, 1991), or from excluding themselves for various reasons (cf. Mai above). Such experiences, other than denying the learner the opportunities for learning, may also be debilitating for motivation and cause less investment from the language learner. Norton thus concludes that motivation cannot be assigned explanatory powers for language learning without taking into consideration the notion of investment. There can be plenty of motivation but no investment and, as a consequence hereof little or no language learning.

Lastly, it bears mentioning how many of the above concepts, motivation, investment and communities of practice, are clearly tied to the notion of emotions. Indeed, the importance of emotions is increasingly being recognized within language learning research (see, for example, Barcelos, 2015; Dewaele, 2016; Dewaele & Li, 2018; Douglas Fir Group, 2016; Ortega, 2015)¹⁵. In fact, research has shown an integrated connection, not only between emotions and social behaviors, but also between emotions and cognitive processes. For example, research has demonstrated how cognitively “emotionally-charged cues are more attention grabbing than neutral cues” (Okon-Singer, Hendler, Pessoa, & Shackman, 2015, p. 2), showing that emotion and cognition are interrelated cognitive processes. The present dissertation, although not investigating emotions per se, does recognize the importance of emotions in looking at concepts such as investment, communities of practice and agency. Such notions are clearly tied to emotions, in that, to a large extent, they seem driven by emotions, as has been discussed above.

Having thus discussed the theoretical constructs employed in the dissertation, the next section will briefly summarize the approach adopted in the present dissertation.

3.5 Summary and perspectives of theoretical approach

Building on the cognitive approach to language learning presented above, the theoretical framework of this dissertation recognizes the importance of frequent exposure to language, acknowledging that this is important for cognitive language learning processes in order to tally the input based on, for example, frequency effects and salience (N. Ellis, 2002; N. Ellis, 2005, 2007; N. Ellis, 2015; N. Ellis & Cadierno, 2009). Thus, it is essential for the individual to have a model language, through abundant input, from which s/he can “abstract” language patterns (N. Ellis, 2002, p. 144). Some of this will happen implicitly. However, it is vital, in Ortega’s (2015) words, to not perceive of the learner as “an intuitive statistician” (2015, p. 366), but rather recognize

¹⁵ In 2018 SLLT has in fact published an entire issue on the role of emotions for language learning (Dewaele & Li, 2018)

that agency also plays a part in the learning process. Thus, *what* the users do and *how* they use the language (i.e., their agency) is also of vital importance, possibly leading to noticing. This agency may be informed by their view of the language and the possibilities the language offers (i.e., in the form of, for example, access to valuable communities and identities). However, users are not just free to act, as contextual factors may hinder this, for example, through denial of access to interactions or linguistic resources in general. Through users' investment in the language, they may engage with language in ways that are beneficial to language learning (i.e., through meaningful interactions, thereby using the language productively). Other than offering the possibilities, for example, for testing hypotheses (cf. Swain, 2000), for automatizing their language use (cf. N. Ellis, 2007) and for engaging in meaningful interactions with other L2 speakers offering the possibilities of engagement in mental processes deemed important for learning, users also have possibilities of engaging in valuable social identity construction and gaining access to valuable communities/Discourses. The present theoretical framework is able to highlight the cognitive as well as social processes happening in extramural engagement with English, by not focusing exclusively on one over the other. By acknowledging that language is attentionally and socially gated (Douglas Fir, 2016, p. 27), a process happening as much in the brain as among others in the social space, the dissertation thus moves beyond a singular view of language learning. Given the realities of the global world, offering rich possibilities for digital linguistic mobility, such an approach is all the more appealing (Douglas Fir, 2016). This 'new' reality offers abundant possibilities for participation in different multilingual communities (Douglas Fir, 2016) and consequently children will bring to school different ways of being and doing with the L2 (and L3, L4, etc.), informed by their multilingual encounters outside school. By gaining a holistic knowledge of such processes, educators may better be able to aid their learners in the learning process. Thus ultimately, the dissertation hopes to be able to add to knowledge on children's learning processes in the EE space to, ultimately, be able to provide knowledge of interest to educators, and SLA theory.

The dissertation is thus founded on the assumption that cognitive and social theoretical viewpoints are complementary and it is fruitful for researchers to recognize this complementarity. The present study does so methodologically by incorporating and employing methods from both paradigms (see chapter 4, Methodology), but also by drawing on theoretical viewpoints from both paradigms in discussions on the learning scenarios sketched out in the papers. Such a framework, thus, allows for incorporating both the notion of *input*, and consequently the importance of frequency effects while simultaneously arguing that the notion of affordances is also of utmost importance. The social and the cognitive are interrelated processes both influencing and being influenced by each other, for example, as mentioned above, social significance and positive emotions influence cognitive processes positively (Okon-Singer et al., 2015). Furthermore, investment in the language will possibly lead to more frequent encounters, and thus, in turn, to the benefits of frequency effects (through recognition and generation (Harley, 2013)) and attention. The Douglas Fir group (2016) notes how language learning happens through repeated linguistic encounters in social interactions, however, also

noting that learning does not always arise from such encounters. It is therefore of great interest to SLA to investigate frequency of input embedded in the social.

Concludingly, the dissertation does not attempt to build a new theoretical account of second language learning. Firstly, being an empirical work, such an endeavor would be way outside the scope of the study, and secondly, it certainly requires more experience and transdisciplinary knowledge. Rather, an attempt is made to heed the advice of prominent scholars within the field, as mentioned above, to recognize and include both theoretical viewpoints.

Having thus described the theoretical framework of the dissertation, the following chapter is devoted to presenting the methodologies employed in investigating the theoretical underpinnings of the study.

4 Methodology

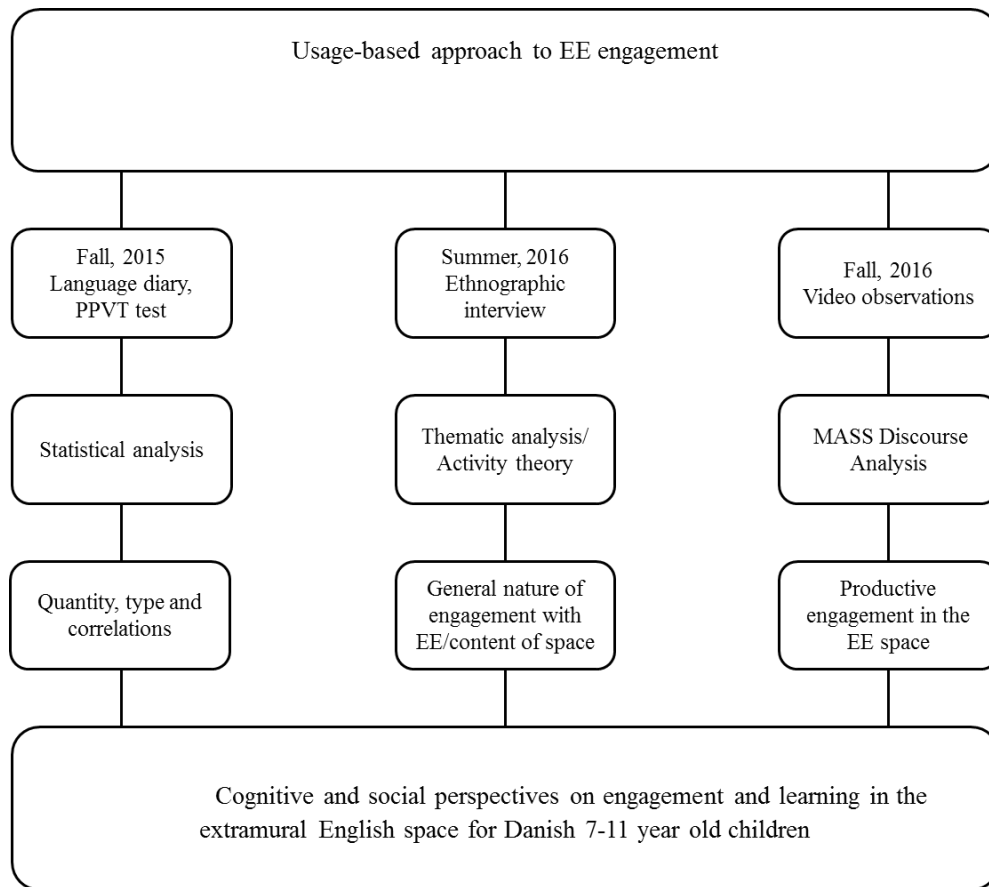
The present chapter presents and discusses the methodologies employed in the dissertation. Initially, the chapter describes the choice of mixed methodologies. Hereafter, the participants of the larger project within which the present project is embedded are introduced. Then follows a section on validity, reliability and generalizability, and the corresponding qualitative notions: credibility, dependability, transferability and confirmability. Subsequently a section on ethical considerations follows. The paper is rounded off with the main sections, describing in detail the quantitative and qualitative methods employed in the dissertation, ending in a short summary.

4.1 Quantitative and qualitative methodology

In keeping with the theoretical framework of the dissertation, and in order to answer the research questions posed, both quantitative and qualitative methodologies were employed in a mixed methods design enabling a broader and more detailed understanding of the subject (Dörnyei, 2007). This is in line with Ortega's (2015) description of the usage-based habitus as "inherently interdisciplinary," (p. 370) thus calling for methodological diversity. Traditionally, although not exclusively (Hulstijn et al., 2014; Mackey & Gass, 2011), quantitative methodology is to a large degree connected to the cognitive paradigm and qualitative methodology connected to the socially-oriented paradigm (Block, 2003, p. 4). As the ontological nature of the phenomenon in question is argued to be of both a social and a cognitive nature, the present study has employed a mixed-methods design. A quantitative approach was used for obtaining an overview of EE use among young Danish children, and explore its relationship to vocabulary knowledge. A quantitative methodology is well-suited for this purpose as it enables the gathering and quantification of large sets of data, with possibilities for providing categorizations, overviews and seeking out correlations (Mackey & Gass, 2011). Qualitative methodologies, on the other hand, were used to gain richer, more detailed and emic views of the children's engagement in EE. As very little is known about young users' engagement in EE, the qualitative studies in the thesis were largely explorative, inductive and bottom-up seeking to gain broad, yet in-depth, knowledge on EE engagement (as encouraged by Firth & Wagner, 1997 in their seminal article. See also Block, 2003). Figure 1. provides an overview of the research methodologies.

Figure 1.

Overview of methodology



The top box in figure 1 depicts the theoretical frame within which the methodologies have been employed. The layer below, presented through three different columns, depicts the three specific approaches used to obtain information of EE. The first three horizontal boxes describe time of the data collection, as well as the elicitation methods used. The three boxes below describe the methods employed to analyze the elicited data. Here after, the boxes below state, in general terms, the specific types of knowledge procured through the methodologies. The final box sums up the overall knowledge obtained through the theoretical and methodological framework.

4.2 Background information ‘The younger, the better?’

4.2.1 Samples and participants

Participants for the present dissertation were drawn from the project *The Younger, the better?: A usage-based approach to learning and teaching of English in Danish primary schools* (Cadierno & Eskildsen, 2014) (TYTB). The project comprised six participating schools as found in Table 1.¹⁶ The participants were both

¹⁶ Initially two more public schools were included in the sample but as they diverged in both number of hours and distribution of lessons, these schools were excluded from the sample.

early starters (starting English in grade 1) and later starters (Starting English in grade 3). The initial sample of schools included only public schools and was based on stratified random sampling, with location as the main stratification variable (i.e., the municipality of Odense (Cadierno & Eskildsen, 2014, p. 7)). However, as the reform to lower the onset of starting age also contained a recommendation, followed nearly by all schools, to give third grade starters two weekly lessons of English rather than one, which was the case for first graders, weekly lessons were non-comparable across the early and later starters. Consequently, other types of schools, semi-private, were included to ensure comparability in terms of weekly lessons.¹⁷ The total number of participants were 298. The samples for the individual studies will be presented in sections relating to the specific studies.

Table 1.

Participating schools

School	Type of school	Types of starters (ES=early starters; LS=late starters)	Average age at onset	Weekly teaching lessons		
				2014-2015	2015-2016	2016-2017
MB	Public	ES	7	2	2	2
		LS	9	2	2	2
RR	Public	ES	7	1	1	2
		LS	9	2	2	2
PP	Public	ES	7	1	1	2
		LS	9	2	2	2
SL	Public	ES	7	1	2	2
		LS	9	2	2	2
FRS	Semi-private	2x ES	7	2	2	2
RU	Semi-private	2 x ES	7	1	1	1
		2 x LS	9	1	2	2
Total 6	4 public, 2 semi-private	8x ES 6x LS				

Table 1 presents School (school alias), Type of school (public or semi-private), Type of students (Early starters = English lessons from 1st grade, Later starters = English lessons from 3rd grade), Age at onset of formal English teaching, number of weekly lessons in English. Weekly teaching lessons indicate whether the children in the specific classes had one or two weekly lessons in the school years stated, (e.g., between 2014-2015, 2015-2016 and 2016-2017, respectively).

¹⁷ Semi-private schools are partly subsidized by the state and parents typically pay between DKK 1200-1500 monthly as opposed to public schools which are fully subsidized by the state. Research shows no difference in grades for pupils in Semi-private and public schools (Dallerup, 2017) and, thus, arguably these types of schools are comparable in a Danish context, and consequently the inclusion of such schools does not pose a threat to the external validity of the study.

4.3 General methodological considerations

4.3.1 Validity, reliability and generalizability

Any research project needs to consider and employ measures to ensure validity, reliability and, when relevant, generalizability. The present section provides a general overview of these concepts whereas the specific methodological sections (quantitative and qualitative methodologies), describe how these considerations were addressed in the individual studies. Importantly, validity, reliability and generalizability are notions particularly related to quantitative methodologies (Flick, 2014; Johnson & Christensen, 2008). Specifically, generalizability is exclusive to the quantitative paradigm in that qualitative research aims to explore individual experiences rather than make generalizations (Flick, 2014). In what follows, the concepts of validity, reliability and generalizability are initially discussed briefly in relation to quantitative research, and when relevant also in connection with qualitative research. Subsequently, concepts of particular relevance to qualitative research (*credibility, dependability, transferability* and *confirmability*) are presented.

4.3.1.1 Validity

Validity is a key concept referring to whether research findings accurately reflect what they are supposed to reflect (Mackey & Gass, 2011). A distinction is drawn between internal and external validity. Internal validity concerns the relationship between the variables under scrutiny (i.e., the extent to which the findings for the dependent variable are directly related to the independent variable). Internal validity is affected by factors, such as *participant characteristics, participant mortality, inattention* and *attitude, maturation, data collection* and *instrumentation* and *test effects* (Johnson & Christensen, 2008; Mackey & Gass, 2011). For example, (and especially when researching young learners), participant characteristics such as age and ability may concern whether participants can be considered old enough for taking a written test, or attentive enough for a listening test. Mortality rate refers to drop out rates (i.e., a study naturally becomes less valid if a great number of participants drop out). Inattention and attitude refer to participants' ability to stay focused and the extent to which they feel engaged in the task. Thus, if many participants become bored during a test session, they may not perform to the best of their abilities. Maturation is important in longitudinal studies as it refers to the changes happening in the participants over time as they mature. Finally, the data collection itself is important, (i.e., the role of the researcher (e.g., is s/he relatable to the participants or, at an extreme, an authoritarian outsider), and the setting (e.g., a formal vs informal setting may affect participants' behaviors differently). All of the above concerns may also be important in connection with qualitative research, depending on the nature of the research, (Johnson and Christensen, 2014, 300-304), see below.

Other types of internal validity are *content validity* (the instrument must cover all relevant options when operationalizing a given concept) and *face validity* (the instrument must seem authentic and relevant to the participants). The nature and operationalization of a construct/variable to be measured (e.g., 'input') must be

operationalized in a convincing manner. And, finally, criterion validity concerns the comparability of the test and construct measures in relation to those employed in similar studies (Mackey & Gass, 2011).

4.3.1.2 Generalizability

External validity is dependent on internal validity and refers to the generalizability of the findings to the statistical population, and it is thus a concept connected particularly to the quantitative paradigm (Johnson and Christensen, 2014). That is, a statistical sample must be representative of the larger population to be generalizable (Johnson & Christensen, 2008). Concepts relevant to external validity are: sampling (how the participants were selected; via random or non-random techniques), descriptions of the setting (for purposes of replication) and number of participants (i.e., is the sample large enough to allow for generalizations, and does it match the statistical population it is supposed to reflect?).

4.3.1.3 Reliability

Research studies must also consider reliability, relating to the consistency of the measurement and the confirmability (i.e., whether a similar study would confirm the findings) (Johnson & Christensen, 2008). Thus, consistency relates to the importance of handling the research instruments in the same way for each participant. Consequently, steps are taken to ensure that tests are administered in the same way on every occasion, and to devise and file coding schemes for reference, enabling a stringent coding procedure across time and cases. Furthermore, inter-raters are employed to ensure agreement in coding, thereby eliminating idiosyncratic choices on the part of the coders/raters (Johnson & Christensen, 2008; Mackey & Gass, 2011).

4.3.2 Credibility, Dependability, Transferability and Confirmability in qualitative research

As noted, validity, reliability and generalizability are concepts traditionally connected to the quantitative paradigm. Although the notions of validity and reliability may also be used in relation to qualitative research, I rely instead on the comparable terms commonly employed in connection with qualitative research, namely, *credibility*, *dependability*, *transferability* and *confirmability* (Johnson & Christensen, 2008; Mackey & Gass, 2011). Credibility and transferability may be compared to, but not equated with, internal and external validity respectively (Mackey & Gass, 2011). The credibility of a study refers to how accurately a study depicts participants' experiences. The credibility of a study can be enhanced by persistent engagement with the data in the form of, for example, prolonged observations (Flick, 2014). A study is also made more credible by including 'negative cases' (i.e., by not merely looking for ideal cases that support the analysis). That is, once the researcher starts looking at the data and categories of interest emerge, it is important to also incorporate and analyze those cases that seem ill-fitted for these categories, even if such 'negative' cases seem to disprove the claims one is trying to make (Flick, 2014; Johnson & Christensen, 2008). Such inclusion, naturally, will make the study more credible in that it more accurately will reflect the experiences of the participants.

Transferability is related to generalizability in that, ideally, other researchers, interested parties, should be able to assess, based on the richness of the data and the analysis whether the study is generalizable to other contexts. However, as mentioned, as the findings from qualitative studies are grounded in specific contexts and the experiences of individuals some researchers argue that they cannot, nor should they, be generalized (Flick, 2014). Other techniques aside from thick description that may be employed to enhance/strengthen transferability include (a) coding and comparing results iteratively over several cases and (b) making comparisons across studies (Johnson & Christensen, 2008; Mackey & Gass, 2011). Dependability is related to letting other researchers have access to the data, and also to providing enough details in describing the methodology, and the different stages of the study so that other researchers can understand the motives and reflections behind the study and ultimately can replicate it (Johnson & Christensen, 2008). Confirmability rests on credibility, dependability and transferability, and ultimately on being able to show how the researcher has reached his/her interpretations and conclusions, and how they reflect the phenomenon/a they intend to reflect (Johnson & Christensen, 2008).

The specific methodological sections will make explicit how the above criteria were met.

4.3.3 Triangulation and design validity

As mentioned, the present study is a mixed-methods study employing both quantitative and qualitative methods to investigate the phenomenon of interest. By employing different research methods, a more comprehensive view is offered of the phenomenon of interest, and the researcher is able to address different ontological interests. That is, quantitative methods are for example able to provide overviews and correlational data, whereas qualitative methods, unable to provide such data, alternatively, may provide detailed and emic perspectives that quantitative methods are unable to. This way, validity and reliability are enhanced, naturally provided that all of the above measures have been taken, as the collected data transcends one particular viewpoint. Moreover, the mixed theoretical perspective provides multiple perspectives on the same data, enhancing the validity and reliability of the study. Ultimately, it is hoped that by triangulating the methods, that is, by including many sources and perspectives, the study will be robust in terms of design validity (Dörnyei, 2007; Mackey & Gass, 2011).

4.3.4 Ethics in the research process

Ethical considerations are vital in any research process (Dörnyei, 2007), especially in relation to children who are not able to protect their own interests to the same extent as adults (Danby, Ewing, & Thorpe, 2011; J. E. Gibson, 2012). Parental consent from all participants was obtained centrally through the large project prior to project start, including permission to record participants as well as the obligation to anonymize participants. However, to ensure the interests of the children were met, they were also involved. For study 1, children were informed that the task was optional. For study 2 and 3, children, as well as parents, were asked if they wished

to participate/would allow their children to participate, as these studies involved data collection outside school hours and for study 3 in a private home (see app 1 and 2 respectively).

In keeping with ethical guidelines (Mackey & Gass, 2011), it was a key part of the data collection and the research process to inform the children that they:

1. Were allowed to withdraw at any time. Participation was supposed to be fun
2. Were allowed to ask questions throughout the process.
3. Their contribution would be handled anonymously throughout.
4. Recordings would be handled with care, only the researcher would watch and listen to them. However, transcripts could be shared.

Additionally, the researcher informed the children of the purpose of the study (i.e., an interest in Danish children's extramural habits ('what you do')), but did not specify any details regarding specific aims, such as an interest in language learning. Even though ethical guidelines encourage full disclosure of the subject matter (Mackey & Gass, 2011), such disclosure may have made the children behave unnaturally (i.e., may have made some try to convey language learning and as such may have compromised the internal validity of the study) (Mackey & Gass, 2011, p. 117). Such 'deception' was therefore deemed necessary for the purpose of the study, but considered unharmed to the children, and thus within ethical guidelines (Mackey & Gass, 2011).

4.4 Quantitative methodology

As previously stated, study 1 of the dissertation is a quantitative study. A description of the methods used for this study is given below.

4.4.1 Methodology of study 1

4.4.1.1 Measuring proficiency

Given the focus of the larger project on tracking and comparing the English language development of early and later starter learners of English, several proficiency measures were employed in the project. In total, the participants received six different types of proficiency tests during the project period. The PPVT test (Dunn & Dunn, 2007) (Posttest 1, Fall 2015) is of relevance for this dissertation, as it was employed for study 1.

4.4.1.1.1 PEABODY PICTURE VOCABULARY TEST (PPVT)

Receptive vocabulary proficiency scores, used for study 1, were measured with the Peabody Picture Vocabulary Test (PPVT™-4) (Dunn & Dunn, 2007). This test was chosen prior to the project start by senior members of the project (Cadierno & Eskildsen, 2014). The test measures the child's receptive vocabulary knowledge by presenting him/her with auditory stimuli in the form of a pre-recorded word (e.g., *cat*, after which s/he chooses a matching image from four possible choices in the test picture book). A pre-test/ post-test design was employed (Mackey & Gass, 2011); the children took a pre-test in 2014 to measure ES and LS children's receptive vocabulary at the beginning of instruction, subsequently they took post-test 1 in 2015 and post-test 2 in 2016. The test was employed for the project as it has been employed in other similar studies,

such as Unsworth et. al's study (2014), thus enhancing Criterion validity (cf. p. 35).

The researcher was present at data collections through all rounds: 2014, 2015 and 2016. Great care was taken to ensure that all children received the tests in the same manner (i.e., the instructions were the same on all test occasions (cf. reliability, p. 35)). Several research assistants were involved in the process and received thorough instructions. The PPVT test was analyzed using a preconceived coding scheme devised by the test developers (for details, see Dunn & Dunn, 2007).

The test, however, has some limitations in a Danish context, that bear mentioning, as has been found by aus der Wieschen, to be briefly discussed below (aus der Wieschen, 2018, pp. 73-75). The test was originally developed and normed for a US population (Dunn & Dunn, 2007, p. 2). Previous research has shown that the item difficulty hierarchy - a crucial factor in this test - as intended, is increasingly difficult for monolingual English-speaking US participants (Wood & Peña, 2015). The item difficulty hierarchy has important implications for individual scores as children's progress in the test depends on the number of correct answers in each block, which must be at least eight, or else the test is discontinued. Thus, if difficult items appear already at the beginning of the test, test takers are put at a disadvantage. Wood and Peña (2015), in fact, found that the item difficulty hierarchy was not increasingly difficult for Spanish-speaking learners of English in the US, possibly due to cognate status or word familiarity, posing this group of people at a possible disadvantage in that difficult item were also found in the beginning of the test (Wood & Peña, 2015). Aus der Wieschen (2018) similarly found that test items were not distributed logically in terms of difficulty in the test, nor were cognates, for Danish-speaking children, (also found for Norwegian by Dahl, 2015; Dahl & Vulchanova, 2014). Thus, in a Danish context, the PPVT poses certain limitations and may not accurately reflect the children's vocabulary knowledge. In other words, children will possibly have to be disproportionately advanced to get far in the test. The results of study 1 must then be interpreted taking this limitation into account.

4.4.1.2 Measuring EE contact

4.4.1.2.1 LANGUAGE DIARY DATA

For the quantitative part of the study a language diary (henceforth LD) and a questionnaire were devised. However, as only the LD was used for the thesis, the focus is on presenting this instrument.

Below an overview of the nature- and making of the language diary is provided; how it was designed, piloted and administered as well as a discussion of the limitations of this tool.

A substantial amount of research exists which seeks to investigate language contact outside formal educational settings. This has been done by using questionnaires (see, e.g., Freed, Dewey, Segalowitz, & Halter, 2004; Kuppens, 2010; Lindgren & Muñoz, 2013; Olsson, 2011; Spada, 1986; Sundqvist, 2009; Unsworth et al., 2014) or different types of language logs, such as language diaries (Parkinson & Howell-Richardson, 1990; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012), activity logs (Ranta & Meckelborg, 2013) or calendar diaries (Brecht & Robinson, 1993). The primary difference between questionnaires and the diaries and logs is that whereas the former measures average (estimated) use over a given period (typically a week), the latter measure

daily use for a given period, for example, a week or a month.¹⁸ Language diaries and logs have primarily, save for Sylven and Sundqvists (2012) and Sundqvist and Sylvén's (2014) studies (henceforth SSLD), been used with older learners, notably study-abroad learners (Brecht & Robinson, 1993; Ginsberg & Miller, 2000; Parkinson & Howell-Richardson, 1990; Ranta & Meckelborg, 2013). Given that they target older learners and adults, these diaries and logs rely on substantial competence on part of the participants in providing information on the nature of engagement and estimations of time spent in elaborate manners. Given the age of the participants in the present study, the youngest being 7 years old, with most unable to write Danish, or, at best, only able to write short sentences, and some still finding it difficult to tell the time, such competences could not be expected (cf. participant characteristics and internal validity, p. 35). Furthermore, for criterion validity (i.e., the comparability of the instrument to other instruments (Mackey & Gass, 2011), and the fact that the SSLD is a close match for target group age (10 year-olds in the 2014 study and 11-12 year-olds in the 2012 study),¹⁹ not to mention target group culture,²⁰ it was decided to model the Danish LD on the SSLD.²¹ However, some pre-pilot changes were made to make the Danish LD more age-appropriate (e.g., removal of the category 'reading newspapers') (cf. participant characteristics, p. 35) and it was piloted extensively. The steps are outlined below.

4.4.1.2.2 CREATING THE LANGUAGE DIARY

The SSLD has the following categories (see app. 3):

- *Reading books*
- *Reading newspapers*
- *Watching programs on TV or computer*
- *Watching film (at the movie theater, TV, Video, DVD, on the computer)*
- *Using the internet*
- *Playing games, TV, on the computer, online*
- *Listening to music*
- *Other*

¹⁸ Language diaries of the before mentioned type are not to be equated with the classical language diary pioneered by Schumann and Schumann (1977) (Bailey, 1991, p. 66) which is "an account of a second language experience as recorded in a first-person journal" (Bailey & Ochsner, 1983, p. 189) and is thus introspective and provides personal facets of the learning experience such as emotions, perceptions, etc. related to this.

¹⁹ The SSLD studies were discussed in the section Studies on playing digital games for young users, p 16.

²⁰ Swedish and Danish culture in terms of exposure to English are a very close match judging from EE studies in Sweden (see, e.g., Henry, 2014b; Henry & Cliffordson, 2015; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012)

²¹ I am particularly indebted to Pia Sundqvist and Liss Kerstin Sylvén for allowing me the use of their language diary as well as allowing me to provide a copy in the dissertation. Many discussions with Pia Sundqvist during the LD process were key in the development of the LD. Moreover, I am indebted to Maria Vanessa aus der Wieschen who was instrumental in designing the layout of the LD.

To decide on the content of the Danish LD, focus group interviews were employed gaining general knowledge on children’s EE habits seeking to identify the full range of the activities they engaged in, thus enhancing content validity and simultaneously strengthening face validity (Mackey & Gass, 2011).

Focus group interviews were conducted at a local school (MJS). It included both first and third graders, boys and girls (see table 2).

Table 2. Focus group make up

Grade level	Gender	Number of students
1st	F	
	M	4
3rd	F + M	4 + 4

F = female, M = male

Table 2 pilot participants

Talks were relatively unstructured and relied on the children to talk about EE amongst each other. Based on the answers provided, a content analysis was carried out identifying all categories of EE use (see, e.g., Braun & Clarke, 2006; Flick, 2014; Hsieh & Shannon, 2005; Wilkinson, 2004). Based on the focus group interviews and the SSLD, the preliminary categories below were put in the Danish LD:

- *Watching English movies, TV shows, cartoons* (e.g., on YouTube, the cinema, etc.).
- *Playing English games* (e.g., on the TV, tablet, or iPad, computer, etc.)
- *Listening to English music*
- *Reading English books, magazines or comics*
- *Speaking English during the day* (e.g., online, with friends or family).
- *Surfing the web*
- *Other*

Trying to keep the number of categories low, it was decided in the *Watching* category to not pin out categories for places of watching movies, clips, etc., thus the separate YouTube category from the SSLD was removed. The category *Speaking English during the day* was added, as this was made relevant by some children in the interviews.

It was furthermore decided to provide a grid with pre-determined categories of *time spent* to be ticked off in a box (e.g., 10 minutes, 15 minutes, etc.) (inspired by Brecht and Robinson’s (1993) time-grid system) rather than registering time by hand, as it was presumably easier.

In SSLD, the children only stated the name of the show, game, etc. that they engaged in and subsequently, during the coding process, the researchers provided information about the language mode (e.g., spoken English and Swedish subtitles) by manually searching for the activity, etc. (Sundqvist, 2015). However, for the present

project, with 298 potential participants, such practice would be time consuming. Furthermore, it is not always possible to look up the language setting of a game or show without extensive information,²² which may be difficult for such young children to supply. However, such detailed language information was considered important,²³ and thus a priority. Therefore, whether the children could fill in this information themselves was piloted.

In sum, the focus group interview, readings on extramural engagement and discussions with Pia Sundqvist resulted in three different versions of the LD to be piloted (LD1, LD2 and LD3, see app 4). These versions as well as the pilots are presented below.

4.4.1.2.3 PILOTING THE LD

The LD was piloted in two larger phases to be described below. The LDs were made in landscape A4 book format. This format allowed room for the time grid.

LD1 was piloted with the researchers own son (9 years of age) with the father in charge, yielding two changes: 1) to avoid irrelevant Danish activities (soccer had been added every day as *Other*), *English* was added to this category. 2) A caption saying *remember that what you do in school doesn't count!* was added, as some school activities had been included.

LD 2 and 3 also had the time grid, but differed in that LD 2 looked like LD1, the diary was 34 pages long; however, *watching* and *gaming* were removed from page one and instead of being repeated and elaborated on page two, they were now only found on page two. This was simpler, in that, this way children were to attend to these categories only once.

LD 3 looked a lot like the SSLD; children only had to provide names activities and the researcher would have to check the language mode. The obvious advantage of this LD was its length (i.e., only 18 pages as compared to 34 pages in LD1 and LD2). However, as mentioned, as opposed to LD1 and LD2, the researcher would have to check the provided names of the shows and games to determine the language mode.

The piloting of LD2 and LD3 was carried out at a school (KB) located close to most of the project schools (see table 3). The school was chosen out of convenience (the researcher knew a teacher there) and had access to relevant age groups.

²² Minecraft, for example, comes in many different settings (i.e., Minecraft online may have both speech and writing, as well as chat, and Minecraft on PlayStation and for tablets may be both in Danish and English depending on the users' preferences.

²³Recall that Kuppens (2010) specifically notes how such detailed language coding would have been beneficial in bringing out significant findings in her study on gaming (p. 14). Furthermore, as mentioned, previous research on TV and online viewing has also focused on the potential benefits of subtitles, with findings showing that the language mode seems to matter (see p. 15).

Language diary	Grade level	Return rate
LD2	1st grade	50%
LD2	3rd grade	65%
LD3	3rd grade	85%

Table 3 shows the details of the pilot; types of LD, pilot classes and the number of returned LDs

It was decided to pilot the most complex LD, LD2 rather than LD3, (with details of language mode) with the 1st graders, as these would potentially be the ones who would find it the most difficult. Thus, LD2 was piloted in two classes.

This pilot yielded some changes, as well as best practices (see below) based in part on the returned diaries and in part on the talks with the classes when collecting the LDs.

4.4.1.2.4 PILOT CHANGES

A *Writing* category was added as it was found relevant by some of the children.

The good return rate of LD3 (85%) was likely a result of the length of the diary; it was shorter and less complex (i.e., a full day was on a double page when the book was opened facing the child, rather than on four pages). It was thus less time consuming and complex to fill out and easier to instruct the children in its use as fewer pages had to be turned over. However, it was considered too time consuming to have the researcher check the language mode for 298 (potential) participants. Findings from the pilot of LD1 and LD2 showed that the language elaboration system did not present difficulties (i.e., elaborations were provided, and the children stated it was unproblematic). Consequently, it was decided to keep this. However, it was prioritized to keep one day on a double page (landscape orientation) as in LD3, to keep the LD short, thus doing away with the time grid as this in itself took up a full page.

In pilot phase two, a new LD4 (see app. 5) was piloted with the implemented changes. This pilot was carried out at a local school in two second grade classes, class X and Y, with a return rate of 55% and 35% respectively.

Unfortunately, this pilot had a low return rate. The teachers were busy and, as it turned out, had been ordered rather than volunteered to participate in the project by the principal. They did not respond to requests for sending reminders to the parents, and, probably, letters were not sent. However, the returned LDs were filled out correctly. The pilot resulted in one important change implemented into the final LD (see app. 6); in the movie category, YouTube clips were explicitly mentioned as the children had been uncertain if they were part of the category.

Finally, based on a convenience sample, the LD was piloted with four children whom the researcher knew, and it was found to work as intended.

Apart from the content-oriented knowledge, the pilots generated some valuable general knowledge related to the distribution of the LD, presented below.

It was vital to inform the parents of the LD before the children brought it home. Aside from the length of LD2, (38 pages), the low return rate may also have come from the fact that the parents were not informed of the LD until it was brought home. Moreover, for some first graders, although testifying that alternating between tick off boxes and self-registration was not a problem, it evidently was, and thus it was decided to actively involve the parents through the cover letters and the school-home online contact system by sending reminders twice during the diary week.

An LD session had to start by ensuring a mutual understanding of what EE is through questions and small talk. This was also an ice breaker and ensured children's active participation.

Bringing an example page to the class was necessary to have something to which all could focus during instruction of the LD. Thus, a 180×53 cm laminated sample page was created on which the researcher could fill in information as suggested by the children.

It was also found to be important to stress that being a good informant is being an honest one and that the researcher was interested in EE use in general, that is, also zero use. Some children admitted that they had engaged in activities in which they normally did not engage, to please the researcher. The issue of so-called socially desirable response tendencies is a well-known phenomenon and a threat to internal validity for researchers relying on information supplied by participants in surveys and interviews (Fan et al., 2006; Steenkamp, De Jong, & Baumgartner, 2010). That is, the tendency to supply the researcher with information that will make the participants look good to the researcher or themselves (or both). Doing research with human subjects, such behavior cannot be eliminated completely. However, being aware of such tendencies enabled the researcher to take measures to minimize this, such as mentioned above.

Unfortunately, the researcher did not have direct access to the parents via the school/home online system or mails during the LD week, but had to send all information through the teacher. Thus, prior to the distribution of the LD, to get the parents involved and interested, the researcher attended parent-teacher night where possible (four of the six participating schools), to inform about the LD.

Hereafter, the LD was distributed twice at the participating schools. The first time in the Fall of 2015 and the second time in the Fall of 2016.

Teachers were asked in advance to send out a letter with information about the forthcoming LD. Furthermore, parents were asked to help children fill in time spent on the activities in an accompanying letter. Finally, teachers sent out reminders twice during the LD week (see app. 7).

A hand out session, which would take roughly 45 minutes, would follow the best practice from the LD pilots.

Return rates for LD round 2015 and 2016 are presented in Table 4:

Table 4.

LD return rate and internal attrition

LD round	Returned	Potential	Return rate	Internal attrition
2015	219	298	73%	8%
2016	190	298	64%	? ²⁴

Table 4 represents number of returned LDs (returned) in 2015 and 2016 respectively, potential number of participants to return the LD (potential), the percentage of returned LDs of potential LDs (return rate), percentages of returned LDs excluded in accordance with stipulated exclusion grounds (internal attrition).

LDs were excluded from the study if they were not filled in completely (or had less than 4 days filled in) or if they contained unreliable information, such as claiming to have gamed for ten hours on a school day for five consecutive days.

Coding of the LD was done by the researcher in Excel. The coding system was devised after coding 40 diaries. The 40 diaries were coded twice: once for devising the system and the second time for checking that the coding system was systematic and reliable. An interrater reliability check of 10% of the diaries (LD1) performed by a colleague gave a 95% match, which was considered satisfactory. The check was carried out by a close one-on-one comparison of all cells in the diary to check for divergences. Such divergences were discussed, and the final coding scheme was designed. A specific coding scheme (based on averaged time estimations from the 40 diaries used to devise the basic coding scheme) was devised for dealing with missing data (see, app 8).

The language information provided about the activities by the children, that is, whether an activity was with for example Danish oral input and English text, was not questioned, that is, the researcher did not check for accuracy. This would be too complex being that, as mentioned, many games can be played in different versions and online/offline, and not all children provided titles of games. Thus, oral input, stated for example, for a game, could be as little as a single utterance throughout a gaming session or, on the other hand, constitute dense dialogue throughout gameplay, and even include oral/written chat.

4.4.1.3 Limitations of the LD methodology

Gaining knowledge on EE habits in general with the help of surveys and questionnaires involves many challenges and limitations. One pertinent challenge is the issue of having to recall events in the past, or having to use retrospective data. Retrospective recall is a controversial subject (i.e., how much and how accurately are informants able to recall past events or habits (Bernard, Killworth, Kronenfeld, & Sailer, 1984)). Added to this problem is the young age of the participants in the present study, which made it necessary to involve the parents. Parents may not, however, have much specific knowledge about their children's EE habits. An

²⁴ The 2016 LD round has only so far been skimmed and not subjected to a stringent coding.

informal count (through small talk) at a data collection showed that 4 out of 37 engaged in EE activities in the same room as their parents, whereas the rest engaged on their own. Many Danish children own their own electronic device and have access to the internet in their bedroom (Mascheroni & Ólafsson, 2014), and thus asking parents and children to give an estimate of time spent on various activities in specific language modes is highly complex. The LD, however, has the advantage, as opposed to the questionnaire,²⁵ of 1) bounded recall and 2) limited reference period (Converse & Presser, 1986, p. 20-22). Bernard et.al. (1984) note in relation to recall that the closer in time the event to be recalled is, the easier to recall it, resulting in more accurate reports (p. 499). Thus, a bounded recall where the event to be reported on is not far removed in time is preferred. This seemed also to be supported by the fact that the parents would have to help in terms of estimating time (i.e., the more time that needs to be covered, the more difficult to make estimates). Providing specific information each day and for one day only (limited reference period) was thought to be more accurate than providing estimates of time spent in general (cf. above). However, the data naturally suffers the same limitations as recall data in general.

Another important issue to consider is representativity. Given the anchoring in time, i.e., representing a specific week in the children's lives, it is possible that for some the children, the measured week was unusual as regards EE use, and therefore, unrepresentative. For example, a mother had attached a note to her son's diary saying that he had not engaged as much as usual due to illness during the diary week. However, for this particular student, the days he had not been sick showed a substantial engagement in EE and thus he would be characterized as someone with substantial engagement nonetheless. Also, even with potentially more cases like this, it is fair to assume that for most students the week will have been representative for a regular week in their lives. Data were gathered in the fall when indoor activities are more frequent than outdoor activities making it more likely that children who normally would engage in EE activities would also engage during the LD week. That is, all children tend to play more outside than inside during spring and summer time and thus recording use here may have yielded very little use *in general* across the population.

A final limitation is the fact that it is not possible to tell the exact quantity of the input. That is, an activity that has been coded as containing, for example, oral English input, may contain a few words uttered within 30 minutes or dense dialogue.

4.4.2 The LD study (article 1)

For the analysis in study 1, a focus on gaming was chosen. This focus was chosen to answer the speculations posed by Kuppens (2010) and Lefever (2010) as to possible correlations between English proficiency and gaming for young users. Recall that such findings were previously missing whereas studies have shown

²⁵ For these reasons, the LD rather than the questionnaire was employed.

correlations between young users' engagement in watching , for example, TV and various English proficiency measures (d'Ydewalle & Van de Poel, 1999; Lindgren & Muñoz, 2013).

4.4.2.1 Participants

Participants were selected from the larger pool of participants based on criterion sampling (Dörnyei, 2007). That is, all participants had received two hours of English lessons weekly during the project period. This subgroup was identified through a thorough examination of the data being particularly suitable for the intended venue for publication. Participants with two weekly English lessons rather than one were chosen, as this yielded a more even distribution of the different types of participants (early starter, later starter, boys and girls), see table 5 below.

Table 5.

LD distribution

Number of weekly lessons	Number of returned LDs	Boys	Girls	Early starters	Later starters
One weekly lesson	110	56	54	75	35
Two weekly lessons	109	46	63	49	60

Table 5 shows the distribution of the returned LDs in terms of gender (boys and girls), and age (Early and Later starters)

4.4.2.2 Analyses

For the quantitative data, statistical analyses were employed. Descriptive statistics were used for an overview of the EE data. Both parametric (*t*-tests) and non-parametric tests (Mann-Whitney) were used in the present study. To determine between group variance for the subgroups (early starters, later starters, boys and girls), the parametric *t*-test was employed with the Peabody Vocabulary scores, as a test showed these assumed normal distribution. To determine between group variance for the sub-groups (early starters, later starters, boys and girls), a Mann Whitney test was employed for the EE data, as this had a non-normal distribution and was skewed to the right.

Correlations were run to investigate the relationship between the dependent variable PPVT test scores and the independent variable EE habits (gaming: GEE (gaming with English oral input and English text and GZE (gaming with no oral English input and English text)) in the whole sample and in subgroups (Early starter, Early starter girl, Early starter boys, Late starters, Late starter boys and Late starter girls). For this purpose, Kendall Tau correlations, as opposed to Pearsons or Spearmann, were used, as this is advised with small sample sizes and non-normal data (Agresti, 2010). Correlations and simple linear regressions are advised when the sample size is relatively modest (Wooldridge, 2014). A linear regression was run to calculate the predictive powers of the correlations. School was incorporated as a cluster to test for effects of school factors, (i.e., it may

be the school (certain teachers, teaching methods, etc.) that affects the dependent variable rather than the EE habits).

4.4.3 Validity, reliability and generalizability of study 1

The effect size of a study (i.e., the statistical power, is related to the sample size, and closeness to the population it purports to represent (Johnson & Christensen, 2008)). It is generally agreed that for correlations, a sample size of 50 is acceptable, making the sample size of 109 for study 1 acceptable (Mackey & Gass, 2011, p. 124). Furthermore, the internal makeup of the sampled cluster of participants (receiving two hours of English weekly) had a relatively even distribution in terms of the characteristics of interests: starting age and gender (see table 5 above). Thus, the sample may be said to represent the general population of early and later starters (boys and girls) receiving two weekly lessons of English in the municipality of Odense, from where the sample was drawn. However, it is a modest sample size and thus grand claims of generalizability cannot be made.

Concerning the validity of the study, as related above in the presentation of the methods employed for study 1, great steps were taken to ensure internal validity of the study. This was done, for example, through piloting the instrument extensively, and through ensuring that the instrument (LD) was relevant to the participants. The study can also be said to be robust in terms of reliability in that steps were taken to ensure that tests (PPVT) were consistently administered in the same way. As for the LDs, these were coded following a stringent system and an interrater test was employed showing great consistency in the coding.

4.5 Qualitative methodology

To gain a rich, detailed emic perspective of young users' engagement in EE, the dissertation also employs qualitative data. Two types of data were gathered: (1) interviews with children from all target groups in the project: Later starter boys, Later starter girls, Early starter boys and Early starter girls; and (2) naturalistic recordings of EE engagement in gaming with three later starter boys. The methods are discussed separately below.

4.5.1 Methodology of study 2 (interviews)

The interviews were conducted in order to collect data, allowing for a detailed exploration of the activities children engaged in, and the nature of this engagement. The interview was chosen for its ability to reveal phenomena that cannot be directly observed (Mackey & Gass, 2011) and was thus seen as a suitable way to explore EE use.

4.5.1.1 Piloting the interviews

The interview was piloted before execution with two groups of children (all from the larger project) using a semi-structured interview guide. The children were chosen based on their language diaries in which they attested to engaging in EE + 6 hours weekly, which according to study 1 represented average use. One group was interviewed based only on the semi-structured guide while another group was interviewed while simultaneously engaging in EE of their interest, for example in games or YouTube videos. The interviews

made clear that interviewing children about EE engagement required simultaneous engagement in EE activities in that it proved difficult for the children to explain specifics of activities without having the activity as an example. In fact, at one point, one of the interviewees brought out his phone to illustrate details of the game he was playing. However, the latter interview type (i.e., with engagement) showed that asking questions that were directly related to the games and activities was more conducive to detailed descriptions of the children’s engagement in the EE space than asking general questions on EE engagement. Thus, rather than relying on a semi-structured guide, activities presented by the children was taken as point of departure for questions asked by the researcher. Below the type of ethnographic interview that was employed is described.

4.5.2 The interview study (article 2)

4.5.2.1.1 PARTICIPANTS

Fifteen participants were included in the present study, see table 6.

Table 6.

Participants in interview study

interview #	Names	Gender	Age
1	Karl (friend)	M	11
	Ferdinand	M	11
	Alvira	F	11
2	Karen (friend)	F	11
	Katharina (friend)	F	11
	Sheila (friend)	F	11
	Sean	M	9
3	Niels (friend)	M	9
	Robert (friend)	M	9
	Vivian	F	9
4	Serena (friend)	F	9
	Johanne (friend)	F	9
5	Antonio	M	11
	Arnold	M	9
	Nina	F	7

Table 6: Name (alias), Gender, Age (at the time of the interview), focus children highlighted in bold.

Selection of participants was based on purposeful sampling (criterion-based sampling) (Johnson & Christensen, 2008, p. 273); 1), participants had to engage habitually in EE which meant at least one hour daily or seven hours weekly, which was set by the researcher to constitute habitual use. 2), there had to be an even sampling across the age and gender groups (variation sampling, see Johnson & Christensen, 2008, p. 273). The criteria were based on the wish to explore how habitual engagement in EE plays out, and furthermore, based on the aim to explore EE use across the groups.

4.5.2.1.2 TYPES OF INTERVIEWS

Both focus group and individual interviews were conducted depending on the EE habits of the children. For focal children engaging in EE together with friends, both the focal child and the friends were recruited for focus group interviews. The intention was to create an ecologically valid environment mirroring as closely as possible the environment in which the children normally engaged in EE. Focus group interviews moreover has the advantage of being closer to an everyday situation as opposed to a normal interview (Wilkinson, 2004). Furthermore, a clear advantage is that participants get to react on each other's statements and build upon these (Wilkinson, 2004). However, some of the focal participants engaged in EE on their own primarily and thus for ensuring validity were interviewed alone.

4.5.2.1.3 THE ETHNOGRAPHIC INTERVIEWS

Spradley's (1979) ethnographic interview methodology was employed for its ability to describe, in Spradley's words "a culture" and "... understand another way of life from a native point of view" (p. 3) In essence, this means taking an emic view. It was also relevant for the emphasis on exploring the "native language" of the informants (p. 59). Ethnography thus serves well as a method for understanding EE as a special type of culture. The following description of the ethnographic interview is taken from Spradley (1979).

To do ethnography, the researcher must observe a culture, describe the culture and make inferences on the basis of this (Spradley, 1979, p. 8). An important component in ethnographic interviews is that it enables the researcher to become familiar with the "native language" of the informants, understood as their contextual use of language (p. 59). This is particularly useful in the EE context where it was observed at data collections that children's descriptions of the EE space involved the use of many such "native" terms. There are three major types of questions the researcher can ask in ethnographic interviews: descriptive questions, structural questions and contrastive questions. Descriptive questions, as the term will have, are employed to elicit detailed descriptions. Spradley exemplifies with the question "Could you tell me what you do at the office?" (p. 60). Structural questions, on the other hand, are employed to discover domains and are exemplified by "What are all the different kinds of fish you caught on vacation?" (p. 60), and lastly contrastive questions are used to learn about the specifics of native terms; exemplified by the question "What's the difference between a bass and a Northern pike?" (p. 60). Such interview format will usually be unstructured in the sense that no interview guide has been prepared in advance and the researcher will probe and develop the interview as the situation unfolds (Mackey & Gass, 2011). It may also be semi-structured with some questions prepared but allowing for the researcher to "digress and probe" (Mackey & Gass, 2011, p. 173). This is in contrast to the structured interview which is bound by a written interview guide that has been prepared beforehand and is not digressed from thus allowing for strict comparison of informants' answers, and for statistical analysis (Mackey & Gass, 2011, p. 173). The present project primarily employed an unstructured interview methodology.²⁶ However,

²⁶ A semi-structured interview guide was prepared for the pilot interviews. However, it was apparent that for the interviews where specific EE activities served as point of departure for the talks, questions that arose naturally from the

doing many interviews, one discovers after a while which questions elicit detailed and illuminating answers and thus these questions were often employed across the interviews. One such question was for example, upon seeing/hearing written/spoken English in a game/clip, etc., the interviewer would say, “I think the English you read/hear can be difficult. Is it?” And “what do you do if you don’t understand it?”. Another common question was of the type “Do you mostly engage in activities in Danish or English?”. Thus, many similar questions were employed across the interviews.

Interviewing children adds an extra layer of complexity in that researchers need to take into consideration “children’s developing cognitive, linguistic, social, and psychological competencies” (J. E. Gibson, 2012, p. 148). It is generally agreed that children above the age of seven are able to engage in interviews if the interviews are appropriately planned out and executed (J. E. Gibson, 2012). On the basis of much experience with interviewing children, Danby, Ewing and Thorpe (2011, p. 70) have created a list of advice (for similar recommendations, see Christensen, 2004; J. E. Gibson, 2012). The list is presented below with details of how the recommendations were incorporated into the present study.

1. It is advised to visit the children prior to the interview to gain rapport, as well as gain entry into the children’s particular way of speaking (Christensen, 2004 see also Gibson, 2003 who highlights the usefulness of knowing the children’s use of language prior to the interviews). This will enable the researcher to talk to the children in an age and culture appropriate manner.

This recommendation was complied with, in that the researcher was present at the participating schools at data collection rounds in 2014 and 2015, offering many opportunities to talk with the children.

2. It is also recommended to use artefacts and tasks to promote a more “conversation-rich environment” (Danby et al., 2011, p. 70)

As mentioned, based on the pilot, it was decided to have children engage in their regular EE activities while being interviewed.²⁷ Thus, children brought electronic equipment to the interview. In focus group interviews, the children would play games with each other, or show each other apps and YouTube videos and engage in talk between each other. In individual interviews the children were more oriented towards explaining to the researcher what s/he was doing. In both interview types, the researcher watched the engagement while asking questions with point of departure in the relevant activity. For instance, the researcher would ask descriptive questions, such as “Could you tell me what you do in that world/app?” (for example, in Minecraft, Snapchat,

context were more conducive for elaborate answers. I am indebted to Steve Thorne for his valuable advice on the initial interview guide where he also suggested to put primary focus on questions relating to the specific activities in which the children were engaged. rather than relying on a series of pre-conceived questions.

²⁷ This method is not identical to the so-called ‘Think-aloud’ method where informants are asked to provide “an ongoing report of his or her thought processes while performing some task” (Mackey & Gass, 2011, p. 77). Rather, the activity merely serves to illustrate the interests of the participants as well as serves as point of departure for talking about the nature of such activities as well as how the informant interacts with such activities, and each other in case of focus group interviews.

etc.), structural questions like “What are the different kinds of armor you can buy?”, and contrastive questions for instance “What’s the difference between Danish and English-speaking YouTubers?” (if relevant in the context). Such questions worked very well for eliciting detailed answers.

3. It is also recommended to recognize and acknowledge that children are not mere data sources, but flesh and bone participants in the research process (Danby et al., 2011, p. 70), entailing a recognition of children as competent interlocutors (see also J. E. Gibson, 2012; Stafford, Laybourn, Hill, & Walker, 2003).

A point was made of recognizing the ‘specialist’ position of the children showing excitement with and interest in the things they shared, also when they were slightly ‘off topic’.

4. It is recommended to video record rather than audio record the interview. This enables the analyst to revisit the interview and it adds nuances.

The interviews were filmed with focus on screen action. The success of this type of interview, as shown in the pilot, was dependent on the recordings, without which the contextualized talk would become decontextualized. It has been argued that such use of recording devices during an interview will make the situation become less natural. However, such complexities may have been more relevant pre-web.2.0 and pre-smartphones and YouTubers, as it seems children nowadays are used to being filmed, to film each other and to watch recordings made by others. Indeed, none of the children seemed to orient particularly to the camera.

4.5.2.2 Limitations of the interview methodology

There are both advantages and disadvantages to using a focus group versus individual interview respectively. In the focus groups, when the children engaged in different activities, it was not always possible to capture all activities, for example, four phones in action at once. This means that some interesting insights may have been lost. These interviews, however, generated many interesting talks between the participants. The individual interviews, on the other hand, did not provide the benefits of uptake on other participants’ talk and actions but provided for a more in-depth engagement with the individual child being interviewed, something that was not possible to the same extent in the focus group interviews. Thus, both methods have their limitations and strengths. Moreover, the ethnographic nature of the interview, being highly unstructured and yielding questions that were grounded in specific activities, also made a comparison of answers for each subgroup (early starters, boys and girls and later starters, boys and girls) difficult, even if many similar questions were asked. This can be viewed as a limitation of this methodology. However, mirroring everyday use and grounding the interviews in concrete activities was considered of greater importance than having similar interview types as well as questions.

4.5.3 Analysis

The data was transcribed verbatim thus enhancing credibility (i.e., by sticking as close as possible to the participants’ own words (Johnson & Christensen, 2008)). The first data phase involved an in-depth

familiarization with the data. The recordings were listened to many times, being an iterative process (Braun & Clarke, 2006; Silverman, 2013), and transcripts were read and re-read while the researcher took notes, noting first impressions and thoughts and during the process confirmations or rejections of these. The process was thus reflexive and involved critical reflection of potential biases (Johnson & Christensen, 2008, p. 299). In the second phase data was copied into NVivo11. For the qualitative analysis, thematic analysis was chosen to explore commonalities across EE use. Several methods exist for analyzing qualitative data; common methods of analysis are, for example, grounded method and narrative analysis, which are bound by theoretical alliances (Braun & Clarke, 2006). Conversation Analysis (CA) and Discourse Analysis (DA) can also be employed, but then with a primary focus on the language used by the participants. Most qualitative analyses to a certain extent work with findings patterns or themes within and across the data (Braun & Clarke, 2006). Thematic analysis involves identifying recurrent patterns of meanings in a variety of texts depending on interest (e.g., interviews) (Braun & Clarke, 2006, p. 15). It is often a theory-free approach. Thus, it is particularly well-suited for the present study with its focus on obtaining an overview of EE use based on an inductive methodology. However, it was deemed crucial to not overlook, in Lantolf and Pavlenko's (2001) words "what is unique and different rather than common among dissimilar cases" (p. 143). This process also enhances validity in that it involves negative-case sampling and thus avoids the exclusive collection of cases that validate the researcher's generalizations (Johnson & Christensen, 2008, p. 299, cf. credibility, p 36). Thus, the analytical phase continually involved also acknowledging dissimilar cases within themes. That is, cases that seemed in opposition to a theme were also included. The analyses were discussed with different colleagues in the process thus ensuring dependability. Given that thematic analysis can be carried out in different ways, Braun and Clark note that for analytical rigor (and transferability and confirmability), the researcher must consider and make explicit: 1) what s/he incorporates and defines as themes, 2) whether the analysis is a rich description of the entire dataset or focus on detailing one specific aspect, 3) whether the analysis is inductive or theoretical and, 4) whether the themes that have been identified are semantic or latent (p. 10). These points are briefly discussed in the following section with point of departure in Braun and Clark.

Definition of themes

A theme captures a pattern that is interesting in relation to the research question. The size of themes can vary although at least a couple of occurrences are recommendable. However, there are no definite rules and Braun and Clark point out that the centrality of a theme is not necessarily decided by quantity in terms of occurrences but rather by its ability to provide important insights in relation to the research interest. In relation to this parameter, the present study has not identified themes with only one occurrence. Prevalence is another parameter; i.e., are themes identified across the entire dataset (all interviews) or within a single dataset (one interview). In the present study, in general, themes were identified across all the datasets.

Capturing many versus few themes

A thematic analysis may aim to describe the entire dataset, trying to capture and describe many themes as detailed as possible or the analysis may go into depth with a single or few themes. The former approach is adopted in the present study in that this approach is recommended for researching under-researched areas, given that such analysis is able to provide a broad yet detailed picture of such an area.

Inductive versus theoretical approach

It is also necessary to decide whether to employ an inductive ‘bottom up’ approach, where the themes emerge from an analysis of the data, or a theory-driven, deductive ‘top down’ approach, where the researcher looks through the data for occurrences of themes related to the theoretical construct (Braun & Clarke, 2006, p. 12). The present study employed an inductive approach. However, bearing in mind that the researcher brings a number of theoretical assumptions and, as objectively and open-minded one codes the data, this coding will nonetheless be affected by the researcher’s own theoretical and epistemological standpoint (Braun and Clark (2006). However, being aware of this, the researcher may stand back from the analysis and try to take opposing views to the data (see, e.g., Bailey, 1991) as well as discuss the analyses with colleagues, an approach engaged in frequently during the coding and analytical processes (cf. above on dependability, p. 36).

Semantic or latent themes

A thematic analysis may identify semantic or latent themes. In a semantic analysis, themes are explicitly present in the data and do not rely on interpretation. Only when the researcher has identified the themes, a subsequent analysis will move the themes from description to interpretation and the researcher will theorize the data, often with references to previous literature. Such an approach has been adopted by the present project as opposed to a latent analysis where themes are identified based on interpretations of the data.

4.5.4 Activity theory

Importantly, to view the data as objectively as possible through the inductive approach, relevant literature readings were engaged in after initial analyses had been carried out. This accords with Glaser and Strauss (1967) advice to not analyze the data with preconceived notions. Thematic analysis is a valuable tool for identifying that which is common across a dataset and as such can point out interesting general trends. Furthermore, it serves well for familiarization with and a structured approach to the data. In the thematic analysis coding process, it was striking how themes and patterns were sometimes contradictory. For example, the pattern ‘English is cool’ was not a perception shared by everybody. Thus, such a pattern would be coded as constituting a binary opposition.

As major themes in the data were motives and different types of engagement with EE, activity theory was found to be relevant for structuring and discussing the data for its focus on motives, actions and the use of mediational tools (English). Activity theory was discussed in chapter 3 (p. 28-29).but it is employed as much

as a methodological tool as a theoretical position (Lantolf & Thorne, 2006). Within Activity theory, the basic analytical unit is the activity which, in turn, describes “what individuals and groups actually do while engaged in some communicative process” (Lantolf & Thorne, 2006, p. 234). By a detailed investigation of an activity system, detailed insights into everyday practices may be gained through a set of conceptual tools (Lantolf & Thorne, 2006, p. 209). Activity theory recognizes three overall hierarchical levels to human behavior which represent three analytical categories that may describe an activity system: *Activity*, *Action* and *Operations*. The activity level encompasses *motives* behind actions, that is, this level identifies why certain actions take place. Motives arise out of needs; thus, if a need emerges, such as, for example, to use an L2 to meet the goals or objectives of the activity, for instance, to win a game, motives develop to reach the objectives leading to appropriate actions being taken (Engeström, Mietinen, & Punamäki, 1999; Lantolf & Thorne, 2006). Thus, *actions* identify what takes place, that is, how the motive is carried out through goal-directed behavior. Finally, the level of *operations* identifies how something is carried out (i.e., through the use of mediational tools, such as language, regulations, etc.). In sum, activity theory can be used to analyze what drives behavior, identify the behavior and how it is carried out. Such analysis seems highly valuable for investigating an activity system of which only scant knowledge exists. For the purpose of the present study, the analysis focused specifically on the motives, the actions and the use of English (the mediational tool of the activity). That is, data were re-analyzed into the above categories: *motives (social, and higher and lower cognitive motives)*; what seems to drive engagement with EE and *actions*; what is engaged in and how (i.e., in which ways do the individuals engage with the mediational tool, English).

4.5.5 Credibility, Dependability, Transferability and Confirmability of study 2

Many steps were taken to ensure the credibility, dependability, transferability and confirmability of study 2. The codings were discussed with fellow researchers numerous times throughout the coding and analytical phase, thus enhancing the credibility of the study. Furthermore, a critical stance was incorporated into the study where ‘negative’ cases were incorporated and discussed. By making rich data descriptions (as regards to data collection procedures, and the coding and analytical framework), I have tried to give other researchers enough information so that they are able to judge whether the findings of the study are transferable and dependable. The dependability has also been enhanced by making a detailed description of all parts of the study thus enabling replication of the study. Other studies have been included for comparison, thus aiding judgements as to the transferability of the study and findings. Together these measures have ultimately strengthened the confirmability of the study.

4.5.6 Methodology of Study 3 (naturalistic recordings)

Naturalistic recordings were also used in the study for capturing everyday natural use of EE among three young boys (ages 10-11). Within SLA, it is argued that naturalistic observations are needed to accurately reflect the everyday lives of language learners/users (see, for example, R. Gardner & Wagner, 2005; Lantolf & Pavlenko, 2001). Ethnography involves observing participants in “social settings” (Silverman, 2013) and is thus a

relevant method. Observations can be made with or without the researcher present, and audio or video recordings are often employed (Flick, 2014). Video recordings are to be preferred if non-verbal cues are important, or screen recordings, as in the present study (Silverman, 2013). In the present study, for ecological validity the researcher was not present during the recordings, save for the initial recording, as the researcher's presence over longer stretches of time and in the boys' home environment could have affected engagement (Flick, 2014).

4.5.6.1 Piloting

A pilot was conducted with two participants (boys, 10 to 11 years of age), who were part of the larger research project, whose language diaries were found to be of interest.²⁸ These participants were recorded twice while engaging in PlayStation gaming (playing GTA). They recorded their own engagement on both occasions being together at one of the boy's homes. The recordings were made with GoPro cameras; one facing the participants and one facing the screen. This setup was able to capture participants' engagement in the activities, both in terms of capturing between-participant dialogue, as well as the screen play. The actual study was then initiated.

4.5.7 The interview study (article 3)

4.5.7.1 Participants

The three participants for the actual study were discovered through language diary data and from informal talks at their school. The participants played different types of games, and played around seven hours weekly and mostly with each other. They played games with only English text (GZE) which was found to be significantly related to PPVT scores in study 1 for later starter boys, and thus the boys made interesting participants (i.e., given their habitual use and their interest in games that were found to be related to scores). The participants were very interested in participating in an observational study and their parents were asked for informed written consent via email (see app. 1). Subsequently, arrangements were made for the filming to take place at one of the participant's home. It was agreed with the participants that the recordings could be shared and discussed with colleagues in written (transcript format), but not in the actual format, as one of the participants was opposed to this.²⁹

4.5.7.2 Recordings

The three main participants were recorded during the spring and summer 2016. For the first recording, the researcher was present and able to ask questions. For the following recordings, the researcher set up the equipment and left again. GoPro cameras were used, one facing the participants and one facing the screens. From initial plans for recordings were made till the recordings were carried out, the participants changed their gaming habits and went from playing PlayStation games to playing games on their tablets and Smart phones. This meant that the recording format was not always ideal for capturing screen play (i.e. with smaller and

²⁸ The participants engaged in + seven hours weekly of gaming.

²⁹ Interview data, as detailed above, was also used for study 3, and subjected to Discourse analysis.

mobile screens), thus in some instances screenplay was not captured, for example, when the participants moved around. Continuous recordings, however, were abundant and thus, the data was useable.

4.5.7.3 Transcripts

The recordings were viewed numerous times and notes were made when encountering some phenomenon of interest. However, the focus on productive uses of English was quickly established as previous talks with participants at testing sessions and in the researchers' own surroundings had shown that engaging in EE activities is often accompanied by a great deal of talk in English. When the point of interest had been established, the data was transcribed verbatim, exclusively focusing on identifying actual spoken uses of English (utterances had to contain minimally one English word). Surrounding utterances were also transcribed, such as laughter and important non-verbal cues,³⁰ enabling sequential analyses, including contextual information (e.g., participant relating to word on screen, etc.) (Gee, 2014, p. 136).

4.5.7.4 Analysis

Discourse analysis (DA) was used to explore participants' own productive use of English. There are a great number of different approaches to discourse analysis, such as speech act theory, interactional sociolinguistics, ethnography of communication, pragmatics, and conversation analysis (Gee, 2014; Gee & Green, 1998; Johnstone, 2018; Tannen, Hamilton, & Schiffrin, 2015; Van Dijk, 2011). For the present thesis, Gee and Green's (1998, see also Gee, 2014) MASS model was employed for its ethnographic focus on discourse. Through a combination of ethnography and discourse analysis, language is viewed and analyzed as "social action" (p. 122).³¹ This means that rather than keeping an exclusive focus on language form and function, this type of Discourse analysis seeks to discover the sociality of discourse and what 'situated social actions' users are accomplishing through specific ways of talking (p. 122). For example, such analysis can help uncover how social identities are built through assembling collections of actions made relevant in the interactions between the actors. This can be accomplished by investigating which social identities are expressed through the participants' way of interacting (p. 139). Such a procedure entails identifying which words, phrases, and constructions that are used across members in a specific social setting, focusing on, when relevant, turn-taking (cf. Conversation analysis (Sacks, Schegloff, & Jefferson, 1974)) to see how members make sense of each other's utterances, and to see what they accomplish through their 'actions' (p. 127). Thus, this approach is highly compatible with a poststructuralist view of learning, emphasizing the social nature of learning and the importance of identity in the learning/engagement process. Moreover, this approach is suited for an emic view, in that the analysis seeks to uncover the perspectives of the participants (Gee & Green, 1998, p. 126). The analysis conducted in the present study focused on two components out of the four (material, activity, semiotic

³⁰ Non-verbal cues were deemed important if they accompanied the verbal cues such as, smiling, getting agitated (for example rising in the chair). This means that involuntary non-verbal cues such as sneezing, coughing, etc., were not included.

³¹ For more details on the theoretical background behind the construct, see chapter 3 (p., 27)

and sociocultural) interrelated aspects made relevant by Gee and Green, namely, the semiotic and the sociocultural aspects. These aspects were chosen for their focus on language use. The *semiotic* aspect involves identifying how particular linguistic features are used to express “situated meanings” (p. 134). That is, the analysis seeks to uncover the contextual use of language, by investigating how the actors go about negotiating meaning through their use of language. The *sociocultural* aspect involves identifying which personal and social identities the interactants find relevant (p. 134- 135). The semiotic aspect, with its focus on language use, was relevant for the focus on the children’s productive use of English (i.e., identifying the situations in which the participants speak English and the importance of English as the mediational tool). Given the poststructuralist theoretical grounding, the sociocultural aspect is particularly interesting for its focus on socially situated identity and how signaling and creating (styling) this identity is made possible through the productive use of English. Given the interrelation of aspects, the analysis also included elements from the material aspect (who are the actors, in what place, at what time, and which objects are referred to?) and activity aspects (which type of social activity is engaged in: formal/informal?) but served as, albeit important, background information.

The analysis was carried out by:

1. Building an exhaustive collection of utterances (including contextual information) where English was used. Minimum requirement was one word of English.
2. Coding uses of English, resulting in two initial codes:
 - a. Use of English as an immediate uptake of language in the environment (i.e., a specific word was heard or seen and then recycled by the participants, e.g., participant imitating YouTuber “Welcome to my world”)
 - b. English words or phrases, although not present in the linguistic environment, were used (e.g., a spontaneous use of English, such as in “Wow, den er cute!” (“Wow that’s cute!”) upon seeing a horse on screen).
3. Building collections of actions related to such use (which proved the above distinction irrelevant (i.e., it was not important for the actions performed by the participants whether English was used spontaneously or was an uptake of an English word or phrase in the environment). The above distinction may serve to illustrate, however, that English is used to a very great extent and not only based on words in the immediate surrounding). The analysis yielded the two larger categories of actions:
 - a. Practical use: using English to have a common frame of reference. That is, English seemed to be used because it was easier to use a common language, for practical reasons. Thus, some words, such as crafting table used in Minecraft, are used because alternatives in Danish are unknown.
 - b. Styling use of English: English seemed to be used for the participants to be able to express valuable social identities. Thus, by knowing appropriate terminology, such as ‘noob’ (beginner),

and being able to use it correctly, participants can signal competence. Thus, in such cases, the use does not arise out of necessity.

It is important to note that a clear-cut distinction between the above uses could not always be drawn. For example, a term such as glitch (technical mishap) may be used, either because a Danish equivalent does not exist, or for styling a valuable identity, or, indeed, both. However, the analysis identified typical uses from both categories, clearly showing that the participants use English for both purposes.

A sequential analysis was applied to the data in order to place emphasis on creation of intersubjectivity between interlocutors (Heritage, 1984). Intersubjectivity is understood the way in which people create common sense and shared understanding in their interactions with each other. Thus, interaction and meaning making is seen as fundamentally reflexive. By their actions (e.g., their interactional contributions), individuals show how they understand the activity they engage in to be, and by the interlocutor's response to this action, s/he shows his/her orientation to this analysis, and moves it forward. Thus, for example, a statement (e.g., "He's cool!") could be met by agreement ("totally") or by silence ("..."). In the former case, the respondent could be expressing agreement (or irony). Whereas, if the response is silence, the respondent seemingly has rejected a sense of shared understanding and instead perhaps, either does not agree with the statement, or perhaps did not understand or hear it. The point is that the next turns in the sequence are needed in order for the interlocutors to establish shared understanding. The respondent thus shapes the context of the next turn, in that, the speaker may then for example seek to explain the statement, or take some other action suited for the purpose. The important point is that interactants create this shared meaning together and thus sequences of talk are important to understand the actions taking place in conversations and how interactants orient to each other and the said. In other words, talk is shaped by and shapes the context "context-shaped" and "context-renewing" (Heritage, 1984, p. 242).. In sum, Analyzing the sequential organization of talk is a way to explicate the orientations of the interactants and how they create shared understanding of the actions in which they engage, and, importantly, how they orient to what has been said and shape what can meaningfully be said/done immediately thereafter (see also, Raclaw, 2009).

The analysis was discussed with fellow researchers in all steps of the process, that is, from the initial coding into formal categories of use to the coding of categories based on actions.

4.5.8 Limitations

The changing nature of the boys' habits, moving from playing PlayStation based games to playing tablet games, made the recordings less dependable, because the boys moved around sometimes during recordings and thus screen recordings were not consistent. Thus, all screen play was not captured. Another limitation was the two different types of data used in the study. It would have been interesting to only have natural recordings, thus providing more identical data. Arguably, the ethnographic interviews with the researcher present will have provided somewhat different dialogues than the naturalistic recordings. Furthermore, the analysis ended up

being exclusively on gaming-related language. It would have been very interesting with naturalistic recordings of engagement with social media and various clips on YouTube that the girls watched to see if this engagement afforded as much English language use as gaming. However, as the girls were only interviewed, such data was not collected. Lastly, longitudinal data on productive uses of English would also have been very interesting. The data used for study 3 is limited in the sense that it is unable to show how productive uses, presumably, change over time.

4.5.9 Credibility, Dependability, Transferability and Confirmability of study 3

In order to ensure credibility, the codings were discussed with different colleagues and were also presented and discussed at a conference (TDL, 2017 in Munich). Furthermore, as mentioned, codings were subject to scrutiny and changed along the way the more the data was engaged with. A critical stance was also taken acknowledging and incorporating 'negative' cases in the data. By providing rich data descriptions, hopefully other researchers have been given sufficient information so that they are able to judge whether the findings of the study are transferable and dependable. The results have also been compared across other studies thus hopefully enhancing the possibility of judging whether findings are transferable. Through these measures, the confirmability of the study has been strengthened.

4.5.10 Summary of the methodological framework

In sum, in a mixed-methods design, the present dissertation employed quantitative data elicitation methods, as well as qualitative methods such as interviews and naturalistic observation. The mixed methods design was employed to gain a detailed yet broad picture of young Danish children's engagement in EE, believing that SLA may best be researched and understood from a methodologically and theoretically diverse interdisciplinary standpoint (Douglas Fir Group, 2016; Ortega, 2015), as presented in the theoretical section (see chapter 3). The quantitative methodology employed vocabulary scores (PPVT) and 'input data' from language diaries. Statistical methods were employed to gain an overview of EE use and to test for correlations between EE engagement and vocabulary knowledge. For the interview study, ethnographic interview methods were used, relying on Spradley's ethnographic (1979) framework. Both focus group and individual interviews were employed mirroring the everyday habits of the child. The interviews were analyzed employing thematic analysis where after an activity theoretical analysis was conducted. For study 3, naturalistic observations were conducted by the use of video recordings. The video recordings and interviews were transcribed and coded according to productive use of English, incorporating all utterances that contained productive use of English. Hereafter, a discourse analysis was carried out with focus on the actions, accomplished through the productive use of English.

5 Summary of findings, limitations and contributions

The present chapter summarizes the findings of the individual studies in the dissertation, and highlights the limitations and contributions of these. The studies are discussed in consecutive order with a presentation of findings based on the research questions posed, limitations and contributions for each individual study. The chapter is rounded off with a short summary of all findings.

5.1 Findings, study 1

5.1.1 Gaming as a language learning resource

Through a quantitative research design based on language diaries and the PPVT vocabulary test (Dunn & Dunn, 2007), study 1 (*Extramural gaming as a language learning resource among young children in Denmark* (Calico, 34 (1)) investigated extramural engagement and learning for early starter and later starter primary school children (8 and 10 years of age, respectively) in a Danish context. The study posed the following research questions:

RQ1: (a) *What EE activities do Danish YELLs (young English language learners) engage in, and to what extent?* (b) *Are there gender-related differences?*

RQ2: (a) *What gaming activities (in varying language modes) do Danish YELLs engage in, and to what extent?* (b) *Are there gender-related differences?* (c) *Is there a correlation between these gaming activities and vocabulary scores?*

In relation to RQ 1, findings showed that participants engaged in EE 365.7 minutes on average weekly, however, with great variation between the groups (boys/girls and early/late starters). The difference in general EE engagement was found to be gender- rather than age-related. A gender difference was found in relation to activity preference; boys preferred *Gaming*, followed by *YouTube/TV watching* followed by *Listening to music* whereas the order was the direct opposite for the girls, with *Listening to music* as the favorite activity, followed by *YouTube/TV watching* and then *Gaming*. According to a two-sample Wilcoxon rank-sum (Mann-Whitney) test, boys were found to engage significantly more in gaming than girls ($Z = 5.464$, $p < .001$). On the other hand, boys reported listening significantly less to music than girls ($Z = -1.981$, $p = .047$). As for watching television the difference was non-significant ($Z = 1.623$, $p = .104$). Both boys and girls engaged very little in the other categories of use, e.g., *Reading*, *Writing*, *Talking* and *Other*.

In regards to RQ2, the study showed a correlation between *Gaming* and vocabulary scores. More specifically, the study showed that gaming in specific language modes was facilitative for receptive vocabulary learning. For all learners, both younger and older, boys and girls, it was shown that gaming with both English text and oral English input (GEE) was related to vocabulary scores, especially for early starter boys there was a positive effect of such engagement. For the later starter boys, gaming with only English text (GZE) was significantly

related to vocabulary scores (see table 7 below). Gaming with only oral English input (GEZ) was not found to be related to vocabulary scores, and was thus not included.

Table 7.
Kendall Tau and PPVT scores

	Games with English oral input and English text (GEE)	Gaming with English text only (GZE)
Total	.2178**	Ns
M	.2925**	Ns
F	ns	Ns
ES	.2631*	Ns
LS	.2054*	Ns
ES/M	.3959	Ns
ES/F	ns	Ns
LS/M	ns	.3685*
LS/F	ns	Ns

Table 7 shows results for the correlations between types of gaming (GEE and GZE) and PPVT scores. Coefficient significant at the .05 and .01 level are marked with * and **, respectively; non-significant coefficients are marked with "ns".
M = male, F = female, ES = early starters, LS = late starters.

A regression with a cutoff point at < 240 minutes of gaming weekly confirmed a positive effect of gaming; showing that for every unit of gaming GEE1 < 240, there was a 10-point increase in PPVT scores.

The study also found that whereas the boys had significantly better scores on the PPVT pretest than the girls, they did not have significantly different PPVT scores at the first posttest employed for the present study. It was speculated that the boys scored better in the pretest due to heavy engagement in EE before formal schooling whereas the girls were catching up by the time of the posttest, perhaps because they engaged in the English lessons differently than the boys. Research on grades and performance in school have consistently shown that girls outperform boys (Voyer & Voyer, 2014). Given that this was not the case in the present study, it was speculated that boys were keeping up with the girls through their engagement in English outside school. Other studies have shown such gender differences for extramural engagement, but for slightly older learners (Sundqvist, 2009; Sylvén & Sundqvist, 2012).

The study argued that frequency effects (cf. for example, N. Ellis, 2002; N. Ellis, 2009, 2015) and meaningful engagement (Gee, 2007a, 2007b) leading to motivation for the engagement (Dörnyei, 2009b) may explain the positive correlation between gaming and PPVT scores. Furthermore, it was speculated that the correlation between gaming without oral English input and with only English text (GZE) and PPVT scores for the older boys could be a result of their game-related YouTube watching along with their gaming. Such habits have been suggested by, among others, Ryu (2013) and Kuppens (2010), to be important for language learning (see also, Gee, 2007b).

5.1.2 Limitations

The study was based on a relatively modest, from a quantitative methodological viewpoint, sample of users (N = 107) and thus caution is needed in generalizing the results to the larger population. A replication study with a larger population is advisable. Furthermore, the study was based on language diaries which measure extramural engagement for one week only rather than on questionnaires eliciting general habits. This means that for some participants, the estimated use of EE may not have been representative for their general EE use. However, the LD method was considered more reliable than a questionnaire method for its bounded recall and limited reference period (i.e., the children needed not recall distant events and the reference period was limited to one day at the time (see, for example, Converse & Presser, 1986)), and thus such a method seemed preferable for eliciting young users' EE habits. Another issue is that EE use in terms of activities engaged in is subject to rapid changes as technology constantly affords new apps and content. Thus, the LD with its predefined categories may not have been able to capture all types of uses engaged in by the children, even with an *Other* category provided.

The study only focused on gaming in relation to vocabulary scores thus leaving possible relations between other types of activities and vocabulary scores unexplored. However, as mentioned, the focus on gaming was chosen to answer the speculations posed by Kuppens (2010) and Lefever (2010) as to possible correlations between English proficiency and gaming for young users. Recall that such findings were previously missing, whereas studies have shown correlations between young users' engagement in watching, for example, TV and various English proficiency measures (d'Ydewalle & Van de Poel, 1999; Lindgren & Muñoz, 2013).

Another limitation of this study was the use of the PPVT test, as mentioned in the methodological section (p., 36-37); consequently, the results of study 1 must be interpreted bearing this in mind.

5.1.3 Contributions

Keeping in mind these limitations, the study hopes to have provided new insights to the field of language learning in the wild from a young user perspective which has hitherto been lacking (Wagner, 2015). The study is the first to find a relationship between gaming and language learning for such young children (between the ages of eight and ten), thereby confirming speculations that such a relationship exists even for young users (Kuppens, 2010; Lefever, 2010). It is also the first study to look at extramural engagement in general from a Danish perspective, adding to the list of different language contexts where EE seems to offer possibilities for language learning, such as, for example, Sweden (Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012), Belgium (Kuppens, 2010), and other European countries (Lindgren & Muñoz, 2013).

5.2 Findings, study 2

Through a qualitative research design, using ethnographic interviews and an activity theoretical analysis, study 2, *Language learning in the wild: a young user perspective* (forthcoming LLT, 2019) posed the following research questions:

Which motives (social and cognitive) are children driven by in their use of English in L2 English-mediated activities?

How do children engage with L2 English based on their motives?

To answer the RQs, data were analyzed according to children's *motives* for engagement with EE: social as well as higher and lower cognitive motives. Social motives are related to identification with or desire to be part of a group. Higher cognitive motives are intrinsic - carry personal significance - and are grounded in a wish to engage in activities for the sake of learning and enjoyment. Lower cognitive motives, on the other hand, are driven by 'getting by', engaging in activities merely for meeting requirements, for example, passing a course (i.e., arises out of a need rather than wish) (see, Lompscher, 1999). Findings showed that many of the participants (ages 7-11) engaged actively with the English language they encountered through EE; in other words, showed a great deal of *investment* in the language (cf. Norton, 2013), driven primarily by social and higher cognitive motives.

5.2.1 Higher cognitive motives: Personal significance

Personal significance was found to be a very important factor in the children's engagement with EE, and a factor which is recognized as particularly conducive to language learning (Dornyei & Ushioda, 2009; Gillette, 1994; Lantolf & Pavlenko, 2001; Norton, 2013). That is, the participants were to a large degree driven by higher cognitive motives. Many of the children found English to be a very "cool" language, much more so than Danish (e.g., found in examples such as Ferdinand's comment: *...I think English sounds kinda more, it's a cooler language*). They also found that activities mediated in English were more up to date and more interesting than activities in Danish (e.g., Serena noted: *They* [English-speaking YouTubers as opposed to Danish] *know more* [in general]). Furthermore, reflecting this positive identification with English, the children would adopt English names for their game characters and servers and were highly motivated for engaging with and investing in the language. Thus importantly, clearly, the children to a large extent notice (cf. Schmidt, 1990) the language of the activities (i.e., the language is "cool", the activities up to date).

5.2.2 Social motives

In their wish to become part of the larger community of practice surrounding digital EE activities, the participants were also guided by social motives. This meant that sometimes they would engage with English-language activities when Danish alternatives existed because, apart from the personal significance, as related above, knowing the language of the community enabled participation in the wider community and provided access to a lot of valuable information. Some of the participants joined English-speaking teams and chatted with the other gamers. Such chats would provide the possibilities for listening to and speaking English and were perceived by the children as highly interesting. Thus, it would provide opportunities for language learning by putting language to active use (McCafferty et al., 2001; Swain, 2000). An example of engagement in chats leading to affordances for language learning was exemplified through Antonio's engagement with an American gamer called Big Ace. Antonio would allow Big Ace to enter his game to help him advance in the

game. Such engagement was argued to provide learning within the zone of proximal development where Big Ace scaffolded Antonio's learning (Lantolf & Thorne, 2006).

The children, who engaged in gaming, were found to also engage with game-related YouTube videos. It was speculated that such dual engagement in the same topic would be beneficial for language learning in that it would provide meaningful engagement with words and images (YouTube) that would feed into the personal experiences of playing games, and vice versa (Gee, 2012).

5.2.3 Use of strategies

The findings also showed that the participants would use different strategies when engaging with the activities, some strategies were aimed at understanding the language per se and other strategies were employed for advancing in the game.

The most common strategies for understanding the language were guessing from the context (inferencing), using an online translation tool, or asking family members (similar to strategies used by Turkish children as discussed by Turgut and İrgin (2009)). An example of inferencing was Sean's comment: *well [outside as opposed to inside school] they don't say hello that means hi that they don't like say in the games. There they just say it and then it's up to you to figure it out.* Given the pleasurable and motivating nature of the activities, the children were highly motivated for using such strategies. It was speculated that inferencing is a highly productive strategy for language learning, corroborated in Gillette's study (1994) where she found that only her effective learners (as identified through vocabulary scores) used inferencing. Furthermore, it was speculated that the inferencing process would be greatly aided by the multimodal cues of the activities (e.g., images and actions in TV series coupled with oral or written input), providing important assistance in the learning process (Elley, 1989; Ortega, 2015). Moreover, dictionary use was found to be functional rather than analytical and therefore found to provide affordances for language learning (Gillette, 1994) (i.e., the children would look up words based on immediate needs and wants rather than as an academic exercise). Such goal-directed use of lexis was also found to be especially important for retention of vocabulary by McCafferty et al. (2001).

Strategies used for advancement in the games were, for example, searching the web for information, and writing commands in games. Furthermore, chatting with other English-speaking gamers also provides possibilities for advancing in games. One child stated that to be part of a team, you would, in fact, have to chat. Thus, apart from being immersed in meaningful L2 acknowledged to be of great importance to L2 learning (Joe, 1998; Laufer & Hulstijn, 2001; Lee & Pulido, 2017; McCafferty et al., 2001), the children had opportunities to practice, although practicing was not the purpose, their written and oral English skills (McCafferty et al., 2001; Swain, 2000). Many of the girls would also do this on social media by writing comments on, for example, Instagram and Snapchat. Furthermore, through such chats, and blogs, the children were presented with authentic language models, written or spoken, on which to model their own language

(LeVelle & Levis, 2014). One girl, for example, noted how words she encountered in TV series, Vlogs and on social media were more “girly” than the ones she met in school.

It was found that the children seemed equally invested across the age groups, only, their engagement was aligned with their abilities, thus, some would, for example, merely read chats being unable to write. However, importantly, age was not decisive for motivation for engagement which was high across the age groups, but only decisive for the level of investment.

5.2.4 Lower cognitive motives

Findings also revealed that some participants had lower cognitive motives for engagement with EE, such motives were connected to ineffective learners in Gillette’s study (1994). Some participants wished the activities were mediated in Danish rather than English and they rarely used strategies for understanding the language. One participant noted, however, that when he did ask for help to understand unknown vocabulary his parents were of little help. This serves as a reminder of the importance of contextual factors for expanding or limiting language learning opportunities (cf. Lantolf & Thorne, 2006; Norton, 2013; Pavlenko, 2002) and, moreover, motives and individual agency are not independent factors solely in the hands of the individual. Importantly, one reviewer asked if this type of engagement could be related to lack of abilities in employing strategies, rather than to lower cognitive motives. This may indeed be the case resulting in a lack of enthusiasm for English (i.e., engagement with English may lead to frustrations rather than fun, in turn, resulting in a negative perception of English). This would be an interesting and important point to look into in future studies. However, regardless of the source of such motives, they were speculated to lead to less language learning as the child would invest less in his/her engagement with the language.

Some participants were also guided by lower cognitive motives in their engagement with English in school where they said they found lessons boring and uninspiring, (where in contrast they were guided by higher cognitive motives for engagement outside school), much like findings related in Swedish studies (Henry & Cliffordson, 2015; Sundqvist & Sylvén, 2016, albeit concerning older learners). This perceived gap between English inside and outside school raises some important pedagogical implications, as also argued by Sundqvist and Sylvén (2016).

In sum, the findings in this study showed that, given its promotion of agency and investment through meaningfulness and positive identification with the language, extramural engagement offers many language learning opportunities. Through their goal-oriented use of the language, making the language the subgoal (Lantolf and Thorne, 2007) of their activities, the children noticed many features of the language. Moreover, the children’s immersion in a rich language space presumably lends benefits for learning through the frequency of the language input (N. Ellis, 2009).

5.2.5 Limitations

The study had a limited number of participants and generalizations cannot be claimed. Furthermore, the exclusively exploratory nature of the study means that the identified types of EE engagement could only be tied to language learning by reference to the theoretical framework rather than by reference to, for example, proficiency scores.

Furthermore, even though participants were selected across the groups (i.e., representing both genders and both age groups (early starters and later starters)), the analytical framework was not geared towards a comparative analysis, although age and gender differences, which may form the basis for future studies, were discerned. However, the purpose of the study was to gain as broad insights as possible into engagement in the EE space and thus a decision was made to employ an analytical framework that enabled such a viewpoint. By employing such an activity theoretical framework, the interviewer gained insights into specific activities that the children engaged in as well as the nature of this engagement and thereby obtained broad knowledge on the EE space without being restricted by a preconceived comparative framework.

It would, however, be beneficial to carry out longitudinal studies of the same nature (e.g., interviews coupled with observational studies) as this would allow for a more detailed and developmental view of children's engagement with EE. Furthermore, some activities lend themselves better to exploration through interviews than others. Thus, a comprehensive view is more easily gained about gaming than, say, Instagram use, in that, one may quite easily see how the participants engage with a game whereas it is not easy to get a comprehensive view of engagement with Instagram through a one-hour interview. A detailed and more holistic view of social media would require more time.

5.2.6 Contributions

Given its focus on young children's own perceptions of EE, as well as insights into their use of EE which has not been investigated for this age group before, the study has aimed to bring forth details of engagement with EE that may show us how EE engagement may bring possibilities for language learning. Furthermore, through the study different types of engagement with EE activities for young users were identified that can be selected for more in-depth investigations in future studies. Naturally, the limitations of the study must be kept in mind.

5.3 Findings, study 3

Through a qualitative research design employing a discourse analytical framework (Gee, 2014; Gee & Green, 1998), study 3, *Language playing in the wild: productive use of L2 English by young Danish children* (in review) posed the following research questions:

How do young Danish children employ English productively as an affordance in the Extramural English (see below) space? How may this use be related to language learning?

The findings in study 3 showed that the participants often used English productively when engaging in EE. Their use was found to be related to carrying out two actions: practical use and styling use, grounded in positive identification to signal membership in the valuable extramural English community.

5.3.1 Practical use

As has also been found in relation to online gaming communities (Sjoblom & Aronsson, 2013; Steinkuehler, 2006a; Thorne et al., 2009), the study found that also the EE universe was imbued with a lot of community specific words (e.g., pick axe, glitch, etc.) and that participants used these words to have a common frame of reference for talking about the activities in which they engaged. Danish equivalents were found to be inappropriate whereas the English originals were deemed necessary for practical purposes. The study showed that, even in situations where the activities in which the participants engaged contained little language input, the participants would use English terminology when describing such activities (often games). The terminology employed was terminology from YouTube – an example was the use of the word glitch for describing a technical mishap in a game that contained only a few commands in English. It was thus shown how children employ language in one context learnt in another context. Such use has been found to be very conducive for language learning for older learners in their engagement with games and affinity spaces (Ryu, 2013). In Ryu's study, affinity spaces and gaming together viewed as an interrelated activity, apart from offering many repetitions and dense exposure of the target language, was found to afford language learning opportunities, because learners would learn words from the games to use in the affinity space. The present study found that whereas older learners use affinity spaces such as blogs and online chat fora, younger children instead used age-appropriate spaces suited to their literacy levels, such as YouTube. The youngest participants (7-8 years of age) were unable to read English but, from listening to YouTube videos, were able to employ terminology from YouTube for their games. Thus, just as the older learners, the children used the vocabulary of the EE space across the different contexts. The children were thus highly motivated for learning and employing the community specific vocabulary.

Participants would also use English when it was completely absent from the context, such as, voicing out loud commands while carrying them out (press!, find!), even if such commands were not written or voiced in the activities in which they engaged. Such use, not only testifies to the community specific nature of the language employed in EE, but also shows that the children noticed and made use of the language. Another interesting finding was the participants' translations of community specific terms for the benefit of the researcher. An example was Nina who initially voiced out loud 'press' (in English) when playing Minecraft and then corrected it to Danish, arguably showing metalinguistic awareness of the community specific nature of the language, leading her to translate the terms for an outsider.

5.3.2 Styling use

Apart from using English for practical purposes, the participants were found to also use English for styling purposes to signal valuable identities and community membership. Research on gaming communities has found that part of being perceived as a competent gamer is being able to talk like one (Sjoblom & Aronsson, 2013; Steinkuehler, 2006a). Thus, talking like competent community members allowed the children to style themselves positively (Coupland, 2007). To this end, the participants sometimes engaged in language play. Language play was identified as instances of language use for the purpose of fun rather than for ‘transactional’ or ‘interactional’ purposes (Broner & Tarone, 2001). Three categories of use were identified: formal (play with language structures), semantic (play with semantic units) and pragmatic (playing with styles and registers) (Cekaite & Aronsson, 2014).

5.3.2.1 Formal play

In an example of formal play, it was shown how the participants played with the mispronunciation of a word (one for run) through repetition and singing. It was shown how the participant who initially got the word wrong (Greg) eventually managed to get his pronunciation right through many repetitions and rehearsals. It was thus argued that this instance constituted what (Cekaite & Aronsson, 2005, p. 187) call a “peer run language lesson”. In other words, Greg was taught how to pronounce run, and thus arguably language learning took place. However, it was argued that the example shows much more than that, namely, how being able to speak competently is key to community membership and prestige, and how the participants, through voicing their actions out loud, negotiated their place in the locally established hierarchy. When getting the pronunciation wrong, Greg was initially, and with reference to his ongoing game, called a noob (a more or less derogatory term for beginner) by Eli. However, as he got his pronunciation right, he signaled (quite forcefully) to Eli that his status had changed; he quite loudly, while getting halfway up from the couch in which he was sitting, pronounced the word correctly and, referring to Eli’s game, called Eli a noob and in relation to his own winning voiced “mothafucking game over!”. Evidently, English was thus used as a means by which status and community memberships could be claimed and contested.

5.3.2.2 Semantic play

In connection with semantic language play, examples showed how subversive language jokes in English were also used as a means by which cool identities could be claimed and enacted. The gaming community is known to be a place for subversive language and joking (Volda, Carpendale, & Greenberg, 2010). An example of play with homophonic meaning was the expression pool (in the sense of ‘gather’) deliberately misunderstood to be the Danish expression for ‘have sex with’. Another example showed how the children played with the different meanings of kidding and killing, to which a number of crude expressions (fuck, fucking, bitch) were added. The study showed that through such jokes, the children managed to be entertaining and gain attention. However, such jokes in Danish may have been equally entertaining and thus the choice of language seemed to add another dimension to the joking; namely that of being able to competently use the community language,

English. It was argued that such use demands language skills (Shankar, 2004) and that attending to pronunciation (as also in the formal play with one/run) may help stabilize the interlanguage (cf. Broner & Tarone, 2001). Furthermore, it was argued that the use and rehearsal of chunks and fixed expressions may lead to automatization of the language (N. Ellis, 2015). Moreover, use of formulaic chunks has been found to constitute an important component in children's language acquisition used to sustain attention and participation amongst each other and must therefore be considered an important part of children's developing linguistic competence (Cekaite and arron, 2014, p. 197).

5.3.2.3 Pragmatic play

The study also found that children used English to mitigate threats to *face* (Goffman, 1982), both in terms of their interlocutors' and their own face. Face was found to be relevant in that positive face is related to belonging in groups and thus tied to solidarity (Brown & Levinson, 1987). Membership in groups requires negotiation for membership through, for example, negotiation of face (Block, 2003). Given the status of English as a valuable community language, it served well to mitigate face threatening acts. Thus, for example, English was used in connection with making requests (per definition a face threatening act (Brown & Levinson, 1987)). For example, to make a friend stop what he was doing (squeezing himself tightly into a beanbag chair thus perhaps risking that the chair broke), a joke was made: *You'll ruin it with your fattiness* (fattiness created as a hybrid between Danish and English). Thus, an indirect request was posed as a joke, and by using an English word thereby mitigating the threat through indirectness, humor and the use of in-group markers (English). Similarly, English was also employed by the participants to mitigate threats to their own Face. One example was a participant's (John) answer to his own question after having waited in vain for his friends to provide an answer. He asked if he should carry out an action (buy an item), and, after not having gained an answer after a 2. second pause, he said in a goofy accent "I think not buy." It was argued in the study that this self-made answer constituted a face saving act as John managed to appear competent by being able to joke in English clearly knowing how to use the language being able to twist it for humorous effects. Indeed, the self-answer secured John a response in the form of an acknowledgement (you're trying to cheat him!) and a laugh (used as a solidarity marker, Block, 2003, p. 76).

The findings in the study thus showed that the EE universe offers great incentives for productive use of English. This, in itself, is an interesting finding in that, seemingly, it is in contrast to findings from English-language classrooms in Denmark from which only little productive use has been reported (aus der Wieschen, 2018). Looking at children's use of language will tell us much about their values and which identities they value (Arnseth & Silseth, 2012, p. 197, see also Orellana, 1994). The participants' use of English as shown in the study clearly showed that the English language carries great prestige and was highly valued by the children. In terms of language learning, it seems the EE universe has much to offer as a social space in which the children co-construct their own learning (Gee, 2007a). For example, the children learned through corrections, perhaps not so much as a cognitive process first and foremost but because of the value and prestige the language carries.

This could be seen, among other things, through the insistence with which the children would try to get the language right, defying anxiety over ridicule from the peer group, which, in the context of the classroom, is known to be a very powerful factor (Yan & Horwitz, 2008). Through their language play, the children attended to their language (pronunciation and semantics) and engaged in an affective climate with the L2. They also played with different registers and chunks, highly beneficial for language learning (Cekaite & Aronsson, 2014; N. Ellis, 2015).

The findings also showed that some children use words across different spaces (from games to YouTube and vice versa), thus suggesting that they have gained a situated rather than merely verbal understanding of the language (Gee, 2007a). Such use arguably affords inherently meaningful use of language. Such situated use, also affords ‘deep processing’ of language (Joe, 1998; Swain, 2000). The study speculated that this situated use of language possibly leads to a broad knowledge of the lexical items used (i.e., in accordance with usage-based theories, for every time an item is encountered, the linguistic patterns for the given item - its co-occurrence with other lexical items - is detected and becomes part of the knowledge of the word, and thus the children are not ‘merely’ learning a restricted set of lexical items (N. Ellis, 2009).

5.3.3 Limitations

Claims of generalizability cannot be made as only 18 children constitute the data material. Also, the data material consists of two different sets elicited in different ways (i.e., through naturalistic recordings and through ethnographic interviews). The latter did not show any use of language play and thus it seems that the findings from this dataset are possibly limited by the elicitation method. Furthermore, as the data is not of a longitudinal nature, hard claims about language learning cannot be made, but instead, as study 2, the theoretical framework is relied on to discuss the potential language learning of the specific engagement. Dataset 1 (naturalistic observations) is also limited in that it only consists of roughly 5 hours of data. More data, and longitudinal data, would be able to bring more detailed knowledge on the subject.

5.3.4 Contributions

While it is important to bear in mind the limitations discussed above, the study has nonetheless attempted to bring new insights into productive use of English in the wild, for which calls have been made (Ushioda, 2009; Wagner, 2015). Furthermore, by investigating productive use of EE, the study brings knowledge about specifics of engagement in EE that may be brought to bear on our theorizing about how language learning happens in the wild.

5.4 Summary of findings

In sum, the present study found that children in Denmark, as children in comparable countries, for example, Sweden, engage habitually with EE (on average around 6 hours weekly). It found that boys engaged more than girls and that they had different preferences in terms of type of activities (also found in Spain and Sweden). As found in studies for older learners, the present study established a relation between gaming and vocabulary

learning. At the global level, it was speculated that frequency effects and meaningful engagement could explain the relation between vocabulary knowledge and gaming. It was also hypothesized that for later starter boys the connection found between playing games with only written English input and vocabulary scores could be grounded in the habits of playing games and watching game-related YouTube videos. The qualitative studies explored in more detail the specific nature of the engagement by looking at type and motives for engagement, and specifically at why and how children employ English productively while engaging in EE. The children were found to engage in a variety of activities, boys mostly in gaming and YouTube watching, some girls also in gaming, but girls primarily engaged in watching TV series, vlogs, listening to music (Musical.ly), YouTube (e.g., room tours) and social media. The posited relation between gaming and YouTube watching (study 1) was confirmed to be of importance in both qualitative studies where it was shown how nearly all the children will watch game-related YouTube videos to be entertained or to gain information to enhance their game-play. The children thus watched clips and listened and read language on YouTube, engaged in gameplay related to the language they had heard and would often employ this language productively themselves. Thus, the interrelation between YouTube and gaming seems to afford much meaningful engagement with English. It was also shown how the children engage with a variety of activities (watching series, YouTube, engaging in gaming and social media) motivated by higher cognitive motives such as personal significance (the EE universe is by nearly all considered immensely ‘cool’) and social motives such as wanting to be part of the global digital community. Rooted in these motives, it was found that the children would use different strategies for understanding unknown words and for, for example, enhancing their gameplay. Thus, they would for example use productive strategies such as inferencing, which has been shown to be conducive for language learning. The children also engaged in productive use of English both because such use is practical (i.e., it is easier to share a common language) but also to style valuable identities to show membership in the digital community. To such an end, the children would, for example, engage in language play.

In sum, the EE space seems to provide immense affordances for language learning and many are taken up by the children. However, it was found that not all children were equally inspired by the L2 context (i.e., did not value the language equally and did not engage with the affordances in the same way), and thus caution to not generalize the findings is called for.

6 Discussion of findings and implications

The findings of the present dissertation bear evidence to the advantages of incorporating both cognitive and socially-inspired theoretical views and methodologies of language learning in investigating language use and learning (Hulstijn et al., 2014, p. 365). The dissertation shows that these two outlooks serve particularly well together for their abilities to provide different, but complementary, insights into language use and language learning in the extramural English space. The studies conducted for the present thesis show that the extramural space is loaded with opportunities for language learning. The three papers constituting the basis for this dissertation, each in their own right, link extramural language use with language learning by incorporating cognitive and social theoretical viewpoints. The purpose of the present chapter is to discuss findings and implications of the study as a whole. The findings and empirical contributions are discussed within the theoretical framework employed for the study in two consecutive sections: the cognitive usage-based view and the social, post-structuralist view.

6.1 The cognitive usage-based view

Through the cognitive perspective, the relevance, also for young users, of venturing into “the wild” (Wagner, 2015) was confirmed, thus, adding to the list of research which has found such positive benefits of extramural engagement, however, primarily for older users (to mention some: Kusyk & Sockett, 2012; Lindgren & Muñoz, 2013; Olsson, 2011; Sundqvist, 2009; Sylvén & Sundqvist, 2012). The study, other than providing an overview of the “quantity...of exposure to and use of English” (Cadierno & Eskildsen, 2014, p.5), confirmed the importance of frequent input for vocabulary learning, as espoused by cognitively informed usage-based theories. That is, through study 1 the dissertation confirmed speculations (cf. Lefever, 2010) as the first on young users in the EE space that the frequency of gaming-related input was related to vocabulary scores. It was speculated that the motivational nature of the activities was important for the engagement with the activities. In other words, specifically attending to the language of the activities will enable the players to move forward in the games. The importance of the motivational nature of the activities has been put forward in a number of previous studies (Olsson, 2011, see Previous Research for details; Ryu, 2013; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012; Turgut & İrgin, 2009; Vosburg, 2017). Furthermore, it was hypothesized that the correlation between gaming (GEE), English text and oral English input, and vocabulary scores was connected to the nature of games, where players are offered a rich multimodal universe to assist their understanding and learning of the mediating language (Gee, 2012) – a point that will be discussed below. Another hypothesis addressed the significant correlation between later starter boys’ playing games with only English text (GZE), and their vocabulary scores being related to their ability to read the text in the games, consequently benefitting from the written input by being able to focus on this. This type of gaming, along with engaging in watching YouTube and other internet-based clips to complement and aid the gaming activity, was hypothesized as beneficial for language learning (see below). It was ultimately argued that the notion of

affordances is important, in that users are different and thus will make differently of the affordances present in the environment, such as attending, or not, to written input (cf. Van Lier, 2000).

Study 2 offered specific insights into engagement with gaming, as well as other types of EE activities. In relation to the importance of encountering frequent input, it showed that many of the children, aside from engaging in great quantities of EE, did so within the same topic/same game. That is, the same game-related terminology was encountered through the game itself, and also through, for example, YouTube, not only providing frequent exposure in general to English, but also frequent exposure to the same language input (i.e., encountering the same lexis/constructions in different contexts through many encounters). Rodgers and Webb (2011) indeed found that encountering the same linguistic item ten times is conducive for language learning. This finding has been confirmed in Kusyk and Sockett's study on the learning of 4-gram chunks from series where it was shown how specific chunks that occur in the series are better learnt by frequent viewers than non-regular viewers of such shows, and also that the most frequently occurring chunks are better retained than the less frequently occurring chunks (Kusyk & Sockett, 2012). Thus, arguably, in relation to the present study, playing the same game and watching the same game-related YouTube clips, rather than engaging in many unrelated games and YouTube topics will lead to the possibilities of encountering the same linguistic items on more than one occasion and is likely to enhance the possibilities of learning (Harley, 2013). Importantly, according to usage-based theories, such learning is not restricted to learning a set of restricted terms and phrases. This is because "lexical items are primed for grammatical and collocational use" (Hoey, 2005, p. 21). This means that apart from learning the specific constructions they encounter, users also register in which collocations and grammatical constructions they frequently occur, which then becomes part of the knowledge they accumulate.

Also connected to the benefits of frequency effects was the productive use of the language. Study 3 showed how the English language input encountered through the EE activities was also used productively by the children in talking about the games and amongst each other, thus utilizing opportunities, aside from listening to and reading the language, for using English productively, through writing and speaking, with all the benefits of such use. Through productive use of the language, one participant, for example, noticed a gap in his linguistic knowledge, in that being faced with the word *patience* in a gaming chat, he was inspired to seek out the meaning of the word, as he did not know what it meant. In another instance, a participant was corrected for his erroneous pronunciation of a word (from *one* to *run*). Through engaging in repetitions of the word, however, he managed to get it right. Such instances of *noticing* (Schmidt, 1990) were also found in Study 2, where participants would sometimes, for example, pre-imitate YouTubers, thus, clearly showing that they paid attention to the language used in the activities. Such examples show that engagement in the extramural space led to noticing and focus on form, possibly leading to automatization (N. Ellis, 2007). That is, through the children's engagement they obtained psycholinguistic data of benefit for language learning (N. Ellis, 2005).

The findings thus offered support for Ortega's statement that users are more than merely "intuitive statistician[s]" (Ortega, 2015, p. 366). Such findings were stable across the age groups, in that the ethnographic interview found that both early starters and later starters noticed various details such as accents, lexical items, use of certain phrases, etc. However, age was important for deciding the level of engagement, that is, some were unable to read and some unable to write (in the early starter group) and this, to a certain extent, (but see example with Nina below) influenced how they engaged with the EE space. Thus, cognitive maturity level and literacy levels inevitably influence the nature of engagement in the extramural space (d'Ydewalle & Van de Poel, 1999) as well as in school, and consequently also influence the resulting language learning (i.e., study 1 found age to be the most influential predictor of vocabulary learning). It is important to note that early starter participants, in general, were as excited about the extramural space as the later starters and engaged according to the best of their abilities. Thus, as mentioned, an early starter boy who was unable to write would, according to himself, read gaming chats but would not write in the chat for the lack of ability to do so. An early starter girl, Nina, being unable to read English would not read gaming-related information, but would listen to information on the games on YouTube and seemingly, through the visual and auditory input, would be able to decipher what was said.³² To a large extent, such understanding was presumably based on her own knowledge of playing the game, which she played on a regular basis, thus coupling her own gaming-related experience with that on YouTube. As mentioned, in previous research (chapter 2), TV viewers simultaneously automatically attend to both the spoken as well as visual input (subtitles in the case of TV), while engaging in watching the actual program (d'Ydewalle & Van de Poel, 1999). In the case of gaming and watching YouTube videos, there is not the same simultaneity of input. Rather the individual's understanding/learning is perhaps instead driven by the frequency of the oral input together with the association with relevant images relatable from personal engagement in games. Such engagement, according to Gee, affords "deep meaning" to the linguistic input provided by the experiences and images that are encountered through personal engagement (2012p, xii). The findings on young users' use of YouTube answer Kuppens' (2010) call for such research. However, interestingly Kuppens disregarded the use of YouTube in her own study on relations between EE use and proficiency in arguing that the use of YouTube requires the user to have prior, at least minimal, understanding of English to engage with media without subtitles and thus such use cannot be related to language learning but, rather, happens because proficiency levels allow for it (cf. previous research, chapter 2). Similarly, Dörnyei (2009c) notes how research on participation in classroom activities has found that learners may only be willing to participate in activities if they feel linguistically competent and thus motivated to do so. These findings are not supported by the present study where it seems that interest in topics as well as a great degree of positive identification with the EE universe will make the users go a long way in trying to understand the input they encounter, as well as seek out input they may not understand. Recall also that

³² This particular participant was able to speak English and according to her mother and herself, had learnt this through YouTube prior to receiving formal English lessons.

d'Ydewalle and Van de Poel's study showed that for younger learners, the oral mode was more conducive for learning than the written mode (i.e., subtitles). This is presumably because younger learners are not skilled readers and thus need to rely more on the spoken language along with images. In this sense, YouTube seems a very relevant media for young users. As mentioned, the present study also found that later starter boys were the only ones to benefit from the gaming mode GZE (gaming with no oral English input and with English text). This finding corresponds nicely with d'Ydewalle & Van der Poel (1999) and Koolstra and Bentje's (1999) findings that older children gained more from watching subtitled television, presumably for their higher abilities to read, a speculation that was also put forward in article 1.

In sum, a variety of cognitively related factors clearly play a role in engagement and learning. However, the findings also show that through the significance the EE universe offers, some children become highly motivated to invest in using the language and thus they create for themselves affordances (Van Lier, 2000). This will be adapted to age, interest and abilities but clearly the significance of the activities and the significance of the mediational language create agency (Lantolf & Pavlenko, 2001) and investment (Norton, 2013).

6.2 The social, poststructuralist, view

The data also clearly showed the importance of widening the theoretical framework to also incorporate a socially-oriented view to language learning, as touched upon in the previous section noting the importance of the significance of the activities for agency (Lantolf & Pavlenko, 2001) and investment (Norton, 2013). For example, the example *run/one* where the interlocutor, Eli, corrected Greg's erroneous production of run, resulting in practicing and possible automatization of the pronunciation (N. Ellis, 2007), was clearly related to the sociality of gaming and group membership. It was argued and shown in article 3 how the participant, Greg, (mispronouncing run) struggled to be recognized as a competent participant in the English-language activity in which the participants engaged. The example illustrated how the participant would go to great lengths to prove his competence to his friends. Such competence could be signaled though using the language correctly, being the language of prestige. Therefore, being able to speak it properly signals a cool and valuable identity as well as membership in the EE community. Thus, it seems that the participant invested to a great degree in getting his pronunciation right, because of the values that are attached to the language, rather than just for the sake of getting his pronunciation right. By using correct English, he was then able to style, but only through negotiation with his peers, a valuable identity. His learning seemed then, for a large part, to take place as much in the social space as in his head (Douglas Fir Group, 2016; Lantolf & Pavlenko, 2001). In a sense, the social was what made the cognitive relevant - i.e., rehearsal of the form, even pointing out that it was wrong, was relevant due to the social and cultural status of English and the activities it mediated. This clearly testifies also to the importance of larger societal and cultural factors (Douglas Fir, 2016). Furthermore, it was relevant for Greg to pronounce it properly because of the implications carried with proper use (i.e., being able to talk as a

member of the EE community). Thus, it was found that the children would style valuable social identities by being able to ‘talk the talk’. Such desired membership in the community of practice, in which the children engaged, thus became a tremendously powerful factor for engagement and investment in the language (Douglas Fir Group, 2016). It is reasonable to assume that such investment will create many affordances for language learning for the children, in as much as language learning is also socialization, and the EE universe offers immensely attractive identities. The children will thus be highly motivated to engage with the language and, consequently, are likely to notice specific features of the language (how they talk (i.e., cool accents), which words they commonly use (e.g., noob), etc.). In study 2 it was also noted how some participants chatted with native or other L2 English-speaking co-gamers to advance in their games, including social talk. Such *willingness to communicate* was mentioned by Sundqvist and Sylvén (2014) as a possible factor in language learning through gaming. This practice was also suggested in study 1 as a potential cause behind the correlation between gaming and vocabulary scores. The findings that the co-location of the gamers, as well as chatting online, is conducive for productive uses of language and possibly learning also supports research in general on the sociality of gaming, where it has been found that, for example, teamwork fosters lots of social talk (see for example, Thorne et al., 2009). Interestingly, this is in contrast to Vosburg’s (2017) findings (see previous research, chapter 2) where the participation in gaming teams was seen as a negative factor in the gaming experience causing much frustration on part of the gamers. However, these teams had not been formed through common interests but rather had been created by the researcher, arguably, once more, testifying to the importance of users’ own agency, influence and motives for engagement. This highlights Lantolf and Pavlenko’s insight that “human agency is... intimately linked to significance” (2001, p. 146). Linking learning to significance, in turn, means linking learning to emotions. Ortega argues that by acknowledging that language learning is driven by input and the social, researchers need to consider that, in turn, interpersonal relations, affect and emotions also play key roles in the learning process (Ortega, 2015, p. 368, recall also the findings by Okar Singer, et.al.). This resonates with the finding that the same level of excitement and motivation for engagement with EE activities was not found with all the children (i.e., they did not share the same positive emotions). Some, rather, engaged with English out of necessity, based on lower cognitive motives (i.e., some EE activities, such as specific games, are only available in English and thus they would engage with these, however preferring for the mediating language to be Danish). Such finding makes relevant a framework that is able to go beyond frequency effects and investigate the notion of affordances, in turn, rejecting the notion of input as a homogenous entity and instead arguing that the language environment, also, “depends on what the organism does, what it wants, and what is useful for it” (Van Lier, 2000, p. 252), which will very much be based on significance to the individual (cf. Lantolf and Pavlenko, 2001). Findings in the present study showed that positive emotions, higher cognitive motives, and social motives to a very large degree, drove the children’s interaction with the English-language environment. Much of the children’s positive identification with the EE ‘actors’ and the content led them to seek out English-language content as opposed to Danish-language content

that was found to be less cool. In a sense, one may argue, as argued above, that it was through social motives the children chose to engage frequently with English language activities and thus as a consequence, the social led them to frequency effects (for a similar argument, see, Douglas Fir Group, p. 28). It also led them to engage actively with the language because such engagement was considered inherently meaningful and significant. Thus, Ushioda's insistence that individuals shape their own contexts through their emotions, reflections and choices (Ushioda, 2009, see also Nardi, 1996) is highly relevant for EE engagement. That is, quite clearly *the context* of EE is decided by the users; from the frequency of exposure, to what is made of the language environment (i.e., what seems significant). Findings also showed that not all children engaged as positively and intensively with the language as many did. Some were instead driven by lower cognitive motives, making them seek out a minimum of English language input, and provided for less engagement with the language. The context is, of course, also shaped by environmental factors of a cognitive and social nature (e.g., age and possibilities offered in the context) as well as historical and cultural factors (i.e., in this time in history English is *the* language of popular culture and 'coolness' for both historical as well as cultural reasons) (see Lantolf & Thorne, 2006; Douglas Fir Group, 2016). Many children, it was found, were willing to a great degree to invest in understanding the language they encountered. Furthermore, they engaged with the language in many ways considered beneficial for language learning (i.e., through, for example, writing chats, making comments on social media, listening to and watching YouTube videos, as well as actively seeking out the meaning of various unknown words and noticing many linguistic details. Interestingly, this finding is in stark contrast with Lundahl's (1995), as cited by Forsmann (2004, p. 20) statement that when learning is based on interest and motivation, users only check what seems interesting and necessary for understanding the language without paying much attention to linguistic forms. However, the present dissertation shows that given the contemporary status of English where the content and language of the activities motivate the users to very actively engage in understanding the language of the activities, attention is turned to linguistic features as well.

Findings also showed that young users engage substantially in English outside school (approx. 6 hours weekly) whereas the maximum engagement in school is only two weekly lessons (ca. 90 minutes in total), thus EE engagement provides for the greatest exposure to English. Furthermore, findings also tentatively indicate, although caution in generalizing the findings is necessary, that the EE space, by many, is perceived very differently than the formal school space, the former is viewed as authentic and more interesting than the latter. It is potentially problematic when keeping in mind research on older users from Sweden which found that many lose interest in school English, finding that they learn as much or more outside school (Henry, 2014b; Swedish School Inspectorate, 2011). With the findings in the present study of the great motivational force of the EE space and the tendency for young users to view EE as more authentic and cool, many questions naturally arise. For example, can motivation for learning English be sustained across time when we see older users are losing interest in school English? Are teachers aware of what the children bring to the table in terms of EE? If they are not, given the importance of EE for children's lives and the agency and investment this brings, how

will this affect their learning trajectories? This will be returned to when discussing the implications of the study.

In sum, the present dissertation adds new insights to previous research on young users, not only by identifying a relationship between gaming and vocabulary scores based on frequency effects for young users, but also by identifying engagement with EE that shows that such engagement involves factors of a cognitive (for example, noticing, focus on form) and social nature (for example, positive identification, community membership, the sociality of engagement). Previous research has indeed pointed to exactly such factors as potentially underlying the beneficial nature of EE engagement. Thus, as was discussed in chapter 2 (Previous research), Sylvén and Sundqvist (2012) and Sundqvist and Sylvén (Sundqvist & Sylvén, 2014) argued that, among other factors, scaffolded interaction and willingness to communicate may explain the benefits of gaming. Indeed such engagement was identified both in study 2 and 3. Piirainen Marsh and Tainio (2009) showed how older users engage in productive uses of English, for example pre-imitation and recontextualizations as part of participation in a social universe found in study 2 and 3 respectively. Ryu (2013) also identified engagement in productive written uses of English for older users and described how such uses were found by the users to facilitate language learning and enabled participation in interesting social spaces, such uses were also found for the young users in the present study. Also, the use of strategies by gamers at internet cafes for understanding unknown words, identified by Turgut and Irgin (2009) were similarly employed by the young users as found in study 2. The young users in study 2 also noted how they were able to understand the meaning of unknown words through the larger linguistic and visual context, as noted by d'Ydewalle and Van de Poel (1999) and Gillette (1994), to be facilitative for language learning. Importantly, the importance of communities of practice for language learning, as found by for example Lam (2004), was also identified in the present study (through study 3).

Thus, importantly, the findings in the present dissertation both confirmed speculations as well as findings from previous research as to what might be going on during engagement, beneficial to language learning.

6.3 Implications

The findings of the present dissertation confirm the importance of exploring the informal realm, recognizing that learning is not a clearly delimited process exclusively happening in designated spaces and times. Thus, much more research is needed in this area. This is even more important with the lowering of the starting age for learning English across Europe (and beyond). Such a decision is exclusively based on the *age factor* (Muñoz & Singleton, 2011). However, the present dissertation shows that even for young users engagement in extramural English, specifically gaming, is significantly related to vocabulary scores, and also, importantly, points to extensive engagement with English in the EE space of a nature considered of great benefit to language learning (cf., also, Muñoz, 2014). Thus, clearly, research investigating the age factor cannot afford to ignore the factor of EE. Moreover, with the lowering of the starting age for learning English across Europe, it is

important to carefully consider the nature and content of the curriculum for this new learner group. In terms of age, it seems advisable that teachers and educators develop lesson plans not merely as a reflection of the students' ages but also, as a reflection of their EE engagement. Sundqvist and Sylvén (2016) note that “ a very important aspect of being a successful teacher is to assist all different kinds of learners in their idiosyncratic learning paths” (p. 215). Consequently, knowledge on part of the teachers about children's EE engagement across the various age groups and within different activities outside school is important in planning the curriculum and specific lessons, as also suggested by Sundqvist and Sylvén (2016). Research is emerging on how to tackle this new reality. Sundqvist and Sylvén's book *Extramural English in teaching and learning. From theory and research to practice* (2016), for instance, offers suggestions on how to bridge the gap between inside and outside school English. However, we must be cautious to not uncritically adopt EE activities into the classroom (Sundqvist & Sylvén, 2016). Vosburg's (2017) study clearly showed that having students join gaming teams to have them game outside school with a native speaker did not provide the benefits normally associated with gaming teams. It is then crucial to find a way to involve children's higher cognitive and social motives, with point of departure in personal relevance and meaningfulness, rather than necessarily with point of departure in specific EE activities (Sockett, 2014; Steffensen & Kramsch, 2017; Sundqvist & Sylvén, 2016).

The study also carries implications for the nature of future research. As discussed in details above, the study clearly confirms the benefits of incorporating both cognitive and social theoretical views of language learning and applying these through methodologies that are able to capture the complexity of language use and learning (Hulstijn et al., 2014). Some suggestions for how to approach the study of EE from a theoretically holistic angle are offered in the following chapter on Future research.

7 Suggestions for future research

Based on the findings in the present dissertation, the present chapter presents four specific suggestions for future research.

Extramural English language learning by young users is a relatively young and, as of yet, relatively undescribed field. It is a highly relevant field for SLA for a number of reasons, also discussed in the dissertation. For one, children are increasingly younger in their first encounters with L2 content online. Through mediums such as gaming and television, the potential learning processes are initiated prior to formal schooling, posing interesting learning scenarios (addressed in suggestions 1,2 and 4 below) with resulting important pedagogical implications (elaborated in suggestion 3, below). Secondly, the EE space seems to offer abundant language learning possibilities.

There are undoubtedly many paths to follow in the exploration of language use and learning by young users in EE engagement. However, based on the findings in the present dissertation, the following suggestions for future studies are posed:

1. Studies on interrelation between gaming and YouTube
2. Studies on social media and language engagement and learning for young users
3. Studies on learning inside and outside the walls
4. Studies on the importance of EE engagement in relation to age and other variables

7.1 1. Studies on interrelation between gaming and YouTube

It is advisable to take a holistic approach to the activities engaged in outside school, as previous studies (Ryu, 2013) and the present dissertation have shown how different EE activities are interrelated. For older users, the use of affinity spaces, such as using YouTube, chat fora, bulletin boards, etc., on the games they play, together with playing the games, form an integral activity that is best analyzed as a unit rather than isolated activities. Likewise, for younger children, the use of YouTube to enhance and inspire gameplay along with playing games seems also, for some, to form a unitary activity that is best viewed in its entirety. It has been suggested in this dissertation that YouTube/internet use can be viewed as an age appropriate affinity space (cf. Gee, 2007a, 2007b) for young users.

A good place to start would be a study on Minecraft, given the popularity of this game across age groups, enabling comparisons on engagement to be made across large differences in age. Both quantitative and qualitative research on the topic would be useful. A quantitative investigation could entail building a corpus of Minecraft YouTube 4-gram utterances, as done for TV shows and fan fiction by Kusyk and Sockett (2012) (see chapter 2, p 8-9), and subsequently test if there is a correlation between frequency of 1) engagement in gaming, 2) YouTube watching, and, 3) engagement in both gaming and YouTube watching for enhancement of gameplay and vocabulary proficiency, and productive use of English. This would also facilitate an investigation into the positive relationship between gaming and YouTube watching suggested by study two and three. It is interesting to note that this engagement affords different types of language use, both receptive and productive. It would be fair to hypothesize that the mix between a productive and receptive use of language is particularly well-suited for language learning. That is, as Kusyk and Sockett (2012) have demonstrated, that frequent viewing of television shows enhances the learning of chunks, so it may be that frequent engagement in gaming (the same game) and watching YouTube clips about this game may provide enhanced language learning opportunities due to the fact that the language is engaged with both productively and receptively. A great, but interesting, challenge would be to quantify the input and output for such engagement across a large sample.

A qualitative approach could be a detailed longitudinal investigation of young users' engagement with Minecraft (game and affinity space) to see not only how they engage, for example, in which situations do they use an affinity space for help, which space do they use, how do they engage with the language (and possibly in addition to naturalistic recordings, employ 'Think aloud' methods), but also, investigate how the

engagement changes character over time, i.e., related to both cognitive and socially relevant categories. To this end, a usage-based approach, similar to Eskildsen's (2012) investigation of the developmental path of the expression of negation, would be relevant. That is, tracking the development of linguistic constructions while also observing the developmental paths of motives for engagement, agency and the social nature of this would be highly interesting.

Thus, a closer look at the early stages of EE engagement and learning may enable an understanding of the ontogenesis of learning, i.e., a number of studies show substantial learning from EE at advanced ages (cf. chapter 3); looking at early stages of development may provide valuable basis for investigating use at later ages (cf. the importance of initial conditions as espoused by complex systems theory (Larsen-Freeman, 2007; Larsen-Freeman & Cameron, 2008; Sockett, 2014; Verspoor et al., 2011)). In general, longitudinal studies are important in SLA studies for an emic view that is able to track development over time (Eskildsen, 2012; Firth & Wagner, 1997). In addition to tracing development over time from a cognitive usage-based perspective, the social focus where the construction of identity figures prominently would also be highly interesting, possibly enabling a view of a developmental trajectory of L2 identity formation and expression.

Importantly, this dissertation has shown how very young users of EE engage in productive uses of English, and argues that such use may be tied to language learning. The dissertation was able to show one such instance of language learning where a gamer is taught how to pronounce *run* correctly. However, without longitudinal studies of such learning, we are unable to know if the example stated is an isolated incident or whether engagement in the wild leads to many such language learning instances.

7.2 Studies on social media and language engagement and learning for young users

In the article, *Language learning in the wild: a young user perspective*, it was shown how some of the children, especially the girls, engage in EE via social media where they follow various famous and interesting people, read content in English, listen to English-language content, and occasionally will write comments as well. The study showed how the children are directed to different media because they are advised that, for example, a person on YouTube, Snapchat or Musical.ly has a profile on Instagram and vice versa, and they are then invited into a loop of different media, and engage with these in various ways. Thus, as with the interrelation between gaming and YouTube, there seems to be an interrelation between these media types profiling interesting people or topics as the catalyst. It was clear that the girls engage differently with these media. Some would primarily look at pictures and would not make comments, whereas others were more active and engaged in the sense stated above. In addition, the children also stated use of social media in the language diary (especially LD Fall 2016) and, interestingly, would differ in their ways of categorizing the use. For example, some would categorize Snapchat as a game, whereas others would categorize it as 'writing', 'reading', etc., and thus different ways of engagement, as also shown in the interviews, would be manifested. However, to get a clearer

idea of this use, a longitudinal study, possibly as described above, i.e., a usage-based approach, as well as ethnographic interviews with an exclusive focus on social media are necessary.

7.3 3. Studies on learning inside and outside the walls

Given the differences, found in study 2, in perceptions between formal learning and EE learning, a study with an exclusive focus on such differences would be highly relevant. Study 2 found that many of the children seem to find learning outside school more authentic than learning in school. Research has shown, not just in the present dissertation (see in particular, Henry, 2014a, 2014b; Henry & Cliffordson, 2015), that children and young people's EE engagement in some cases lead to demotivation for learning English in school and to perceptions of school English as inauthentic. A case study focusing on both young and relatively older users, tracking their perceptions of learning in and outside school through observational studies and interviews over a longer period of time would be interesting. Such a study could describe in more detail than was possible in study 2, children's engagement within these spaces and with different types of activities (productive use of language, noticing, agency, motivation, investment, identity etc.).

A quantitative study on the input and output gained and engaged with in the different spaces would also be highly enlightening, albeit complex to measure. As suggested for study 1, a focus on the construction of identity would also be highly interesting, possibly enabling a view of a developmental trajectory of identity formation and expression in the two different spaces of school and outside. By gaining more knowledge on young users' engagement in and with English outside school, educators and teachers will become better equipped to meet the current conditions and needs of their students.

7.4 4. Studies on the importance of EE engagement in relation to age and other variables

It is highly relevant, and planned, to address RQ 3 and RQ 4 of the project: *The Younger, the better? A usage-based approach to learning and teaching of English in Danish primary schools*, which ask respectively:

What is the role of out-of-school quantity and quality of exposure to and use of English in children's rate of L2 learning and short-term L2 proficiency? To what extent is this variable a good predictor of faster rate of learning and higher level of short-term L2 attainment? (Cadierno & Eskildsen, 2014, p. 5).

What role do children's motivation and attitudes towards learning, parents' attitudes, level of education, and (perceived) proficiency in and professional use of English have on children's rate of L2 learning and short-term L2 proficiency? To what extent are these variables good predictors of a faster rate of learning and higher level of short-term L2 attainment? (Cadierno & Eskildsen, 2014, p. 5)

Data has been collected enabling such a study and analyses are planned to be carried out as soon as possible. Information on extramural contact in this study will also include information on EE habits related to holidays and the general possibilities for encountering EE through visits at home or with friends, thus covering a broader

spectrum of EE engagement than daily contact. Quantitative data has also been collected on perceptions of learning inside and outside school, as well as the preferences for watching English vs Danish-language YouTube, thus offering a quantitative angle on the qualitative findings of the present study. Such a study will also be able to take into account, not only EE engagement, but also additional variables of interest, such as, for example, language aptitude, on which data has also been collected. This planned study may be a valuable contribution to the question of the importance of age in relation to other factors which is of great importance to SLA research. Furthermore, this study will be able to re-investigate, and broaden, the questions posed in study 1 of the present dissertation (i.e., the correlation between gaming and vocabulary knowledge and other types of EE activities such as TV watching (with or without subtitles) etc.) and through a larger population being more suitable for making generalizations.

In sum, there are many relevant, and highly interesting studies waiting to be carried out within the field of EE and language learning of which only a few have been sketched here.

8 Concluding remarks

As noted, the present thesis sees as complementary the views that frequency of input is of importance to language learning (cognitive) and the notion of affordances (i.e., learners focus on the linguistic input that they need, consciously or unconsciously, for their specific purposes). Both views are compatible with each other and provide a solid foundation for language learning through EE. It makes sense that frequently occurring language constructions may be tallied based merely on the frequency with which they appear in the input, as studies have shown to happen (i.e., recall, for example, Sockett and Kusyk's finding that frequently occurring chunks in TV series were more readily learned than chunks occurring less frequently). However, it is important for researchers to also pay attention to the way that chunks/constructions are part of the goal-directed activity, facilitate engagement, and form part of the interesting universe that is of great personal and social significance to many users. As has been demonstrated, this causes users to pay attention to and notice various language features, and actively employ the language, be it through interactional use of English, styling valuable identities, using terms to search the web, chat or to apply to their various activities in order to understand and make sense of the language. Thus, the activities as well as the users' interest, needs and motives are important factors to consider when researching language learning through EE.

It all happens in usage; by engaging frequently and for longer stretches, the user is engaging in a space full of potential affordances. The more active, engaged and personally invested s/he becomes, the more s/he perceives the affordances and learning possibilities that are created. We may speculate that such engagement and the learning resulting hereof will cause users to engage even more in the EE space. That is, greater understanding may bring even greater motivation through enhancing the users' abilities which, in turn, then may lead to more learning, and more investment and so on, and so forth. Recall, for instance, the participant of study 2, Arnold, who with great interest would read chats but was unable to write chats. We may speculate that, with growing linguistic competence (perhaps acquired through reading chats), a person, such as Arnold, eventually will start writing chats himself, and will become even more motivated for the activity given his ability to engage at a more advanced level.

In sum, the extramural space for its motivational nature is a highly interesting learning space to explore and hopefully, much more research will be carried out within this area, especially for younger users in the coming years.

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The Articles

1. Gaming as an extramural Language Learning resource among young children in Denmark

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2. Language learning in the wild: a young user perspective

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3. Language playing in the wild: productive use of L2 English by young Danish children

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Gaming as an English Language Learning Resource among Young Children in Denmark

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Abstract

This article presents a study of Danish young English language learners' (YELLs') contact with and use of Extramural English (EE) (N = 107, aged 8 [n = 49] and 10 [n = 58]). They have received little formal English instruction: two lessons per week for one year. Data on EE-habits were collected with a one-week language diary (self-report with parental guidance). Participants reported minutes spent each day on seven EE-activities: gaming, listening to music, reading, talking, watching television, writing, and other. Vocabulary proficiency scores were obtained using the Peabody Picture Vocabulary Test (PPVT™-4). The results show that most time was spent on gaming, music, and watching television. Boys gamed significantly more ($p < .001$) than girls (235 minutes/week vs. 47 minutes/week). Additionally, the results show that gaming with both oral and written English input and gaming with only written English input are significantly related to vocabulary scores, in particular for boys. By investigating the EE-habits of YELLs and relations with second language (L2) English vocabulary learning, this study adds valuable new insights and knowledge about a topic that is becoming increasingly important for children in a globalized world.

KEYWORDS: EXTRAMURAL ENGLISH; GAMING; YOUNG LEARNERS; YELLs; L2 VOCABULARY LEARNING; SLA; USAGE-BASED APPROACH

Introduction

Being a small country with 5.6 million inhabitants, Denmark has always prioritized foreign language teaching, with English being taught as the primary foreign language in public schools since 1975. Following the trend in many other European countries (EACEA, 2012), as of 2014 the starting age for learning English was lowered from third to first grade. Given the fact that presently English is undoubtedly the lingua franca of the world, there is great political focus on English as a school subject in Denmark. Moreover, the possibilities of encountering English outside school in Denmark are rich. Many second language acquisition (SLA) researchers agree that there is a potential for language learning outside the formal educational system (cf. Benson & Reinders, 2011). A large part of the world's population has access to English on an everyday basis outside school, which has created an increased interest in the potential of out-of-class English as a "tool" for learning English, also known as extramural English (Sundqvist, 2009). However, very little research on extramural English targeting young English language learners (YELLs) has been carried out, and hardly any studies exist on YELLs and the potential language learning benefits of playing digital games. This article aims to, at least partly, fill this gap in research by firstly mapping the extramural landscape for Danish YELLs, and secondly by examining a particular activity (that is, gaming) to see whether it correlates with vocabulary learning outcomes and whether the language mode of the game might be relevant for vocabulary learning. The article addresses these issues from a gender perspective since previous research has found significant gender differences for extramural use (Gretlund & Heiselberg, 2013; Olsson, 2011; Sundqvist & Sylvén, 2014). In what follows, the article reviews previous research on extramural English and describes the situation for English in Denmark, after which the research questions and study design are described. Results are subsequently presented and discussed, and suggestions for further research are provided.

Background

The term *extramural English* (EE), coined by Sundqvist (2009, p. 1), refers to English that users engage in in various forms outside the classroom. EE is related to the notion of incidental learning defined by Laufer and Hulstijn (2001, p. 66) as "the learning without an intent to learn, or as the learning of one thing, e.g. vocabulary when the learner's primary objective is to communicate." In connection with EE, this is not to say that learners

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are unaware of the potential language-learning benefit of engaging in EE, but it is not the primary reason for engaging in the activity, which is rather to be entertained, challenged, to communicate, etc. In line with such reasoning, Sockett (2014, p. 14) suggests that the term *language user* rather than *language learner* is more appropriate in the context of incidental learning. Sockett's term is employed in this article where the activities under investigation are situated outside the formal school system and, thus, the "identity" of the child during engagement in the activities is that of user rather than learner, in the formal sense of the word. In usage-based theories of second language (L2) learning, frequency of input is highly important; that is, the more input and repetitions of this input a user encounters the more likely s/he is to benefit from it (Ellis, 2009). Gee (2012, p. xiii) notes that good games will provide exactly this by "present[ing] players or learners with many more instances in a short time of important cases [e.g., language associated with actions] than they would see in reality." Moreover, Ellis (2009, p. 4) notes: "[l]earners must be exposed to a representative sample of authentic input that is relevant to their needs." EE activities in sufficient quantity (and quality) may potentially offer such relevant input, relevant in that it enables engagement in the EE activities, in turn motivating the user to seek to understand the input.

Previous Research

Previous research on extramural contact and influence on L2 English proficiency suggests a positive relationship, and results show that the most popular out-of-school activities are watching TV, using computers (gaming and net-based activities, such as YouTube), and listening to music (Lefever, 2010; Lindgren & Muñoz, 2013; Sundqvist, 2009). Several studies have established that watching subtitled television has a positive effect on L2 acquisition (d'Ydewalle & Van de Poel, 1999; Lindgren & Muñoz, 2013; Sockett & Kusyk, 2015). Investigating very young learners, below the age of eight, Unsworth, Persson, Prins, and De Bot (2014) found no significant effect of extramural engagement for TV and "other media." However, it is speculated that the lack of effect could be ascribed to the fact that children that young do not engage in sufficient amounts of EE for it to have a learning effect. Furthermore, the researchers only had access to a limited set of data on extramural use. Studies on extramural as well as classroom-instructed gaming among teenagers and learners in their early twenties have shown a variety of benefits from gaming on different language parameters such as, for example, vocabulary acquisition and pragmatic language cues (Benson & Chik, 2011; Cheung & Harrison, 1992; Marsh & Tainio, 2009; Miller & Hegelheimer, 2006; Olsson, 2011; Rankin, Gold, & Gooch 2006; Reinders & Wattana, 2012; Sundqvist & Sylvén, 2012; Sundqvist & Wikström, 2015; Thorne, 2008; Turgut & Irgin, 2009).

Studies on YELLs are rare, and in particular studies that target extramural gaming and L2 proficiency, but a few studies have been carried out. In a Swedish study with 112 10-year-olds, Sundqvist and Sylvén (2014) found a correlation between self-assessed L2 English proficiency, gender, and digital gaming. The children were divided into three groups based on their digital gameplay habits (as noted in a language diary): non-gamers, moderate gamers, and frequent gamers (more than four hours of gaming per week). Boys comprised 88% of the frequent-gamer group. A questionnaire revealed that all frequent gamers were highly motivated for learning English, whereas the non-gamers were the least motivated. All the children assessed their English abilities as being "good," but whereas some children in the non-gamer and moderate-gamer groups assessed their abilities as "very bad," none in the frequent gamer group did so. For 11- and 12-year-olds, Sylvén and Sundqvist (2012) found a positive relation between gaming on the one hand and listening comprehension, reading comprehension, and vocabulary proficiency on the other, where frequent gamers (more than five hours of gaming per week) outperformed non-gamers and moderate gamers. In another Nordic study, Lefever (2010) reports how Icelandic parents attribute English-language competence among their 8-year-old children to motivation and to English media exposure, including video games. The children had received no teaching of English prior to the study, yet they ranged from being able to understand basic spoken English to being able to participate in "simple conversations" (p. 8). The boys in the study outscored the girls on a conversational skills test, whereas the girls by far outnumbered (75%) the boys in the lowest scoring group. The study does not identify any specific extramural source of learner proficiency. Nevertheless, the participating parents attested that their children particularly engaged extensively in watching television and playing computer

games. As other Icelandic studies have established that boys spend more time on digital games than girls and, moreover, that the boys in his own study showed superior conversational skills, Lefever (2010) calls for further research to examine a possible connection between gaming and L2 English proficiency.

Kuppens (2010) studied 361 11-year-old Flemish students to determine extramural effects on L2 English proficiency. As in the Icelandic study, the children had received no prior formal instruction in English. The students filled out a questionnaire on EE habits and were tested on oral proficiency and translation skills. Again, the boys scored significantly higher on the oral test and, in parallel to Sundqvist and Sylvén's (2014) study, the boys' self-assessed proficiency outranked that of the girls. Boys spent significantly more time on gaming than girls. Statistical analysis revealed that playing computer games had a significant but limited effect on translation skills (Kuppens, 2010). Kuppens speculates that this limited effect was found because the study did not distinguish between different types of computer games offering various levels of English difficulty, that is, ranging from games where a few single written or oral words are used for simple commands to games with more complex narrative setups including both oral and written language.

The Presence of English in Denmark

According to the English Proficiency Index (EFPI, 2015, p. 1), adult Danes are ranked among the top three countries in the world as having "very high proficiency." The situation for English in Denmark may thus well be described as one of societal bilingualism (cf. Sebba, 2010). The opportunities for Danish children to encounter English in their spare time are substantial. In Denmark and the other Nordic countries (Finland, Iceland, Norway, and Sweden) English-language television is not dubbed and, as a consequence, English is readily available both on TV as well as on net-based services such as Netflix and the web. Much popular music is in English and easily accessible. Many ads and commercials are in English, and so are many products, toys being no exception, for example, Nerf guns, Monster High dolls and Lego Star Wars, to mention a few. English is in general, as in the rest of the world, the language of popular culture to which many children are drawn. In a summary of the European Survey *EU Kids Online* Mascheroni and Ólafsson (2014) report that Danish children go online already at the age of 7, whereas the average European child goes online at the age of 9. Furthermore, 94% of Danish children use the Internet every day compared to the European average of 79%. Additionally, 77% of Danish children between the age of 9 and 16 have access to the Internet at home in their own bedroom compared to 55% across Europe. Also, Mascheroni and Ólafsson (2014) found that boys between the ages of 9 and 12 in general spend more time online than girls, playing computer games as well as watching YouTube clips. With the dominance of English-language entertainment online, it is fair to assume that for many children a great deal of their free-time activities are mediated in English.

Aims and Research Questions

As mentioned, this study focuses on YELLS in Denmark. Two groups are compared, *early starters* (aged 8) and *later starters* (aged 10) (explained below). The focus is (a) on EE use in general and (b) on gaming and language vocabulary learning specifically. Since previous research has found significant differences between boys and girls with regard to EE, gaming, and language learning, gender is included as a possibly relevant background variable. In particular, the study investigates whether there is a correlation between gaming (in different language modes) and L2 English vocabulary proficiency. The language modes examined are games with (i) only English oral input, (ii) only written English input, (iii) both written and oral English input, (iv) Danish oral input and written English input, and (v) games with oral English input and Danish written input. The study states the following research questions (RQs):

RQ1: (a) What EE activities do Danish YELLS engage in, and to what extent? (b) Are there gender-related differences?

RQ2: (a) What gaming activities (in varying language modes) do Danish YELLS engage in, and to what extent? (b) Are there gender-related differences? (c) Is there a correlation between these gaming activities and vocabulary scores?

The Study

Participants

For the purpose of this study, a subsample was drawn from an ongoing large-scale project on the role of age in language learning funded by the Danish government. As mentioned, the Danish school law was changed in 2014, introducing English from grade 1. Thus, in 2014, both first graders (7 years of age then, henceforth early starters) and third graders (9 years of age, henceforth later starters) were introduced to English lessons for the first time. At the time of the data collection for this study (the fall of 2015) both early and later starters had had English lessons for a little more than one school year and were 8 and 10 years old respectively. For the present study, a subgroup of 144 children was chosen from seven classes at five schools. All participants had received two weekly English lessons. The participants differ in terms of age and gender but have had approximately the same hours of formal English instruction in school. There are both private and public schools in Denmark; the norm is to attend public schools.

Of the 144 potential participating YELLS, 112 returned language diaries, of which five (3%) were excluded, three due to insufficient data (that is, less than four days were filled out) and two because they were outliers in terms of EE use (reporting more than 25 hours weekly). Thus, there are 107 participants in the present study (61 girls and 46 boys). Of these, 49 are early starters (16 from one public school; 33 from one private school) and 58 later starters (from four public schools).

Data Collection Methods

Receptive vocabulary proficiency scores were obtained using the Peabody Picture Vocabulary Test (PPVT™-4) (Dunn & Dunn, 2007). In the test, the children hear a pre-recorded word, e.g., cat, and choose a matching image from four possible choices. A pretest was administered in the fall of 2014 and a posttest was administered one year later. The posttest results are used for this study as EE data is only available from the fall of 2014; that is, it cannot be assumed that the pretest scores are related to EE use at the time of the EE data collection as the two measurements are one year apart.

Data on EE habits were collected through a one-week language diary. The diary is a modified version of Sundqvist and Sylvén (2014). Via self-report with parental guidance, children reported the minutes spent each day on seven activities presented in the following order in the diary: listening to music, reading books/magazines/webpages, speaking in English, writing, "other," watching television/YouTube/Internet and gaming. The gaming and TV sections were designed to get detailed knowledge of the language of the activities the children engaged in and an estimate for time spent on these. The children also specified whether the activities had (i) only English oral input, (ii) only written English input, (iii) both written and oral English input, (iv) Danish oral input and written English input, and (v) oral English input and Danish written input. They did this by writing D (Danish) or E (English) or a minus sign (no language) in a box under the heading: "Language spoken in the game/TV/YouTube." Next to this box, they ticked one of three boxes: "no text," "English text," "Danish text." The system was devised to elicit detailed gaming information as the language mode may affect learning outcomes. The diary was extensively piloted at two schools outside the project among 72 learners in two separate rounds. The researcher attended parental meetings at the participating schools where possible (six out of seven), preparing the parents to receive the diaries. Additionally, teachers sent reminders to the parents twice during the diary week. The diary was introduced by the researcher in each class with the help of a large laminated sample page that was filled out together with the children, who were asked to provide personal examples of extramural activities. Thus, the children became familiar with the diary. They appeared to enjoy the task and were happy to share their own examples of activities.

The language diary was coded by the researcher following a stringent system which was devised after the coding of 40 diaries. The 40 diaries were coded twice: once for devising the system and the second time for making sure that the initial coding matched the system. An interrater reliability test of 10% of the diaries performed by a colleague gave a 95% match, which was considered satisfactory. The language information provided about the games was taken at face value, that is, the researcher did not check if the information was accurate; this was deemed too difficult to assess, as many games can be played in different versions and online/offline, and not all children provided titles of games. Thus, oral input may be as little as a single

utterance throughout a gaming session or it may constitute a dense dialogue throughout gameplay, and even include oral/written chat. PPVT™-4 was coded according to test guidelines for obtaining raw scores.

Ethics

Strict ethical guidelines for conducting research involving minors were adhered to at all stages of this research. The language diary task was presented as optional in order to avoid the children feeling coerced into sharing personal information.

Design

Each activity in the diary was coded separately for minutes spent per day and entered into Excel. Sum totals (weekly use) were generated in Excel and the data were analyzed using Stata 14.0. Means were calculated for the dependent as well as independent variables in total and in relation to gender and age. As the diary data were found to have a non-normal distribution (skewed to the right), a two-sample Wilcoxon rank-sum (Mann-Whitney) was performed checking for between-group significance (between gender and early or later starters and extramural habits). Two-sample *t*-tests were employed to check for variance on Peabody in relation to gender, private versus public school, and early versus later starters. Given the focus on gaming, the following gaming variables were singled out for elaboration: gaming with oral English input and no written input (GEZ), games with both oral and written English input (GEE), games with oral English input and written Danish input (GED), games with no oral input and written English input (GZE), and games with Danish oral input and written English input (GDE). Due to the small sample size, Kendall Tau b-correlation was employed to check the gaming variables for possible correlations with scores on the Peabody test. Regression analyses with “School” as cluster were run with the independent variable Gaming: “GEE” as well as the categorical variables “Gender” and “Starting age” (early or later starters). Due to the non-normal distribution of the gaming data, regressions on the GEE gaming variable with a cutoff point at 240 minutes a week were also run. The cutoff point was chosen on the basis of previous YELL studies which have defined more than 240 minutes (4 hours) of gaming per week as frequent use (Sundqvist & Sylvén, 2014).

Results

RQ1 asked what activities Danish YELLs engage in and to what extent there are gender-related differences.

Table 1 illustrates the participants’ reported weekly use of EE in minutes ($M = 365.7$). The girls preferred *listening to music* ($M = 115.4$), followed by *watching television* ($M = 69.8$) and *gaming* ($M = 46.8$). The boys preferred *gaming* ($M = 235.1$), followed by *watching television* ($M = 120.9$) and *listening to music* ($M = 78.4$). A two-sample Wilcoxon rank-sum (Mann-Whitney) test indicated that the time boys reported spending on gaming was significantly higher than the time reported by girls: $Z = 5.464, p < .001$. There was also a significant difference between the time spent on *listening to music*; boys reported listening significantly less to music than girls: $Z = -1.981, p = .047$. The difference in *watching television* was non-significant: $Z = 1.623, p = .104$. Time spent on the remaining four EE activities (*writing, reading, talking, and other*) was negligible and therefore excluded from Table 1; the means of use were at 14.0, 4.3, 24.5, and 7.1 minutes per week respectively. Early starters spent more time on gaming in total than later starters, but not significantly so: $Z = 0.421, p = .674$.

Table 1

Extramural activities total and divided between gender (M = male, F = female) and early (ES) and later starters (LS) (in minutes per week)

		Listening to music via CDs, web-based services, radio, etc. (minutes per week)			
Group	<i>n</i>	<i>M</i>	<i>SD</i>	Min.	Max.
Total	107	99.5	159.28	0	980
M	46	78.4	129.74	0	660
F	61	115.4	177.76	0	980

ES	49	95.4	132.14	0	651
ES/M	24	77.5	121.58	0	472
ES/F	25	112.6	141.88	0	651
LS	58	102.9	180.13	0	980
LS/M	22	79.4	140.98	0	660
LS/F	36	117.3	200.89	0	980

Watching TV, YouTube, other web-based services, cinema, etc. (minutes per week)

Group	<i>n</i>	<i>M</i>	<i>SD</i>	Min.	Max.
Total	107	91.8	125.01	0	552
M	46	120.9	150.82	0	552
F	61	69.8	96.98	0	450
ES	49	102.9	129.19	0	545
ES/M	24	122.9	153.68	0	545
ES/F	25	83.7	99.80	0	315
LS	58	82.3	121.70	0	552
LS/M	22	118.8	151.21	0	552
LS/F	36	60.1	95.16	0	450

Gaming – online or PC games, PlayStation, etc. (minutes per week)

Group	<i>n</i>	<i>M</i>	<i>SD</i>	Min.	Max.
Total	107	127.8	160.92	0	645
M	46	235.1	184.58	0	645
F	61	46.8	68.64	0	300
ES	49	132.3	153.43	0	540
ES/M	24	209.2	176.31	0	540
ES/F	25	58.5	75.48	0	240
LS	58	123.9	168.23	0	645
LS/M	22	263.3	193.29	0	645
LS/F	36	38.7	63.29	0	300

EE activities total (minutes per week)

Group	<i>n</i>	<i>M</i>	<i>SD</i>	Min.	Max.
Total	107	365.7	315.96	0	1590
M	46	491.5	367.48	0	1590
F	61	270.8	231.96	0	1025
ES	49	364.8	288.84	0	1315
ES/M	24	437.1	328.39	0	1315
ES/F	25	295.5	230.83	0	875
LS	58	366.4	339.70	0	1590
LS/M	22	550.9	405.20	0	1590
LS/F	36	253.7	234.44	0	1025

RQ2 asked what gaming activities (in varying language modes) Danish YELLS engage in, to what extent, and whether there are gender-related differences, and also if there is a correlation between gaming activities and vocabulary scores.

A two-sample *t*-test showed no significant difference between scores on PPVT, neither between later starter boys and girls nor between early starter boys and girls. As shown in Table 2, the test indicated that early starters

(boys and girls together) scored significantly lower than later starters (boys and girls together) on PPVT ($p < .001$). It can be mentioned that there were no significant differences between private and public school test scores.

Table 2

Peabody according to gender (M = male, F = female) and early (ES) and later (LS) starters

Group	<i>n</i>	PPVT raw score			
		<i>M</i>	<i>SD</i>	Min.	Max.
Total	107	56.8	25.69	11	132
M	46	60.9	24.23	24	132
F	61	53.8	26.52	11	129
ES	49	46.1	25.92	11	132
ES/M	24	51.5	24.66	24	132
ES/F	25	40.9	26.54	11	129
LS	58	65.9	21.86	26	107
LS/M	22	71.1	19.53	26	104
LS/F	36	62.7	22.85	27	107

The most popular language mode for games was using both oral and written English input (GEE), followed by games with only oral English input (GEZ) and games with English text only (GZE) (see Table 3). Games with Danish input (oral or written) were of such negligible nature that they were excluded. Boys reported gaming significantly more than girls in the categories GEZ ($Z = 2.962$, $p = .003$) and GEE ($Z = 4.295$, $p < .001$), but not significantly so in GZE ($Z = 1.010$, $p = .312$).

Table 3

Gaming activities total and divided between gender (M = male, F = female) and early (ES) and later (LS) starters (minutes per week)

Gaming with English oral input and no text (GEZ)					
Group	<i>n</i>	<i>M</i>	<i>SD</i>	Min.	Max.
Total	107	39.8	85.65	0	420
M	46	72.8	114.48	0	420
F	61	15.0	40.87	0	200
ES	49	23.1	53.20	0	200
ES/M	24	26.5	52.89	0	195
ES/F	25	19.8	54.38	0	200
LS	58	54.0	103.99	0	420
LS/M	22	123.27	141.07	0	420
LS/F	36	11.6	28.41	0	134
Games with English oral input and English text (GEE)					
Group	<i>n</i>	<i>M</i>	<i>SD</i>	Min.	Max.
Total	107	49.8	100.54	0	645
M	46	97.5	136.08	0	645
F	61	13.9	30.26	0	140
ES	49	54.2	99.49	0	430
ES/M	24	97.1	127.63	0	430
ES/F	25	13.1	24.25	0	70
LS	58	46.1	102.13	0	645

LS/M	22	97.9	147.78	0	645
LS/F	36	14.5	34.14	0	140
Gaming with English text only (GZE)					
Group	n	M	SD	Min.	Max.
Total	107	31.0	91.15	0	520
M	46	54.8	128.49	0	520
F	61	13.1	39.15	0	205
ES	49	53.4	126.18	0	520
ES/M	24	82.3	167.60	0	520
ES/F	25	25.7	57.31	0	205
LS	58	12.1	35.28	0	180
LS/M	22	24.8	52.92	0	180
LS/F	36	4.3	13.52	0	60

Kendall's Tau correlations were run to assess the relationship between test scores on the PPVT test and minutes per week spent on gaming in the various language modes. Results are presented in Table 4. Only significant results are reported.

Table 4

Kendall Tau and PPVT scores (M = male, F = female) and early (ES) and early (ES) and later (LS) starters (in minutes per week)

	GEE	GZE
Total	.2178**	ns
M	.2925**	ns
F	ns	ns
ES	.2631*	ns
ES/M	.3959*	ns
ES/F	ns	ns
LS	.2054*	ns
LS/M	ns	.3685*
LS/F	ns	ns

Coefficients shown are significant at the .05 and .01 levels, indicated by one and two asterisks respectively; *ns* = nonsignificant.

A regression was run with GEE as this variable correlated significantly with PPVT scores. (For lack of space, non-significant results are not elaborated on.) Regressions with "GEE," "Starting age," "Gender," and "School" as a cluster for (1) all participants and (2) only for early starter boys yielded nonsignificant results. As the GEE data showed, a point of saturation on the regression graph with six participants falling below, it was decided to run a second regression with GEE gaming less than 240 minutes of gaming a week (henceforth "GEE1 < 240"). Multiple regression analysis was used to examine if gaming GEE1 < 240, Starting age, and Gender significantly predicted PPVT. School was used as cluster in order to avoid type 1 errors (see Table 5).

Table 5

Multiple Regression Analyses

	t	p	β	F	df	p	adj. R²
GEE1 gaming							

Overall model				193.2	3,4	0.000	.23
GEE1 < 240	6.81	0.002	10				
Starting grade	4.27	0.013	22				
Gender	-0.73	0.503	-3				
Constant	11.32	0.000	42				

Note. The dependent variable was test scores PPVT

As Table 5 shows, the results of the regression were significant and show that for every unit of gaming GEE1 < 240, there is a 10-point increase in PPVT scores.

Discussion

Danish children's engagement in EE activities compares to that of children in similar countries (cf. Lindgren & Muñoz, 2013; Sundqvist & Sylvén, 2014). They engage in EE regularly; for girls the favorite activities are music, watching television, and gaming, whereas boys prefer gaming followed by watching television and listening to music. At that early age the engagement in other activities (reading, writing, talking, and other) is negligible (cf. Lindgren & Muñoz, 2013). This finding is not surprising as most children are probably still not able to engage fully in cognitively demanding activities in an L2 as they are still learning to do so in their first language, a point also raised in connection with subtitled television by d'Ydewalle and Van de Poel (1999). Danish children mirror Swedish ones (Sundqvist & Sylvén, 2014) in the time they devote to EE activities overall. As found in other studies (e.g., Sylvén & Sundqvist, 2012; Sundqvist & Sylvén, 2014), boys game significantly more than girls, five times as much in the current study.

The results show that gaming with both spoken and written English (GEE) is significantly related to vocabulary scores. That gaming may play a role in vocabulary learning is perhaps not surprising as the gamer is motivated to understand the input. since paying attention to the language in many cases will help him/her advance in the game, thus offering "a representative sample of authentic input that is relevant to [the users'] needs" (Ellis, 2009, p. 4). Furthermore, this "sample" is repeated many times, which, according to usage-based theories of language acquisition, is of great importance for language learning (Ellis, 2009). Because GEE is engaged in extensively, the opportunities for repeated language input are potentially rich—bearing in mind that the input of the games in question may vary; that is, the GEE games category comprises games with various amounts of input ranging from games with little input (little text and close to no oral input) to games with dense input and output, such as rich in-game text (possibly written chats), and spoken dialogue (possibly spoken chats). Gee (2012, p. xii) notes that EE learning through gaming is different from traditional classroom learning not least because games put "performance before competence ... and experiences and actions before words and texts. This means players are learning by doing, and that they have images and experiences to give deep meaning to the words and texts they read later, in order to resource their play and learning."

The motivational factor of gaming is indisputable as gaming is engaged in purely for entertainment. In contrast, for participation in classroom activities, it has been found that learners may only be willing to participate in activities if they feel linguistically competent and thus motivated to do so (Dörnyei, 2009). This highlights the difference between being a user and being a learner.

Games offer varying affordances for learning depending on the users. Users are different and some might experience "a cognitive overload" (Reinders & Wattana, 2012, p. 182) when playing certain types of games whereas others will make affordances of the input—driven, among other factors, by their motivation (cf. Van Lier's [2004, p. 92] definition of affordances as "action in potential").

It is slightly intriguing that the association between games with both oral and written input (GEE) and PPVT scores is most pronounced for the early starter boys. A possible explanation is that for later starter boys this type of gaming is nearing a ceiling effect. One may assume that there is a natural limit to what games can offer

at this stage, especially if the child keeps playing the same games or games with little input. This may also be why there is an association between games with only written English input and PPVT scores for the older boys, where one would expect that less input would give less effect. Perhaps they pay more attention to the language of the games they play and couple their gaming with walkthroughs of gameplay on YouTube as well as other clips, which are able to provide even more appropriate input (cf. the zone of proximal development, Vygotsky, 1978). The potential positive effect of using so-called affinity spaces has been highlighted by many, for instance, Gee (2013).

In the PPVT pretest, mentioned earlier, administered at the onset of English teaching, the later starters already scored significantly better than the early starters. This fact supports the importance of EE, as later starters' knowledge of English can only have been gained outside school and over more years compared with the early starters'. Thus, even if the early starters game as much as the later starters, by the time of the posttest they could not have done so for as long. As for the gender differences, the girls do not game much, which explains the lack of a "gaming effect" for the girls. A question that begs an answer is of course why there is a pronounced association between the boys' scores and gaming, but they have more or less the same scores on the test as the girls. The later starter boys had significantly higher scores on the PPVT in the pretest than the girls, suggesting that, at that point, they seemed to gain more from activities in English outside school: presumably from engaging in more and relevant (for learning English) activities outside school than girls. It is also possible that girls have a different approach to the formalized learning space in school than boys, as found by, for example, Henry (2009), and as a consequence possibly gain more from this space. Research consistently suggests that girls outperform boys on most school subjects and in particular language subjects (Voyer & Voyer, 2014). Thus, in line with the argument put forth by Sundqvist and Sylvén (2012, pp. 201–202), one may suggest that if the boys did not engage as extensively as they do in EE (gaming), they would be lagging behind the girls already at this stage, but the fact that they do not suggests that they gain language competences from other sources than the girls. As mentioned previously, Lefever (2010) and Kuppens (2010) also reported better, in their cases, oral skills for preschool boys than girls.

Limitations

The present study has a number of limitations, such as the relatively small number of participants. In addition, the broad GEE category (both English text and speech) also sets a limitation to interpretations, as the amount of input cannot readily be decided. Caution in interpreting the results is also advised given the subjective nature of the language diaries which are anchored in time and only elicit EE use for a specific week. However, the diary has some obvious advantages of which three are related to survey design (Converse & Presser, 1986, pp. 20–22): *bounded recall*, *limited reference period*, and *cues*. The activities in the diary are reported on a daily basis making the margin of error smaller, as the activity to be recalled is not very far removed in the distant past (bounded recall), the reference period is limited (one day), and concrete examples (cues) are provided to aid the recall, that is, each category has examples of the category in question. The diary was also used in the fall when it is cold and windy in Denmark, thus calling for indoor rather than outdoor activities. It seems fair to assume that children who are drawn to EE activities were motivated to carry out such activities.

Concluding Remarks

The study confirms that English language games may play an important role in language learning not only for teenagers and adults, but also for YELLs, and it, thereby, adds to the very scarce research on extramural language learning among this group of learners. Given the nature of the broad gaming category comprising games with both oral and written input of very different nature, it would be advised to take a closer look at the specific games in question to examine exactly what linguistic input/output is being offered. Further research of a qualitative nature on language use during gameplay is also recommended. For example, by using an ethnographic approach, a detailed picture of gameplay and the interaction evolving around this play may be obtained, preferably taking into account the use of affinity spaces. Future studies investigating effects of gaming on other language parameters than vocabulary for YELLs would also be interesting given the findings by Kuppens (2010) and Lefever (2010), where gaming may potentially be related to oral proficiency. In short,

more research on early learners, gender, and gaming is needed.

About the Author

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Language learning in the wild: a young user perspective

Through the analytical lens of Activity Theory (Leontiev, 1978, see Lantolf & Thorne, 2006), the present study investigates the uptake of affordances for language learning by young (ages 7-11) Danish children (N = 15) in their engagement with English language media in the digital wild. Drawing on ethnographic interviews (Spradley, 1979), during which the participants engaged in online English language activities (gaming, snapchatting, etc.), the study shows that most of the participants were motivated in their engagement with English by social and higher cognitive motives (Lompscher, 1999). They engaged substantially with affordances for language learning, i.e., deliberately chose English-language content over Danish, engaged in chats, read and listened to online content. Some, on the other hand, were found to be motivated by lower cognitive motives resulting in less engagement with the affordances. The study also found a substantial difference between perceptions of English in and outside school. The study adds new insights into an under-researched area, while giving voice to young users of English, called for by Ushioda's (2008, p. 29).

Keywords: Extramural English, young learners, motivation, Activity theory

Introduction and aims

This article focuses on Danish 7 to 11-year-old children's (young users)ⁱ engagement in English-language (L2) activities in the wildⁱⁱ - an: "exogenous activity system ... not directly related to education" (Lantolf & Thorne, 2006, p. 225) - and the specific uptake on language learning affordances related to this engagement (Gibson, 2012). Research on children's use of English as a mediating language for activities in the wild is becoming increasingly important with the role of English as the lingua franca of the world, even as a "basic educational skill" (Ushioda, 2006, 2011) and, not least, the popularity of web 2.0. Only few studies have been conducted on the content of, or engagement with, English in the wild for young users. A few qualitative studies exist (Piirainen-Marsh, 2011; Turgut & İrgin, 2009) but mostly studies are quantitative in nature (Author, xxxx; De Wilde & Eyckmans, 2017; Kuppens, 2010; Lindgren & Muñoz, 2013; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012; Unsworth, Persson, Prins, & De Bot, 2014). While providing useful mappings and overviews of type and intensity of engagement and identifying possible correlations with language learning, quantitative studies do not reveal specific details of the engagement, such as, e.g., the nature of the engagement, the nature of the activities engaged in, and the specific purpose(s) of the engagement with the L2. However, these questions seem particularly apt for gaining knowledge on the nature of the learning process in the wild.

This study adds insights into the details of young users' engagement with English in the wild, and additionally provides a description of the affordances for language learning that are taken up by the children in their engagement. Through an emic focus grounded in an Activity Theoretical framework, the study provides a thick description of the informal activity system (Lantolf & Thorne, 2006, p. 225) thus providing insights into an informal young learner context. As Ushioda notes: "...research insights from learners themselves in a variety of learning contexts are much needed to substantiate and inform our theorizing" (2008, p. 29).

Following an introduction of the research topic, the article briefly describes some previous studies on engagement with English in the wild among young users. Hereafter the theoretical framework (Activity Theory, henceforth AT) is introduced relating a few studies within AT. Subsequently, the study is described (Methodology, Ethics, Design) followed by Findings and Discussion. Finally, remarks on limitations and suggestions for further research are made and the paper is rounded off with a conclusion including pedagogical implications.

Background

English in Denmark

Anglo language and culture enjoy high status in Denmark with English being promoted top down as well as bottom up. A 2014 governmental decision to lower the starting age for learning English from the 3rd to the 1st grade in primary school, as well as the decision by Danish universities to offer many degree programs exclusively in English (StudyinDenmark, 2017) bear evidence of such top down promotion of English. Furthermore, with the airing of locally produced shows by Danish national television with titles such as “Iza’s stepz” or “Pendler kids,” the value of Anglo culture is clearly recognized. A case in point of the bottom up promotion of English is, for example, YouTube productions made by children and young people; where popularity lists reveal that 50% of the 100 most popular Danish YouTubers, have assumed English names (DreamModels.dk, 2017).

English, to a considerable extent, gains its status bottom up via digital and online media. It is difficult to overestimate the importance of the rise of web 2.0., or to disregard the importance of children as digital consumers. Mascheroni and Ólafsson (2014) report in a summary of a European survey, EU Kids Online, that the average European child goes online at the age of 9; for Danish children, the online debut starts at the age of 7. Furthermore, 79% of European children use the Internet every day, compared to the Danish average of 94%. Additionally, 55% of European children between the age of 9 and 16 have access to the Internet at home in their own bedroom, compared to 77% in Denmark. It is fair to assume that a lot of this engagement is mediated in English and is spent on various leisure activities, e.g. the default language of digital games is English (Waters, 2007). Author (xxxx) in fact found that Danish children between the ages of 8 and 10 years spend an average of six hours weekly engaging in English-language activities in the digital wild.

Previous studies on language learning in the wild

Research on language learning by young users in the wild is scarce. However, existing research suggests that language learning in such a context is possible. In an Icelandic study, Lefever (2010) showed how parents attribute their children’s L2 English knowledge, gained before formal English schooling, to extramural English language activities, and it was speculated that the boys’ conversational skills, which were superior to the girls’, might be attributed to gaming. In a study on 11–12 year old children, Sylvén and Sundqvist (2012) found a positive relationship between extramural English gaming and listening comprehension, reading abilities and vocabulary. Similarly, Sundqvist and Sylvén (2014) in a study on 10-year-olds reported that frequent gamers were highly motivated for language learning. Similarly, Author (xxxx) in a study on extramural English gaming showed how Danish children’s (notably boys’) gaming activities were related to their vocabulary scores (see also, Kuppens, 2010; Lindgren & Muñoz, 2013). In a study using Conversation Analysis, Piirainen-Marsh and Tainio (2009) investigated gameplay between young Finnish boys (10-14 years old) and found evidence for language learning through engagement with game terminology repetition and imitation. Also Turgut and İrgin (2009), through observational studies and semi-structured interviews, found that Turkish children (ages 10-14) playing games at an internet café had opportunities for vocabulary learning through their motivated use of strategies for understanding unknown vocabulary. Thus, research confirms the fruitfulness of investigating language learning in the wild and the need to add more qualitative perspectives to the research.

Theoretical Background

The present study focuses on “learning through activity” (Lompscher, 1999, p. 13) in the wild, often referred to as incidental learning, through an Activity theoretical framework (AT). Incidental learning is understood as “learning in various activity modes (play, everyday communication, work, etc.) without any special learning goal (incidental learning as a result of activity directed towards other goals than learning)” (Lompscher, 1999,

p. 13-14). A variety of factors are considered important for incidental and intentional language learning. In particular the importance of motivation has a long history in second language acquisition research (SLA) and a prominent place within AT. This following section discusses motivation in relation to language learning, mainly from an AT perspective.

In the past decades, L2 motivation research has moved beyond considering learner internal variables in isolation to recognizing the importance of social and contextual factors, such as, the learning environment and experience for motivation (see Djigunovic & Basaric, 2007; Dörnyei, 2009a; Lantolf & Thorne, 2006; Pavlenko, 2002; Ushioda, 2008). Importantly, motivation is increasingly being viewed as an unstable force subject to fluctuations, rather than a stable learner internal variable (see, e.g., Lantolf & Thorne, 2006; Nardi, 1996). Notably, the notion of *investment* has become important, recognizing that the presence of motivation does not guarantee investment in language learning. Learners may show little investment in learning a language, despite being very motivated. They may find the learning experience detrimental to their values and consequently refrain from investing in language learning. On the other hand, if the learning experience supports the learner's sense of identity and is seen to enable attractive future identities, the learner is likely to invest in the learning process (Norton, 2013). The concept of identity has long been of interest in motivational L2 research in relation to motivated behavior. This could be driven either by desire for integration into a specific ethnolinguistic community (as especially espoused by Gardner, 1988) or by identification wanting to "become part of a wider, global community" (Henry & Cliffordson, 2015, p. 2. cf. also Dörnyei, 2009; Ushioda, 2008). Generally, it is found that positive identification with the target language community (be it for integration or not) may positively affect the motivation to learn/speak the language of a given community/culture (Dörnyei, 2009b).

The underlying motives for the action of individuals is central in AT, making it a useful method for investigating motivational processes in learning (Ushioda, 2007). In AT, the notion of 'activity' denotes the *specific* doings of individuals when they participate in various tasks, thus differing from the conventional definition of an activity (Lantolf & Thorne, 2006, p. 234). Importantly, the idea that tasks are carried out in a uniform manner is rejected, i.e., individuals will invariably carry out different activities although engaging in similar tasks (see in particular Coughlan & Duff, 1994 for a discussion of task vs activity). This is because individuals are guided in their personal actions by, among other factors, their motives and goals. In other words, "the orientation of the individual is key to how any task is carried out" (McCafferty, Roebuck, & Wayland, 2001, p. 293). Activity theory distinguishes three overall analytical levels of behavior in an activity system. First, the activity level which is "motivated by needs and desires" (Lantolf & Thorne, 2006, p. 216) and may help uncover *why* actions take place. This level is thus concerned with the underlying motives guiding the direction and nature of the activity (Lompscher, 1999, p. 13). That is, a need or desire creates in the individual a motive for pursuing an objective. The way this objective is carried out is determined by the nature of the motives. Second, the level of Action aims to uncover the actual actions taking place, i.e. the character and direction of the activity (based on the motives). Third, the last analytical level; the level of operations uncovers *how* actions are carried out (Lantolf & Thorne, 2006). Three groups of motives are identified as of key significance for learning whereof Social and Cognitive motives are important in the present context (Lompscher, 1999, p. 16). The first important social motive for engagement and learning is identification with other persons, as well as the desire to be part of significant groups (cf. the importance of identification as mentioned above). Thus, an overarching socially based motive is the personal significance of a given activity, i.e., learners will act on motives of personal significance to them (see also Lantolf & Pavlenko, 2001). Thus, AT also draws on the relevance of emotions, as what is significant to individuals is tied to their emotions (Lompscher, 1999). Higher and lower cognitive motives for learning are also important. The former type of

motive is intrinsic and develops through intensive recurring activities (Lantolf & Thorne, 2006). The type of motivation arising from such a motive inspires learners to engage with learning, not for the sake of a concrete end result, but for the sake of learning and engaging with the subject. The latter type of motive refers to learning for the mere purpose of meeting requirements, such as, for example, passing a course. These different motives lead to different types of motivation and different ways of engagement (Lantolf & Pavlenko, 2001; Lantolf & Thorne, 2006; Nardi, 1996). AT studies, as will be presented below, show the significance of these different types of motives for learning.

Previous empirical work

Based on learner logs and interviews, Gillette (1994) conducted a study of learners of French, half effective and the other half ineffective learners (based on proficiency tests). Findings showed that learners' motives and past learning experiences guided their behavior in class. Engagement in class was based either on the motive of truly wanting to learn the language (higher cognitive motives), or by more instrumental motives of fulfilling the course requirements (lower cognitive motives). Learners motivated by lower cognitive orientations were found to limit their efforts to a minimum. Whereas, in contrast, the effective learners put in more effort than required. The students were found to both differ in their levels of investment (cf. Norton, 2013) as well as ways of engagement. For example, only the effective learners utilized the more effective strategy of 'inferencing' (p. 203) along with using dictionaries. The ineffective learners relied merely on dictionary use, which they found frustrating and ineffective, speculated to be due to a failure to meaningfully integrate the words into the appropriate context. Gillette notes that effective learners used more functional strategies which are more productive (p. 204).

Another AT study carried out by McCafferty, et. al. (2001) also emphasizes the importance of the functionality of language use for incidental learning. In an experimental study on foreign language learning, the researchers found that words in specific tasks, created for the experiment, that were closely connected to carrying out goal directed actions were better retained than less prominent words in the tasks. Words closely connected to carrying out the goals of the tasks were learner generated words, or pre-given words that learners actively used themselves or words that needed defining for learners to proceed with the activity (p. 292).

The significance of the *learning environment* in shaping learner motives has also been investigated by AT studies, thereby highlighting the inherently unstable nature of motivation (cf., e.g., Lantolf & Pavlenko, 2001). Lantolf and Genung (2002) found that a highly-motivated language learner became increasingly demotivated by the learning context, and shifted from having higher cognitive to lower cognitive motives for learning (Lantolf & Thorne, 2006). Their subject, PG, was a graduate student and colonel in the US army learning Chinese. Initially PG was very motivated for learning the language. However, she quickly found that the learning environment was counterproductive to her identity as a learner, being based on drills rather than interaction (cf. Norton, 2013). Consequently, PG's motivation went from a higher cognitive orientation of genuine interest in learning the language to a lower cognitive orientation where she merely put in the effort needed to pass the course.

Agency and motives are also mediated by material and symbolic tools, as well as by social formations (Lantolf & Thorne, 2006, p. 239). Thorne (2003) in a study on, Kirsten, a university student studying French, found that technology and sociality changed her motives and engagement in the learning process in a positive direction towards, what could be interpreted as, social and higher cognitive motives for engagement. For a French university course, Kirsten was assigned a French partner, Oliver, with whom she was to engage in exchange via email. After a delay where Kirsten did not hear from Oliver, causing her much frustration, they started chatting and quickly replaced email with Online Instant messenger, providing quick and flexible

communication. The use of this more flexible tool along with the social rather than educational nature of the exchanges where Kirsten and Oliver became friends rather than educational partners afforded much language learning. Through the chats, Kirsten discovered to her pride that she was able to engage in meaningful conversations in French. She also picked up on grammar points that she had previously not been able to learn. Oliver's feedback along with Kirsten's attention to his conversational use of the language, helped her internalize these uses. One benefit of the chat exchange highlighted by Thorne (2003) is that, besides creating a highly authentic L2 environment, it also affords possibilities to co-construct meaning with others within the 'zone of proximal development' (Vygotsky, 1978), identified as highly beneficial for language learning (Lantolf & Thorne, 2006).

Vosburg (2017) conducted a study with American college students studying German. The students played World of Warcraft on a German server for eight weeks attending two 90 min. gaming sessions weekly. They played from home, trying to create an out-of-school environment. Each was assigned to a team consisting of a German native speaker, (a language guide (LG)), one experienced player, one novice and the rest randomly assigned. The study examined the effects of native speaker presence and effect of group dynamics on language learning, specifically on productive use of the L2 and on motivation. The study was based on chat transcripts and interviews. Participants were instructed to use as much German as possible, and for the LG to let conversations arise naturally. The study found that the LG was perceived as the single most important factor in relation to motivation and language practice, and gains through, e.g., feedback and interaction. Group dynamics, however, were primarily viewed negatively. The groups had little in common, little to talk about, and had different levels of motivation for learning German. Some were highly motivated and others merely wished to pass their class. Thus, the potential benefits of being part of a community of practice (Lave & Wenger, 1991), possibly leading to social and higher cognitive learning motives, were absent. The potential benefits of participation in a community of practice is to learn from social participation through engagement. Participation in such communities is inspired by a common ground around which the community is formed (Lave & Wenger, 1991).

Despite the difference in focus between the studies above and the present study, i.e., formal vs informal contexts, the AT framework seems particularly apt also for investigating learning in informal contexts due to the emic view of learner motives and actions (Lantolf & Thorne, 2006, p. 238. See also Nardi, 1996). By investigating which motives lie behind the engagement with English-language mediated activities, and by examining the actions that are carried out based on these motives, i.e., how the language is being engaged with, much knowledge may be gained about young users' engagement with affordances for language learning in the wild.

The present study poses the following research questions:

Which motives (social and cognitive) are children driven by in their use of English in L2 English-mediated activities?

How do children engage with L2 English based on their motives?

The study

Method

Participants

Fifteen children are part of the present study, see Table 1.

Table 1. Participants (focus children highlighted in bold)

interview #	Names	Gender	Age
1	Karl (friend)	M	11
	Ferdinand	M	11
	Alvira	F	11
2	Karen (friend)	F	11
	Katharina (friend)	F	11
	Sheila (friend)	F	11
	Sean	M	9
3	Niels (friend)	M	9
	Robert (friend)	M	9
	Vivian	F	9
4	Serena (friend)	F	9
	Johanne (friend)	F	9
5	Antonio	M	11
6	Arnold	M	9
7	Nina	F	7

Table 1: Name (alias), Gender, Age (at the time of the interview).

The participants were tied to a government-funded project on the importance of age for learning English (authors, xxxx). Participants were selected for the present study based on two criteria: 1) they engaged regularly in English-language activities outside school (set to 7 hours of weekly engagement) and 2) they engaged in gender typical activities as found in author (xxxx), i.e., the boys primarily engaged in gaming and YouTube watching and girls in net-based activities, music and some gaming. Selection was based on language diaries and talks at project schools. The participants had all stated engagement with English in the wild in a one-week language diary (LD), (for details, see Author, xxxx). Furthermore, the researcher was present in project schools in three data collection rounds providing opportunities to talk to children about their L2 habits in the wild, as well as to establish rapport (Gibson, 2012). Based on the LD and talks, seven focal participants were selected for interviews in congruence with the above-mentioned selection criteria (see names in bold, table 1). For the focus children who engaged in such activities with friends (Alvira, Ferdinand, Sean and Vivian), these friends were also recruited providing an authentic view of their engagement in focus group interviews. Three focal participants engaged primarily alone and were, therefore, for ecological validity, interviewed individually (Antonio, Arnold and Nina).

Ethics

Informed parental consent was obtained via emails prior to all interviews. Participants appeared comfortable and interested in sharing their knowledge. Data has been anonymized and participants given pseudonyms.

Design

Interviews were conducted, in Danish, after school hours in the fall of 2016. The study employed descriptive ethnographic interviewing (Spradley, 1979). The participants took the interviewer on a ‘guided tour’ through the English-mediated activities they engage in on a regular basis by engaging in the activities while they were

interviewed. Spradley notes that: “[d]escriptive questions aim to elicit a large sample of utterances in the informants native language” (1979, p. 49) and can provide an extensive knowledge about the life worlds of the participants. In total, there were four focus group interviews and three individual interviews. Each interview was video recorded and lasted 60-90 minutes.

Analysis and methodology

Data was transcribed verbatim including non-linguistic details of relevance to the utterances, such as, e.g., “child typing: ‘Best goals ever,’” and was subsequently imported into NVivo.

All instances of engagement (Actions) with English, along with details of the engagement were identified (e.g., ‘watching YouTube’) and coded as ‘engagement with English’. Subsequently, these Actions were grouped according to motives (social, higher and lower cognitive). When possible, motives were grounded in an emic perspective, i.e., the child would explicitly state a motive, when not, were grounded in the researcher’s interpretation and analysis of the child’s action. Within the coding for motives, Actions were also coded according to *Strategy*, i.e., strategies for understanding unknown linguistic items and for using English thus highlighting strategy use in relation to motive. These categories were found relevant given their focus in previous AT studies albeit in relation to formalized learning scenarios (cf., for example, Gillette, 1994).

One code, ‘speaking English’ (i.e., instances where children code-switched and used English rather than Danish), was very comprehensive and left out, to be discussed elsewhere.

The coding process was iterative throughout, recordings were watched on numerous occasions, the transcripts scrutinized for familiarization, and codings were subject to numerous discussions with fellow researchers.

Examples have been translated into English by the researcher.

Findings and Discussion

Findings showed that the young users, to a large degree, seemed driven by social as well as higher cognitive motives in their engagement with English. By token of their great interest in the activities, the children engaged extensively with English. 11-year-old Alvira, for example, engages in many different activities. She watches Netflix series, such as, e.g., ‘Gossip Girls’, with English dialogue (sometimes Danish subtitles), subscribes to English-language written ‘lifhacks’ via Instagram (for good advice or daily quotes), follows people on Snapchat and watches various American Vloggers (for advice on fashion and their lives in general). Many of the older girls read and listen to English-language updates on various social media (e.g., Snapchat) and occasionally will also make written comments in English. 7-year-old Nina, on the other hand, played games and watched a great number of fairytale like YouTube videos on these games. Similarly, the boys would play many different games and watch YouTube videos on different topics, such as gaming walkthroughs or various ‘challenges.’ Some (Antonio, Arnold, Ferdinand and Karl) would also engage in online chats.

Below, children’s specific engagements with the L2 are discussed in three subsections: higher cognitive motives, social motives, and lower cognitive motives.

Higher cognitive motives

Personal significance

Findings showed that both the content and the mediating language of the activities were of great personal significance to the children. The following statements exemplify such positive sentiments:

Ferdinand: ...*I think English sounds kinda more, it’s a cooler language*

Arnold: *I know that here [YouTube/game] they speak English fluently and I like that better [than school English]*

Antonio: *Well, the other [school English] that's kind of a lot stranger than what I normally hear – it's like a different accent and stuff.*

Serena: *They [English-speaking YouTubers as opposed to Danish] know more [in general]*

Most of the children stated that English-language activities were more interesting (more up to date) than Danish language activities, in turn, motivating them to seek to understand the content. In fact, based on content and language, most of the children clearly stated that they preferred to watch YouTube videos mediated in English rather than Danish. It is interesting to note that Antonio (above) stated how *school English* is stranger than what he “normally hears” indicating that English in the wild to him is the norm, even at the early age of 11. Similarly, Arnold (age 9) found English in the wild is to be preferred over school English, and, to Ferdinand, even over Danish (cf. above). Alvira, on the other hand, noted that she found English inside and outside school complementary, stating that she learns ‘girly’ words outside school whereas she has a basic vocabulary from school.

Clearly, engaging with and investing in the English language outside school offer the children attractive possibilities, and is of great personal significance, thus, motivating investment in using the language (cf. Dornyei & Ushioda, 2009; Norton, 2013).

Another salient reflection of the positive status of English was found in the children’s use of Anglo-sounding names for their gaming characters e.g., Milky, Hank, Fluff, GGUSA; a custom identified by Bechar-Israeli (1995) as a way of “highlighting” and “playing” with identity (p.15). This practice mirrors Danish YouTubers’ use of Anglo names (cf. DreamModels.dk, 2017), clearly testifying the bottom up promotion of English. The children thus identify positively with the people and the content of the Anglo space stating this explicitly, and showing it implicitly by playing with Anglo identities themselves.

Keeping in mind the importance of personal significance and positive emotions towards using (and learning) the language found in the studies both by Gillette and Thorne (and mentioned by others, such as, Lantolf & Pavlenko, 2001; Norton, 2013), it is safe to assume that the children in the present study, when possible, have the incentive to engage actively and positively with the mediating language.

Social motives

Activity theory emphasizes how language learning is of an inherently social nature, initially taking place in the social sphere to later become internalized by the individual. Thus, learning is not seen as an individual process aimed at the mere acquisition of linguistic forms, but rather as a socially, externally as well as internally, mediated process aimed at participation in the sociocultural world (Lantolf & Thorne, 2006).

Findings in the present study highlight how the use of L2 English in the wild offers opportunities to become part of a wider community of practice (Lave & Wenger, 1991). Findings, indeed, showed that some of the children were motivated to use English by their wishes to engage in and be part of different communities of practice, such as e.g., communities around specific games. They were aware, and most not reluctant to the fact, that engagement with English was required to participate.

A good example is the choice of English-mediated activities over Danish even when the language setting offered a choice. Although English is the default language of digital games (Waters, 2007), sometimes there

is a choice in terms of language setting. Even in such situations, some participants chose English. Antonio noted:

I mostly have it [it = games] in English because then it's easier to find something when everybody else has it in English and then if they [YouTubers] call it something I can't just go look it up when it's in Danish [in the game] ... And then what is it really called in Danish, emm?

Thus, the choice of English was not only founded on necessity or because fun activities are in English, but also importantly, on the wish to be part of a larger community of expertise. That is, in order to benefit from knowledge, as found on, for example, YouTube, which, according to the children, offers an immense community of expertise within the gaming world, it is advisable to keep within the default language English. Furthermore, the example shows an important interrelation between the language of playing games and watching YouTube videos, which was evident throughout the data, and which seems to provide ample opportunities for situated engagement with English. All children who played games would watch some type of complementary YouTube video on the gaming topic. We may speculate that the association between images from the games relatable from personal, meaningful engagement in games, coupled with words and images on YouTube would be beneficial for language learning. This is not least because the user is personally engaged in the activity of playing the game, as well emotionally engaged with the cognitive operations surrounding the engagement with the YouTube video. Summed up by Gee (2012) “players are learning by doing, and that they have images and experiences to give deep meaning to the words and texts they read [and hear] later, in order to resource their play and learning.” (p. xii).

Some of the children would play online games and would join English-speaking teams. Through this, they gain access to an extended world of English, and engage with affordances for language learning by putting language to active use (cf. McCafferty et al., 2001; Swain, 2000). They told the researcher that participation in online games requires attention to the chat or you will be ‘thrown off the team’. Game play and advancement was not the only reason for engaging in chats. Karl also specifically noted the importance of the social aspect. Interestingly, Arnold (age 9) told the researcher that he would engage in chats in accordance with his abilities; he would try to read the chats but, due to his age, was unable yet to write chats himself. However, he was clearly drawn by the interesting universe offered by the chat.

Antonio described engaging in a series of chats with an American gamer (called Big Ace) getting help in Sky Factory (a Mod Pack for Minecraft):

Well through Sky Factory in the beginning Thomas [a friend] and I helped each other. Then he didn't want to play anymore and I couldn't ask him to help because then he was no longer updated on the game...then ehm we had been getting help from someone called Big Ace... and he often helps me – he's the kinda guy that just knows everything and runs all mods and stuff and then he's just really game-like. He's had everything automatized – I also have that now but in the beginning, he helped me with stuff if I didn't know how to do it....he was really nice and I could add him to my island

This situation seems to offer a classic example of scaffolding, where a mentor and a novice co-create learning and development together within the zone of proximal development, i.e., within the confines of what, in this case, Antonio may achieve individually and the higher level of potential development that they are able to reach together (Lantolf & Thorne, 2006). This situation thus resembles that of Kirsten in her chats with Oliver (Thorne, 2003).

Levelle and Levis (2014) point to another benefit of “social involvement” with speakers of the L2, arguing it provides “...opportunities to notice how people talk, how they interact, the ways in which they package their words and gestures, and the sociolinguistically marked variants that evoke comfort in interactions” (p. 452). It was evident through the perception of the target community speakers’ language as more authentic (cf. ‘personal significance’) that the young users do indeed notice ‘how they talk’. In fact, Nina (age 7) pronounced the English words she would occasionally use to describe different YouTube videos, such as the names of characters (Ramona) or names of items (pick axe), with the accent with which the YouTuber spoke (American or British accent).

Strategies

In her study, Gillette (1994) found that effective learners employed a number of productive strategies in order to fulfill their goals of learning the language. Swain (2000) notes “... one might hypothesize that learners seek solutions to their linguistic difficulties when the social activity they are engaged in offers them an incentive to do so, and the means to do so” (p. 100). And, indeed, this is the case also for users in the wild. In the present study, language learning is not the goal. However, the significance of and interest in the activities prompts the users to employ various strategies in order to understand the language. Sometimes the children would use strategies for understanding the language of the activities and sometimes language was used as a strategy for advancing, or simply participating, in an activity.

Musical.ly, an app to create personal sing-along videos while simultaneously making gestures that match the words, was specifically mentioned as a medium where one must attend to and understand the language. Giving a tour of Musical.ly, Alvira said:

You need to listen to the lyrics and then find out what it means and then make gestures.

Also, when listening to music online, the younger girls occasionally add lyrics to help them understand the song.

The most common strategies were guessing from the context (inferencing), using an online translation tool, or asking family members (similar to strategies used by Turkish children as discussed by Turgut and İrgin (2009)).

Inferencing was commonly used as a strategy to understand unknown words.

Sean: *well [outside as opposed to inside school] they don't say hallo that means hi that they don't like say in the games. There they just say it and then it's up to you to figure it out.*

Karen: *Then sometimes there are some things that you don't quite understand but if you then understand other things then it's easier to understand it when you see the connection between things.*

Nina (uses the ‘context’ of her first language (L1)): *If I cannot understand it, I try to remember something in Danish and then see if I will then know what it is and stuff like that*

As noted, Gillette (1994) found that inferencing was only employed by her effective learners who were motivated by higher cognitive motives for language learning. Evidently, children as young as seven (Nina) likewise employ such strategies thus creating for themselves affordances for language learning. Apart from the importance of the children’s motivation for understanding the language, the multimodal nature of the activities is undoubtedly helpful. Previous research suggests that multimodal cues offer important information in the deciphering of unknown words (Elley, 1989, cf. also Ortega (2015) on the importance of multimodality for language development).

Many children also used Google for online translation:

Antonio: *And then I can also for example if someone writes to me: “No you have to wait for a while”, in the beginning I did not know what ‘wait’ was in English and then they said it and I thought what kind of word is that? And then I went to Google translate and then I found out that something is called patience or something like that.*

Interestingly, Gillette (1994) found that her ineffective learners solely relied on dictionary use for unknown vocabulary and with little success. She argues that this may be due to the analytical rather than functional nature of their dictionary use where words are merely looked up and are not incorporated into meaningful use. As is evident from Antonio’s example, this type of dictionary use is functional and a key function is to provide pragmatic knowledge which is called for by the social context. The use is highly meaningful as the knowledge is needed for Antonio’s participation in the gaming team, i.e., he seems to be driven also by a social motive (cf. above).

Even if they found Google Translate useful, some children also used *Google translate* as a derogatory term indicating awareness that use of this tool also requires a certain amount of critical sense. As a positive consequence, this tool may also draw attention to meta-knowledge about language and language use, thus causing the users to reflect on the language (Swain, 2000).

What the above engagements with English have in common is the goal-oriented nature of the use of the language, be it through incorporating words and phrases into songs to fit gestures (Musical.ly), through inferencing words trying to understand the bigger picture or through looking up words to understand a personal message. These uses are all functional and personally meaningful and thus, it seems, potentially beneficial for the retention of lexical items, in keeping with McCafferty et. al.’s (2001) findings , i.e., they all serve as important lexical items for goal-directed behavior.

Strategies for advancement

Children also use strategies for advancing in their activities which are related to using rather than understanding the language, as above. Thus, some children write in English when they search the web for information. Antonio, for example, often searches the web for game-related information:

And then there’s this grill and stuff and then you have to use gasoline for it. Initially I didn’t know how to make gasoline – it didn’t say anywhere and not many knew kind of, well, Thomas [friend] didn’t know, my big brother didn’t know and then I went to YouTube to search ‘How to make benzin’... ehm ‘gasoline’ and then I figured it out like that.

Karl also writes English in Minecraft to make so-called command blocks, enabling him to build bigger structures faster as well as offers him possibilities of teleportation and healing. The children thus are goal-oriented in their use of opportunities to listen to and write English which provide the possibility for engagement with authentic English and, for some, the possibilities for producing English language through writing.

In sum, higher cognitive motives for engaging with the English language, making it a “sub goal” (Lantolf & Thorne, 2007) in goal-directed engagement with the activities, was salient in the data and led the children to many affordances for language learning.

However, as will be discussed below, a few children were driven by lower cognitive motives.

Lower cognitive motives

Not all children were equally motivated to engage with the L2. Niels, for example, expressed annoyance that the FIFA commentary is in English: “*I wish you could switch to Danish*”, and he primarily seeks out Danish YouTubers. It seemed he felt no positive identification with the L2 speakers but, rather, tolerated the English language as it was vital for engagement in the activities. Similarly, Johanne was less enthusiastic about the English language and did not purposefully seek out English-language content.

This type of motivation for using English seemed of a lower cognitive type where the children, as in examples by Gillette (1994) of her ineffective learners, seemed to be interested in merely ‘passing the course’. Such engagement inevitably will lead to fewer affordances for language learning (cf. Van Lier, 2000), which was also evident in their engagement with English.

Strategies

In general, Johanne, Katharina and Niels would ignore unknown vocabulary. Niels stated that he would try to understand when pressed:

Well, in PES I have to read some of it or it becomes too difficult. I can't just be pressing buttons.

When Katharina faced unknown vocabulary, she stated that: “*I go back and forth I don't like it when they're just talking forever; then I'll just forward it to when there's like some action going on.*”. Thus, it seemed that rather than trying to infer the meaning of the vocabulary, Katharina would ignore it.

Many children mentioned that they ask friends' and family members' help in understanding unknown words. Niels would occasionally ask his family members for help with song lyrics: “*It is actually quite annoying sometimes if it's a good song... if your parents know you can ask them but often they don't*”. This example highlights the important fact that contextual factors are very important for expanding or limiting the language learning opportunities (cf. Lantolf & Thorne, 2006; Norton, 2013; Pavlenko, 2002) and motives and individual agency are not independent factors. As Nardi (1996) argues context is not just “out there” (1996, p. 38) but, rather, is a combination of all of the factors in the activity systemⁱⁱⁱ.

Interestingly, findings also show that, for some, engagement with English in school seems driven by lower cognitive motives carrying little personal significance. Ferdinand drew a very sharp distinction between engagement with English in the wild and English in school:

for example, these, all these games [outside school] there they are English games, in English, and it is like both where we learn some English and where it is fun for us instead of sitting and looking in like a book; for example, once we spent four English lessons on one page. And it was like really boring for all of us. We thought it was SO boring.

Some of the children thus, like Kirsten in Thorne's study (2003), seem to benefit particularly from the social and playful, rather than the educational nature of engagement with English in the wild. And, like Kirsten, they seem to think that in general English outside school is more authentic, cf. ‘Personal significance’ (see also Henry & Cliffordson, 2015; Sundqvist & Sylvén, 2016, albeit concerning older learners).

Limitations

Given the fluctuating nature of motivation, longitudinal studies would be needed to obtain more comprehensive knowledge on children's motives (Lantolf & Thorne, 2006; Nardi, 1996). Furthermore, incorporating more data types, such as observational studies, would also be advisable. However, the findings may offer insights

into a highly relevant activity system, and may provide a starting point from which further research ideas can be developed.

Suggestions for further research

Despite a growing interest in language learning in the wild, still only few studies have investigated young users' (7-11 and younger) extramural language learning. More research in general, quantitative as well as qualitative, on this group of users is needed. In particular qualitative emic studies, with their potential to enrich our understanding of the digital L2 lives of young children from an insider perspective, would significantly contribute to the field (cf. Ushioda, 2008). Such studies are particularly relevant for their ability to provide detailed knowledge of the specific activities children engage in, as well as of the nature of their engagement (i.e., specific *motives* and *actions*), in turn, being able to inform our theorizing on language learning in the wild. To a significantly large group of young children, the opportunities for engaging with digital media mediated in L2 English are abundant. Much more knowledge on their engagement with the potential affordances of this space is called for in order to describe and understand a societal phenomenon that is markedly different than that of generations not far removed in time. Likewise, limited access to the digital space, or limited engagement with its potential affordances may help uncover, for example, socially structured inequalities and implications hereof (Lantolf and Thorne; Norton). Furthermore, with the findings of the present study tentatively suggesting similar trends in attitudes towards English, inside and outside school, as findings for older learners (Henry, 2014), namely; pointing to a gap in motivation between engagement with English in and outside school, more research is needed on specifics of engagement with English in both activity systems. Such research would help uncover the causes of these different perceptions. For example, longitudinal ethnographic studies on young children's engagement in both activity systems, such as studies comparing motives for, and actual engagement with English in and outside school by the same group of users/learners, would be highly important to further expand on and elaborate the findings of the present study.

Conclusion and pedagogical implications

The present study explored the questions: 1) Which motives (social and cognitive) are children driven by in their use of English in L2 English-mediated activities in the wild? and 2) How do children engage with the L2 based on their motives? The study found that for the most part the children were motivated by social and higher cognitive motives. Through these motives, the children engaged with the language learning affordances in a goal-directed manner, leading them to engage with and invest in many affordances for language learning. Through their motivation, some actively engaged with English by writing (chats, command blocks, comments on social media), reading (online information, chats, social media) and listening (songs, games, social media, YouTube videos, etc.). The study also found that some children were driven by lower cognitive motives in their engagement with English thus lending fewer affordances for learning. They thus engaged with the language in a way that would merely enable them to 'get by.' Interestingly, some children with higher cognitive motives for engagement with English in the wild had lower cognitive motives for engagement with English in school, and also found school English less authentic.

In sum, the study highlights the importance of investigating users' specific engagement with language and not assuming that frequency of exposure is the sole 'variable' accountable for language learning. As Van Lier notes, users' "needs and wants" are crucial in determining learner agency and investment and, by extension, learning outcomes (Van Lier, 2000).

The study also highlights the importance for teachers to recognize that children bring to school different motives and different experiences with English (Lantolf & Thorne, 2006; Sundqvist & Sylvén, 2016), i.e. first and foremost, they need to acknowledge their students as people rather than learners (Ushioda, 2011).

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Language playing in the wild: productive use of L2 English by young Danish children

Abstract

The present study explores productive use of English in the wild by young Danish children (aged 7-11). Through recordings of children engaging in spare time activities mediated in English in the form of ethnographic recordings and interviews (Spradley, 1979), the study shows that young Danish children use English when engaging in EE activities for practical reasons (most activities are mediated in English), but also to style themselves as having valuable social identities. Through a discourse analytical approach, it is argued that through such uses, the children co-create a social space for language learning, where English use is based on community membership in the global digital, primarily gaming, space. Through, among other things, language play the children play with forms, identities and meanings creating and showing awareness of language. Through these uses, words and phrases move beyond being mere 'labels,' and are possibly processed at a deeper level (Joe, 1998; Swain, 2000). The study takes a usage-based approach (cf., e.g., Ellis, 2015) with a specific focus on the social aspects of language learning through poststructuralist notions (Pavlenko, 2002).

1.0. Introduction

The present study is grounded in an informal L2 context, where research on children's engagement in digitally mediated activities in English has shown evidence of (opportunities for) learning (Lefever, 2010; Piirainen-Marsh & Tainio, 2009; Sundqvist, 2009; Sylvén & Sundqvist, 2012). With the ever growing spread of digital English as the world lingua franca, young people are engaging with English to an unprecedented extent, providing potential affordances for learning. Specifically, the topic of the present article is second language (L2) productive language use and learning in 'the wild', (i.e., outside a formal setting (Wagner, 2015)), also coined extramural English (henceforth EE) (Sundqvist, 2009). This space evidently affords many opportunities for meaningful engagement with language by providing possibilities for listening to or reading meaningful L2, and furthermore lends opportunities for productive uses of the language through chats (Belz & Reinhardt, 2004; Lam, 2004; Peterson, 2016; Steinkuehler, 2006), engagement in affinity spaces (Gee, 2007a; Ryu, 2013), or through social dialogue between the social actors engaged in co-located gaming (Piirainen-Marsh, 2011; Piirainen-Marsh & Tainio, 2009; Sjoblom & Aronsson, 2013). However, thus far, very little research exists on very young children's, below the age of 11, engagement in extramural English activities and the potential language learning that such use may afford. The present study, in part, aims to fill this gap.

The study takes a usage-based point of departure viewing language learning as a social and cognitive endeavor grounded in meaningful participation in social activities (Ellis, 2015). It follows that language learning happens through concrete usage, and is chunk-based, with the learner moving from an initial learning and use of concrete chunks to a more abstract use (Ellis, 2015, p. 50). The study also draws on poststructuralist notions of language learning, emphasizing the fundamentally social nature of language learning (Pavlenko, 2002). That is, a fundamental part of learning a language is also learning and constructing beliefs, social roles, "values and behavioral practices among participants in a community" (Lam, 2004, p. 3). Needless to say, this constructional process may be contested, and values and practices may not be identified with, nor may access be granted to linguistic communities, as shown by Norton (2013). However, language is not a neutral code to merely be picked up. Attitudes towards a specific language, formed in part by the social identities it affords, will affect investment in the language (Charalambous, 2012; Norton, 2013). Children today, and in Denmark to a large extent (Mascheroni & Ólafsson, 2014), habitually engage with a "globalized youth culture" accessed via the internet and digital media in general. Consequently, this provides extensive affordances for engaging with

English, and many possibilities for playing with style and identity outside of local boundaries (Arnseth & Silseth, 2012, p. 26).

Specifically, the present study analyzes instances of productive use of English taking a discourse analytic approach focusing on the actions accomplished through this use. The study shows that, whereas Danish language classrooms inspire little productive use of English (aus der Wieschen, 2018), and then rarely learner initiated, the digital community in the wild to a much greater degree inspires such uses. In turn, such findings have important pedagogical implications and adds to the scarce amount of research in general on “second language encounters outside the classroom” (Wagner, 2015, p. 76).

The paper starts out with a brief description of the Danish setting followed by a short account of games and other L2 mediated activities as sites for language learning. Hereafter, a review of research on the benefits of productive use of L2, including ludic language, is provided. Subsequently, the methodology is presented, followed by a section on findings. The paper is rounded off with limitations and suggestions for further research, as well as a conclusion including pedagogical implications.

2.0. Background and previous research

2.1. The Danish setting

The present study is set in Denmark. In general, Denmark has been keen on welcoming the Anglo language and culture. With the lowering of the onset of formal English instruction from the 3rd grade to the 1st in 2014, English is granted foremost importance. Television shows in English are not dubbed, many commercials are in English, English names are even incorporated into official governmental institutions (cf. Disruptionråd, i.e., Council for Disruption). Status is also, and to a large degree, granted by the general population, notably the younger segment of the population. Many Danish YouTubers use English names and their videos are permeated by English. Danish teenagers in general seem to think that English is ‘cool’ (Heidemann Andersen, 2002), as do very young children (cf. author, forthcoming 2019) and young people employ a great deal of code-switching as a way of signaling group-membership in a ‘cool’ culture (Heidemann Andersen, 2002). In a recent study, it was found that Danish children between the ages of 8-10 spend an average of six hours weekly engaging in English-language mediated spare time activities (author, xxxx; see also Sylvén & Sundqvist, 2012 for a similar situation in Sweden). English among young people in Denmark can thus be said, in general, to afford potential positive identificational value (Coupland, 2007).

2.1. Extramural language learning

The benefits for language learning of engaging with digitally mediated activities, such as gaming are widely recognized (Gee, 2007a, 2007b; Peterson, 2016; Piirainen-Marsh, 2011; Piirainen-Marsh & Tainio, 2009; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012). Gaming has been found to be beneficial for participants’ productive use of L2. Some studies have focused on chat environments and how they may provide opportunities for language learning through language practice, for example, of interaction strategies through dialogues (Peterson, 2016), or, some focus on interactions through imitation and repetitions of game language between the co-present participants (Piirainen-Marsh, 2011; Piirainen-Marsh & Tainio, 2009; Sjoblom & Aronsson, 2013), and some on vocabulary learning through game interactions (Rankin, Gold, & Gooch, 2006). Others note how the interplay between gaming and affinity spaces provides ample opportunities for using output that may enhance language learning (Ryu, 2013). Some studies show that, chatting provides opportunities for playing with identity and being socialized into relevant communities of practice (Lam, 2004). The notion of communities of practice stems from Lave and Wenger (1991). It states that people learn also

without setting out to do so, also known as situated learning, through their memberships in specific communities of practice. People learn from social participation, from each other, through engagement in these communities, characterized by having their own norms, language and specific practices (Lave & Wenger, 1991). Thus, language learning and language socialization are closely related, (i.e., simultaneous to learning a given language, the learner acquires social competence related to the community in which the particular language is tied (Lam, 2004, p. 46, see also Lantolf and Pavlenko, 2001)). For example, in Lam's study (2004), based on language socialization theory (Schieffelin & Ochs, 1986), the use of code-switching between Cantonese and English in a bilingual chat room was found to provide opportunities to practice English in a safe environment. Moreover, it offered the chatters possibilities for playing with their multiethnic identity in a shared community of practice, while practicing English. Research has also found that co-located gaming, where players are located in the same location, inspires productive use of the gaming language. In a study of 11-13-year-old Finnish boys gaming together at home, Piirainen-Marsh and Tainio (2009) found that the boys would imitate the English terminology playfully and creatively, thereby, through this externalization, signaling competence as well as membership in a locally contextualized community. Peer groups form important communities of practice where children have a "double-opportunity space" (Zadunaisky Ehrlich & Blum-Kulka, 2010) to co-construct social worlds and language skills, and often this will demand that children are able to use the language creatively to gain attention in the peer group (Cathcart-Strong, 1986; Cekaite & Aronsson, 2005).

Creative and playful use of language is becoming increasingly interesting to SLA researcher, acknowledging that language is used for much more than informational/transactional purposes (Block, 2003). Language play (henceforth LP) in particular, has been the focus of research, but mainly within L1 (for an overview see Cekaite & Aronsson, 2005) and adult L2 LP (see Belz & Reinhardt, 2004). Only very little research exists on L2 LP for children and, save for Orellana's and Peck's studies (1994; 1980), is based primarily on classroom studies (Cekaite & Aronsson, 2014). Some findings from research on children's L2 LP are presented below.

2.2. Children's L2 Language play

Language play can be defined as language used for the purpose of fun rather than 'transactional' or 'interactional' purposes (Broner & Tarone, 2001), or private speech, (i.e., a rehearsal of language forms directed at the self for the purpose of internalization (Lantolf, 1997)). In the former sense, the primary focus of the present study, LP is playing with linguistic forms by repetition or modification (Belz, 2002, p. 16). At the *formal* level, LP constitutes play with linguistic play with language structures and form. In *semantic* LP, semantic units are played with, thereby creating so-called fictions (i.e., non-existent worlds). LP can also be *pragmatic*, in so much as playing with different styles and registers (Cekaite & Aronsson, 2014).

For adolescents, Language play (stylized talk) has been found to provide a means for them to, for example, resist dominant ideologies and for playing with group membership (Charalambous (2012). Studies on children similarly show that peer groups are important in relation to children's language use.

In a Swedish study of seven, 7 to 10-year-old immigrant children in an immersion class setting, Cekaite and Aronsson (2005) looked at spontaneous language play in class (events with laughter or comments on "laughables"). They found that the children collaboratively engaged in a variety of LP in which they drew on mislabeling and puns (p. 174). A frequently occurring example of LP was playing with rudimentary language and homophonic words, such as juxtaposing the meanings of *kissar* (which may be a plural noun form for 'kittens' or a verb: *peeing*). Such use created opportunities for practicing language, as it demanded the children pay attention to language, thereby making LP one of the "crucial building blocks of peer run 'language

lessons” (p. 187). Moreover, the children also signaled competence in their ability to play with the language (p. 188), using LP to qualify as participants in the classroom community, thus involving identity work. Cekaite and Aronsson furthermore note that pupils need to draw on all of their ingenuity in order to secure attention in a busy classroom and thus draw on available resources, often ludic language, to be noticed (p. 188).

Cekaite and Aronsson, in a more recent Swedish study (2014), found that children (nine, 7 to 10-year-olds, same setting as 2005 study) engaged in a variety of what they call “peer group improvisations” (p. 194). These involve LP and show awareness of language or ‘reflexivity’. In other words, children style (Coupland, 2007) their language to fit the language of the peer community, thus performing, in a sense, an identity (p. 200). Thereby, they create opportunities for peer interaction seen as an important resource for language learning (p. 195), making it vital for schools to provide a space where such language use can thrive.

Peck (1980) conducted a study of three children between the ages 5 and 8, in an informal L2 setting. She found many examples of LP (language used for fun rather than for informative purposes), such as playing with language form (p. 158). She concludingly argues that LP may be beneficial for language learning by token of the fact that it provides possibilities for practicing language in a relaxed atmosphere, or in an “affective climate” (p. 162, see also Broner & Tarone, 2001; Cekaite & Aronsson, 2005; Cook, 2000).

Broner and Tarone (2001), in a study with 5th graders in a Spanish immersion classroom, found that the children engaged in two types of LP: *private speech* (Lantolf, 1997) and *ludic language* (Cook, 2000) (see above). Ludic language, they argue, due to its fun nature, is related to language learning in that it may highlight features of the language, in turn, increasing retention of these features (p. 375). It may also provide opportunities for acquiring multiple registers through “role-play” and “double voicing” (p. 375) creating non-existing worlds, a point also made by Cekaite and Aronsson (2014).

Orellana (1994) studied three L1 Spanish speakers’ (around age three) use of Spanish and English in kindergarten and at home. She found that when the children play-acted to be super heroes they exclusively did so in English, while assuming different voices. She reports a conversation between one child (Carlos) and his mother, which clearly testifies to the interrelation between language and identity, not least, to the power of popular culture. The child states that he will stop speaking Spanish, because: “... Batman doesn’t speak Spanish. Superman doesn’t speak Spanish. Peter Pan doesn’t speak Spanish, either.” (p. 185). Orellana argues that children’s language choices provide insights into the interconnectedness between their acquisition of language and their identity construction (p. 175). It thus seems that Carlos has recognized that becoming a member of the super hero community demands that he uses the language of the super heroes.

As mentioned, LP is also a resource for ‘entertainment’ through which children gain access to participation in desirable groups or communities (Cathcart-Strong, 1986, recall also Cekaite and Aronsson, 2005). Cathcart-Strong argues that an additional conversational maxim (cf. Grice, 1975) ‘be entertaining’ is relevant for children. In her study on four children in a Spanish-English bilingual kindergarten in the US, Cathcart-Strong found that often they used so-called intention statements (i.e., voicing out loud their intentions such as “I’m gonna make coffee” (p. 523) which requires no answer, and seen from a Piagetian viewpoint to be “self-directed, non-interactive speech” (p. 523)). However, Cathcart-Strong argues that such intention-statements, rather than being self-directed, are employed by the children to be interesting.

2.3. Cognitive benefits of productive use

Engaging with language by using it productively has many cognitively-related benefits. Swain’s (2000) output hypothesis incorporates many of the, now agreed upon, benefits of output and interaction within SLA: the

noticing/triggering function, the hypothesis testing function and the metalinguistic (reflective) function (Swain, 2000). The output hypothesis has been extended to argue that output using collaborative dialogue may lead to language learning, given that the dialogue may serve as a means through which learners (or interlocutors) implement collaborative efforts on mutual tasks. In doing so, this may construct new knowledge both by producing output but also by engaging in mutual reflections on the “said” (p. 113, cf. also Cekaite and Aronsson, 2005 and 2014). Productive use may also make the learner/user process the language “more deeply” than input, as the learners/users come to realize their linguistic strengths and weaknesses (Swain, 2000, p. 99, cf. Cekaite and Aronsson, 2014) “peer run language lessons”). Furthermore, deep processing can occur through a “generative” use of words (i.e., when words are used in new contexts). The deep processing results from the fact that generating words require learners to firmly connect new and old information, and thus words are retained to a greater extent (Joe, 1998, p. 358).

In sum, productive use of the L2 is beneficial for language learning for different cognitive and social reasons. Research on young learners within this area is particularly relevant. For one, research on L2 engagement in the wild is scarce (Wagner, 2015). Secondly, investigating how the ample access and the positive attitudes towards English affect children’s productive use of the language seems relevant, given the benefits of such use for language learning.

3.0. The study

The following research questions guide the study:

How do young Danish children employ English productively as an affordance in the EE space? How may this use be related to language learning?

3.1. Participants

Participants for the present study were drawn from a government-funded Danish research project (N = 298) on the relation between age and language learning. Data, for the present study, was collected from two sets of participants between the ages of 7 and 11. All participants were recruited from the larger project through information on their extramural habits attested in language diaries (LD), modelled on LDs created by Sylvén and Sundqvist (2012) (for details see Author, xxxx), and based on informal talks during data collection in project schools where the researcher was present in three rounds of elicitation over two years, getting to know the EE habits of many project participants. Two types of ethnographic data were collected: gaming video recordings (Dataset 1, see below) and ethnographic interviews (Dataset 2, see below). Both datasets were collected to get an emic perspective on engagement with English in the wild.

Dataset 1 consists of data from three boys (friends) aged 10-11 years. Together, they regularly engage in gaming and different English-language activities after school. They engaged in +7 hours of EE weekly during the time of the recordings (as attested in the LD).

Dataset 2 consists of interviews with 15 participants, seven boys and eight girls, between the ages of 7 and 11 years. For ecological validity, participants engaging in English-language activities together after school were interviewed in focus groups yielding four groups. For participants engaging in such activities alone (three participants) interviews were conducted as individual interviews (for details see author, forthcoming, 2019).

The participants had received between half a year and two years of formal English teaching in school with either one or two, 45-minute lessons weekly at the time of the data collection. Classroom observations from

the project, within which the present study is embedded, give impressions of classrooms where only little productive use of English takes place (c.f., aus der Wieschen, 2018), making it relevant to investigate such uses outside the formal space.

3.1.2. Material

Dataset 1 is based on video recordings from 2016. It consists of approximately six hours of video recordings of EE engagement (gaming and watching YouTube videos). The first recording took place at the participants' school after school hours with the researcher present. Subsequent recordings took place at one of the participants' home without the researcher present. The participants engaged in spare-time activities reflecting their interests. The participants would mostly play games on their phones and tablets. The most commonly played games were Growtopia, Order and Chaos online and Terraria. Participants would also watch English-language YouTube videos about the games, and whatever caught their interest. Cameras were placed to capture the participants' faces and body language as well as the screens (they used both tablets and smart phones). However, due to the nature of the engagement where participants sometimes moved around, some of the screen recordings were inconsistent. Continuous recordings, however, made for a substantial and coherent dataset and were thus considered suitable for analysis.

Dataset 2 consists of ethnographic interviews with 15 children between the ages of 7 and 11 years. The participants were interviewed by the researcher about their EE activities while engaging them in employing descriptive ethnographic interviewing (Spradley, 1979). Participants took the researcher on a 'guided tour' through the EE activities in which they commonly engaged, including gaming, YouTube clips and social media, thereby providing insights into their habits and "native language" (Spradley, p. 49). Each interview lasted between 60-90 minutes.

3.1.2.1. Ethics

The research was carried out in compliance with The Danish Code of Conduct for Research Integrity (Ministry of Higher Education and Science, 2014). Written parental consent was obtained from the parents of all participants, and the children informed they could withdraw their consent at any time. All children have been given aliases to ensure anonymity.

3.1.3. Methodology and analysis

Datasets were transcribed verbatim with exclusive focus on identifying spoken uses of English (utterances containing a minimum of one English word). To allow for a sequential analysis, surrounding utterances, or uptake on the preceding utterance such as laughter, were also included. Contextual information such as a participant relating to word on screen, was also transcribed. All examples were translated, by the researcher, as close to the originals as possible for an authentic rendition.

Ensuring credibility and dependability of the study, the coding was an interactive process involving numerous discussions with fellow researchers. The coding revealed a substantial amount of productive uses of English by the participants. Mostly, these uses were connected to gaming activities, and thus the focus of the present study is on productive uses of L2 English related to gaming-activities.

Discourse analysis was employed for the analysis (Gee, 2014; Gee & Green, 1998). The analysis focused on the sociocultural aspects of use and the notion of 'style' (Coupland, 2007). Such an analysis investigates language as social action to reveal what is accomplished through specific uses of language (Gee, 2014, p. 122). Thus, identities and social formations are assumed to be made relevant and thus valuable in discourse through the use of specific discourse features. In this view, specific discourse features present affordances by offering

identificational value (Coupland, 2007) that carry social value and prestige in a given context. At the macro-level, socio-cultural framing involves identifying which linguistic norms are valued by a community. At the micro-level, interpersonal framing focuses on how individuals in their day-to-day interactions may portray valuable identities through their linguistic choices, (i.e., identities that are of local relevance in particular communities of practice, i.e., at the macro-level (Coupland, 2007, p. 113-114)). Speakers “style” themselves positively by employing linguistic features that are endowed with positive connotations in the specific linguistic community of practice in which they use the features. Styling in this context is thus seen as “the situational use of linguistic resources...to negotiate one’s place in the local communicative context as well as society as well” (Podesva, Roberts, & Campbell-Kibler, 2002, p. 143).

4.0. Findings

The primary language of communication in the Datasets was Danish but with an extensive use of English through code-switching (Auer, 2013). This use of English was related to 1) practical use (i.e., the necessity of having a common language), and 2), styling use (i.e., English for styling purposes due to the positive identificational value (Coupland, 2007) of English to signal membership in a valuable community of practice). To illustrate this use, twelve examples that were frequent and typical for such uses were chosen for analysis.

4.1. The specialist language of the community (practical use)

Findings showed that a lot of community specific words were used among participant, when discussing gameplay-related content amongst each other or describing this to the researcher. Examples of in-game specific terms were, for example, pick axe, crafting table, skin, kits, armor, gyms. Examples of YouTube (on-game) specific terms were terms, such as, glitch, mod, walkthrough, challenge, fake team, and tutorials. Such specialized terminology, which, largely, will be nonsensical to outsiders, is characteristic for the gaming community (Sjoblom & Aronsson, 2013; Steinkuehler, 2006; Thorne, Black, & Sykes, 2009). One child explicitly stated that such game-specific words were appropriate in English only. An example was crafting table (used in Minecraft). This, he stated, would be *lavebord* in Danish, laughingly dismissed as an inappropriate term. Thus, in-game specific terms were community specific terms of which the equivalent Danish terms were unknown or deemed inappropriate for translation, and thus for practical purposes original terms were used. Similar specialized uses of English terminology have often been linked to online gaming communities with dense language input, often where chats are used (see, e.g., Thorne et al., 2009). In the present study, such uses were also related to games with minimal, if any, language input. Some games have minimal language input (employing only few English words, typically commands: enter, play, exit, etc.) and yet, the children used English terminology when explaining actions or objects in such games. For example, Arnold (Dataset 2) explained about Agar.io (a simple 'problem game', see Gee, 2007a, p. 133.) (uses of English by participants are underlined throughout the article):

Example 1, 2, 3: Arnold, dataset 2, ‘split’/‘popsplit’/‘glitched’

(1) “And then you can split”

(2) “that thing there I think I can do that, I think I can. It’s called Popsplit”

(3) “He just glitched”.

The game did not contain this terminology, rather, it seems to be *on-game* specific vocabulary from YouTube. Indeed, such specialized terms were used across the many YouTube clips, the children showed the researcher

(Dataset 2) or watched (Dataset 1). In general, the children watched many YouTube clips on their games. They often commented on the dialogue, “s/he always says that!” clearly, noticing the language. Further, as was evident across the datasets, such on-game terms were frequently recycled and used to comment on personal, as well as others’ gaming activities. Another study, based on Dataset 2, (author, forthcoming) shows that children often watched English-language rather than Danish-language YouTube clips, partly because it was more convenient to have a common terminology in the game and in the clips, (i.e., it was preferable to keep within the language of the community). Such interrelated use has been demonstrated to be very conducive for language learning. Ryu (2013) investigated such use for the game Civilization and the related affinity space civfanatics.com, where older gamers posted comments, and discussed various game-related issues. Ryu found that such engagement (game and affinity space) was best viewed as an interrelated activity in relation to language learning in that players learned terms from playing the game (through repetitions of the input). These words and terms were then used in the affinity space civfanatics.com, being key to participation on the site, given that it enabled participation through use of appropriate terminology. Thus, engagement in the affinity space was considered meaningful, being key to advancement in the game, and as a consequence the players invested (Norton, 2013) in learning the correct terminology. For young users, a similar interrelation arguably exists, albeit fitted to their age and literacy levels; they learn gaming terminology either from the game or from the affinity space (YouTube, Twitch, etc.) and they employ the terminology across the two ‘spaces’ to understand the content, and they use it among each other to be able to engage appropriately in the gaming community. Thus, making the participants highly motivated for engagement with the language (see also author, 2019).

Interestingly, in the interviews (Dataset 2), and never in the naturally occurring data (Dataset 1), the children would sometimes use an English term after which they would provide the Danish equivalent, seemingly for the benefit of the researcher.² In example 4, Nina was playing Minecraft on her tablet and explained how to play:

Example 4: Nina, dataset 2, ‘press’

Ehm this one I’ve got which, then pre[ss]. I press like this (second ‘press’ was said in Danish).

Such examples arguably demonstrate the children’s metalinguistic awareness of the nature of the community specific language in which they engage, seemingly leading them to assume that outsiders may not understand this³. Another interesting point about the above uses is that the words were absent from the context (neither written nor voiced), nor was Nina able to read it being only 7 years old. At this age, Nina’s habits were aligned with her current abilities; being unable to read, she did not understand the written input in the game. However, she watched Minecraft videos with English talk and applied this knowledge to the gaming universe. Apparently, it then becomes natural to use such expressions when engaging in the EE space.

Children also stated preferring English over Danish YouTube clips as these were found to be more up to date and the language more ‘cool’ than Danish (see author forthcoming). Such attitudes were evident in the present study where the children employed English for styling purposes to signal membership in the global digital community by being able to competently use the language of the community. Such styling will be described in the following section.

² It seems reasonable to assume that translations were provided for the benefit of the researcher as they only occurred in the interviews. That is, children never corrected or translated English terms when they were among peers.

4.2. playing with the language of the community

The findings in Datasets 1 showed that the participants played some games together, (i.e., online on the same server, and other games individually while co-located), that is, being together but not necessarily engaging in the same activity (Sjöblom & Aronsson, 2013). They were rarely quietly playing, but rather, engaged in a lot of small talk about the games, and occasionally about other topics. Sjöblom and Aronsson (2013) argue that for gamers to appear competent they need to engage in “discursive action” showing ability to speak competently about and in the game (p. 181, see also; Steinkuehler, 2006). Consequently, linguistic devices that are deemed positive in this community of practice can be employed by children to ‘style’ valuable identities within the globalized youth community (Coupland, p. 113-114). Findings showed that the participants did use English to signal valuable identities through their competence linguistically and gaming-wise. Often LP was used to this effect. Instances of LP (Broner & Tarone, 2001), Semantic, Formal and Pragmatic, were found in dataset 1. The following sections discuss the findings based on categories of language play. However, when relevant, (i.e., when examples of non-ludic language use illustrate a similar action to that expressed by LP), such uses are included.

4.2.1. Formal language play

The first example of language play, to be discussed, quite convincingly demonstrates the positive value of English and, importantly, the resulting willingness to engage with and invest in using the language. In fact, getting the language ‘right’ appears to be a requisite for being regarded as a competent peer.

In example 5, the participants played with the mispronunciation of a word turning it into a creative improvisation with words spoken and sung, accompanied by laughter. Initially, in line 1, Greg asked which game Eli was playing suggesting that the name is ‘Battle One’ where to Eli corrected him (line 2) saying it was ‘Battle **Run**’. In line 3, Greg repeated the name but pronounced it incorrectly once more (the -r sound being difficult for Danes to pronounce diverging in manner as in place of articulation (Davidsen-Nielsen, 2000, p. 33)). Eli (line 4) corrected him again but unsuccessfully (cf. line 5). John started playing with the different words *one* and *run*, by singing them. Eli looked at Greg’s screen calling him a noob (line 9). John was still playing with the one/run distinction, and in line 13 they were all singing the words. However, (line 14) Greg eventually got the pronunciation right and non-verbally (raising himself slightly from the couch looking at the others) and verbally (with a raised voice) tried to get this across to the others. Greg ended by voicing ‘motha fucking game over’ (line 17), then looked at Eli’s screen calling him newbieeeee (line 18).

Example 5: Greg, John and Eli, dataset ,1, ‘One/Run’

1. Greg: Hvad er det for et spil? Battle One?
Which game is this? Battle One?
2. Eli: Battle Run ikke Battle one (emphasizing the -r sound in ‘run’)
Battle Run not Battle one
3. Greg: Battle one
4. Eli: Run!
5. Greg: one, One?
6. John (singing): one, run, one, run... (smiling)
7. John: nu skal I lige høre, hvad jeg hedder
Now let me tell you what I’m called
8. Greg: Nej, jeg gider ej

No, I won't [hear it]

9. Eli: Fuck, du er noob! (looking at Greg's screen)
Fuck, you're noob!
10. John: (singing): one, one, run, one, one...
11. Greg: Hallo vi skal arbejde sammen!
Hallo, we're supposed to work together!
12. John: one, one, run, one, one (singing)
13. All: one, one, run, one... (singing)
14. Greg: run, run! (getting halfway up from his chair, in a loud voice drawing attention to his correct pronunciation)
15. Greg: one, two, three, four
16. John: one, two, one, two, one, two (fast):
17. Greg: motha fuckin game over! (wins a game)
18. Greg: fuck, newbieeeee! (looks intently at Eli's screen while making the comment to him)

This is clearly an example of a "peer run language lesson" (Cekaite & Aronsson, 2005, p. 187) where Greg after some attempts to pronounce the word 'run' correctly eventually gets it right (line 14). Such a "lesson" was likely not pleasurable for Greg who was not only corrected but also called a noob (cf. lines 8 and 11 where he expresses frustration). Indeed, the lesson seems about much more than getting a pronunciation right. Sjöblom and Aronsson (2013) have found that co-located gaming at internet cafes gives rise to peer assessments. In such assessments players evaluate each other's gaming skills by placing each other in social categories (thus doing identity work), such as a noob (beginner) versus an imba (skilled and experienced player) (p. 185). They argue that by categorizing the adversaries as 'noobs', the player also categorizes him/herself as competent, and superior, in that, by using 'noob' a local hierarchy of competence is established (p. 188, see also Steinkuehler, 2006). Steinkuehler (2006), in fact, argues that verbalization of gaming competence is key in order to be perceived as competent. In example 5, Greg tried to regain status by doing just this. He rejected the categorization as a noob trying to re-establish his position as a competent member in the EE space, initially by drawing attention to his correct pronunciation, verbally and non-verbally (line (14), and secondly by signaling competence through winning his game 'motha fuckin game over!' (line 17 – notably in English, not Danish), and by trying to assign to Eli the identity of 'noob' (newbieeeee) (line 18). The example also shows that style and identity can only be enacted in negotiation with others thus lending support to the claim that we always do more when speaking than exchange information we also negotiate identity, face and solidarity (Block, 2003, p. 81). The participants commonly used 'noob' to display competence and establish local hierarchies when gaming. Another example came from Eli commenting on his own gameplay:

Example 6: Eli, dataset 1, 'when I was noob'

Eli:

Den ene gang det blev scammet fra mig, det var da jeg var noob

That one time it was scammed from me that was when I was noob!

Firstly, by relegating his status as noob to the past, Eli manages to distance himself from noob status and appear competent by verbalizing this indirectly, of course using community appropriate English terminology: scammed and noob. Moreover, by stating that the scamming happened only once (i.e., 'that one time'), he

manages to appear competent (i.e., as someone who is not easily deceived). Two other examples nicely illustrate such indirect verbalization of competence:

Example 7: Eli, dataset 1, 'glitchy'

Eli:

Fuck, den er glitchy den her, nogen gange kan man flyve gennem træstammerne

Fuck, this is glitchy, sometimes you can fly through the logs

Example 8: John and Greg, dataset 1, 'easy':

John:

Ska vi ik nakke den der?

Shouldn't we whack that one there?

Greg: Nej, den er for easy!

No, it's too easy!

Glitchy is a term for a technical mishap in a game (i.e., you are not supposed to be able to fly through logs as they are supposed to be solid). Thus, Eli displayed competence by knowing, 1) how the game works, as well as, 2) the community word for a mishap. In example 8, 'easy', Greg managed to display gaming competence, implicitly juxtaposing him and John with the opponent (i.e., if something is 'too easy', by implicature it logically follows that you are considerably above this in level). By creating this juxtaposition, Greg skillfully manages to create a local hierarchy of competence (Sjöblom and Aronsson, 2013). Importantly, the juxtaposition and signaling of competence is verbalized partly in English (easy), the language of competence within this specific globalized youth community, thus lending extra credit to the statement.

4.2.2. Semantic Language Play

The gaming community has also been shown to be a place of subversive language and much joking (Volda, Carpendale, & Greenberg, 2010). The findings showed that the participants engaged in much subversive joking, including crude and 'bad' language (Cekaite & Aronsson, 2005). Such coarse language thus seems to be prevalent discourse feature of the community, and, as such, may also be employed to be able to style community membership. Interestingly, crude language was predominantly voiced in English, arguably lending extra credit to the styling.

In some instances, the children would play with replacing words either from having misheard the word in question or through play with homophones (words that sound the same but have different meanings) (cf. Cekaite & Aronsson, 2005). Example 9, is an example of play with homophonic meaning and subversive joking. The participants were all playing Growtopia and commenting on the game play in progress

Example 9: Greg and Eli, dataset 1, 'Puler/Pooler'

1. Greg: Jeg tar' lige det hele, så pooler jeg jer
I'll take everything and then I'll pool you

2. Eli: Puler du os?
Will you pool us?! ('puler' in Danish is a rather crude way of saying 'have sex with')
3. Greg: Pooler!
pool! (trying to emphasize the English pronunciation)

In this example, Eli manages to 'be entertaining' (cf. Cathcart-Strong, 1986) by deliberately misinterpreting the word 'pool' while simultaneously establishing himself as a competent multilingual being able to play with homophonic meaning in the community language. As in example 5, the example then displays verbalization of competence. Shankar (2004) discusses similar examples among Desi teens in the US and notes that such skills indeed demand knowledge of both languages (p. 332). Example 9 demands that both interlocutors attend to the pronunciation thus perhaps for Eli further stabilizing the pronunciation (interlanguage) (cf. Broner & Tarone, 2001), and, for Greg creating awareness of this.

In example 10, below, the participants were playing the same game on the same server, oriented to their separate screens. It seems that the similar form and structure of the verbs 'kidding' and 'killing' but with very different meanings, along with the rudimentary language, provided amusement in the situation and was therefore played with through juxtaposition. At the same time, the LP allowed the boys to display their linguistic competence by being able to play with crude language in the lingo of the community. Greg was approaching John in the game and John commented on this.

Example 10: Greg, John and Eli, dataset 1, 'Kidding/Killing'

1. Greg: what the fuck John, d'you know me? (laughing)
2. John: why why why are you fucking do that? (commenting on gameplay)
3. Greg: Are you kidding me?
4. John: Are you fuckin kidding me, yes!
5. Eli: I'm killing you, yes!
6. John: Are you kidding me?
7. Eli: I'm killing you!
8. John: Are you kidding me, bitch?
9. Greg: yeah bitch... (singing)

The above example seems to signal competence, in-group membership (i.e., all participants 'talk the talk'), and illustrates that such use of English brought much pleasure. Even if Greg was coming after John in the game, the atmosphere was one of bonding through their play with their shared language and, by token of this, through having fun. At the same time, such use allowed the participants to employ commonly occurring fixed expressions and thereby may lead to automatization through rehearsal (Ellis, 2015). Cekaite and Aronsson (2014), in fact, note that, among young children, the use of formulaic chunks and phrases is an important way for them to sustain participation in the peer group as it generates much talk, thereby becoming an important means for language development (p. 197).

4.2.3. Pragmatic language play

Membership in a peer group requires negotiation for membership and negotiation of face and identity (Block, 2003). Positive face is a relevant concept with its focus of the importance of belonging in a community, (e.g., by being liked by others) (Levinson, Brown, Levinson, & Levinson, 1987). Threats to positive face - of the interlocutors including the speaker him/herself - or to the sense of belonging or being liked must consequently be mitigated. Findings showed that English was used as an in-group marker to mitigate face-threatening acts,

in particularly, to participants' own positive face. Example 11 represents play with accents and grammar and syntax to claim a different 'voice' (cf. Bahktin) and resembles Cathart-Strong's (1986) example of 'intention statements' (cf. 'I'm gunna make coffee') used to gain the interlocutors' interest. John was playing a game on his own, co-located with his friends, and was giving voice to his actions. He asked a question in Danish; if he should carry out an action, buy items in the game, and receiving no answer, he provided a reply for himself in a silly 'broken-English' grammar and accent. It could be argued that the answer was construed in a goofy way to make up for the fact that he did not get an answer from Eli, and was a way to save his own face:

Example 11: John and Eli, dataset 1, 'I think not buy'

1. John: Prøv at se, ska jeg gøre det her? (shows his screen to Eli)
Look, should I do this?

(2 sec. pause)
2. John: I think not buy! (said with a 'goofy' accent)
3. Eli: (laughing) Du prøver at snyde ham!
You're trying to cheat him!

Cekaite and Aronsson (2014) analyze a similar example wherein a participant produces a nonsensical phrase 'a two shoel' and draws out the vowel ('shoe:l') indicating that he knows he is flouting the linguistic rules thereby managing, they argue, to signal "affective stance" (p. 202). John, in example 11 above, similarly, by accompanying the broken grammar with a broken accent, signals that he knows the grammar is off and thereby in fact manages to signal competence through using disrupted language. John thus seemed to carve out for himself the identity as a proficient user of English, valued in this particular social space, by acting as a non-proficient, goofy character simultaneously creating comic relief living up to the conversational maxim of 'being entertaining' (Cathcart-Strong, 1986). Importantly, he thereby managed to get his interlocutor's attention, secure an answer in the form of an acknowledgement and a laugh (laughs can be perceived as solidarity markers (Block, 2003)), and was not left 'hanging' but rather, quite elegantly, saved his own positive face.

Sometimes, the use of gaming terminology would be extended beyond the game for humorous effects. In the example below, Eli extended the use of gaming terminology to an everyday situation. Example 12 is from Dataset 1. Eli was talking to John who was in Eli's brand new beanbag chair. Initially, John was writhing to push his way deep into Eli's beanbag chair, and Eli told him to stop to not ruin the new chair. Subsequently, Eli threw a teddy bear (Hunni) at John.

Example 12: 'fattihed', 'joiner', Eli, dataset 1

1. John: Jeg kan en fuckin syg scam (squeezing himself tighter into the bean bag chair he is sitting in)
I know a fucking sick scam
2. Eli: Du ødelægger den med din fattihed
You're going to ruin it with your fattiness
3. John: (laughing and stopping)
4. Eli: (throwing his teddy at John) Hunni han joiner lige
Hunni is joining you
5. John: (smiling and grinning)

The above request for John to stop pushing his way into the chair could be perceived as a face threatening act (FTA) (i.e., constituting a request or command) (Levinson et al., 1987, p. 65). However, the FTA was mitigated using humor (i.e., is stated in the form of a joke calling John, who is, in fact, skinny, fat) and employing indirectness (i.e., not stating the request directly). By using humor through a common cool language, creating a nonsense word; a hybrid between Danish and English, 'fattihed', Eli managed to signal solidarity and common ground through his use of an insider term (English) rather than a general expression (e.g., please stop!), accepted as such by John, as seen through his response which is laughter. This common ground was further strengthened in the subsequent creation of a fictional world where teddys can join people 'Hunni is joining you', just as the boys join each other in games and quests. Arguably, through the creation of this fictional universe, it may have been his own face, Eli was saving, as it may be seen as uncool to tend to the furniture, but by making a joke about it in a cool gaming language drawing parallels to pleasurable activities in which they engage together, the focus is shifted from performing an FTA to delivering a competent joke.

4.3. Summary of main findings and discussion

Children are agentic in finding their own voices and identities, and a great deal of their cultural, social and interactional development happen in peer communities. How children talk to each other within such peer groups may thus inform us which specific identities children find valuable, as they are likely to appropriate the language that goes with desirable identities (Arnseth & Silseth, 2012, p. 197, see also Orellana, 1994). This study shows that the wild and the language of the wild, English, seemingly offers great identificational value which is exploited by the children, in contrast to findings from the classrooms (aus der Wieschen, 2018). The study shows how children use English to claim membership for themselves in the EE space that is viewed as very 'cool' (cf. author, forthcoming). It also shows that such membership must be negotiated. By being able to use the correct terminology (e.g., technical words and crude language), and by being able to play with the language, the children can style valuable identities and signal in-group membership. Findings also showed that the community language can be used to mitigate face-threatening acts, by signaling competence and humor.

Moreover, the children in fact learn from each other (cf. pronunciation of 'run' and 'pool'). However, such lessons do not come without costs (i.e., the 'pupil' needs to regain his membership status having pronounced the word incorrectly). Research has found that in L2 classrooms a common reason for feeling anxious about speaking in class is ridicule from peers (Yan & Horwitz, 2008). In this light, Greg's reclaiming of identity through English after having lost face over mispronouncing 'run' is remarkable and testifies to the popularity and importance of membership in the EE community which in this case defies any potential anxiety. It thus seems this space affords tremendous possibilities for productive use of English exploited by the children, viewed as highly beneficial for language learning (Swain, 2000)

Through playing with the language, attention is drawn to metalanguage, or the unique features of the language such as pronunciation (*run/one, I think no buy*), and juxtapositions through similar phrases with different meanings creating fun engagement with the L2 (*killing/kidding*) (cf. Broner & Tarone, 2001; Cekaite & Aronsson, 2005; Cook, 2000; Peck, 1980; Philp, Oliver, & Mackey, 2008). The participants also play with different registers claiming other identities (*I think no buy*) (Broner & Tarone, 2001), and with chunks which is seen as highly beneficial for language learning (Cekaite & Aronsson, 2014; Ellis, 2015).

The findings also showed that some children gain ability to use words across different contexts (from games to YouTube and vice versa), suggesting that they have gained more than a 'verbal understanding' but rather a 'situated understanding' (Gee, 2007a). Situated understanding means users can apply "these words to actual

situations of use and vary ... their applications across different contexts of use” (p. 113), in contrast, with verbal meaning, where one is able to merely define a word in terms of other words or general principles. The difference, says Gee (2007a), is between being able to do (situated), versus being able to just say (verbal). Previous research has indeed found that language learning through game play can be advanced by engagement in affinity spaces (Gee, 2007a, 2007b; Ryu, 2013). This seems to be the case also for the younger learners of this study, only the beyond-game culture they engage in is suited for their age and their current abilities, that is, being still too young to engage in chatrooms and more detailed fora on their games, they engage in watching YouTube videos instead. This type of language use seems to afford inherently meaningful use of language. Such situated use, or “generative use”, in Joe’s (1998) terminology, affords ‘deep processing’ of language (Joe, 1998; Swain, 2000). One may thus speculate that the situated use of language found in the present study will not lead to the learning of a restricted set of lexical items, but rather, in accordance with usage-based theories, for every time an item is encountered or used, the linguistic patterns for the specific item in terms of its co-occurrence with other lexical items is detected and thus becomes part of the knowledge of the word (Ellis, 2009).

5.0. Limitations and future research

To gain a more comprehensive picture of productive uses of global digital L2 English more research is needed, especially research of a longitudinal nature would be valuable to track developments. Also, the present study did not seek to explore how productive use perhaps differs according to age, gender, attitudes towards English and extramural interests. Such a study would, however, cast more light on productive language use and learning. Moreover, studies show (e.g., author, forthcoming) that not all children are equally motivated to or invest equally in engagement with EE. Studies (e.g., case studies, focusing on the relation between attitudes and productive uses of English in the wild will be able to provide much more detailed knowledge on such use).

5.1. Conclusion and pedagogical implications

The present study has shown that L2 English is used for creative and situated uses in the wild even among young children, helping them to enact and gain access to valuable communities, while drawing their attention to language form and pronunciation, providing opportunities for prolonged entertaining engagement with the L2 possibly leading to automatization of language forms. They thus co-construct a social space for language learning (Gee, 2007a). While the participants engage in different English-language mediated activities, they use English either inspired by the language of the immediate activities in which they engage, using the language as a point of departure from which creative use of language evolves, or use English to describe specifics of the activities but not as an uptake on the immediate linguistic environment. Thus, English is used simply by token of being the language of mediation in these activities testifying to the positive status of the language and the great potential offered by the EE environment for engagement with the L2.

Given that children as young as 7 engage productively with L2 English at home whereas only to a limited extent at school, teachers are advised to create an environment in which there is ample opportunities not only for language play, as suggested by Cekaite and Aronsson (2014), but also in general for meaningful engagement with English, through which children can gain valuable social identities.

5.2. Acknowledgements

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ⁱ 'User' rather than the traditional term 'learner' is used as individuals engaging in activities in the wild most likely identify as users rather than learners of language (c.f., Sockett, 2014).

ⁱⁱ Engagement with English in the wild is also referred to as extramural English engagement (a term coined by Sundqvist (for details see Sundqvist, 2009), a term which is also employed in the present paper.

ⁱⁱⁱ Importantly, one reviewer raised the question whether this type of engagement and limited use of strategies by these children is a consequence of motives or of abilities. That is, perhaps the limited use of strategies results, not from negative perceptions of English or indifference to this, but, rather, from lack of knowledge of appropriate strategies or how to use them. In turn one may speculate that perhaps these children's lack of enthusiasm for English is a consequence of this, i.e., encounters with English may lead to frustrations rather than just having fun, in turn, reinforcing the negative perception of English.

Appendix 1: Recruitment letter interview

Kære X forældre

Som I ved er X med i Syddansk Universitets undersøgelse om engelsk i skolen.

Jeg kan se i sprogdagbøgerne X har udfyldt, at han/hun bl.a. er glad for at X på engelsk og vil høre, om jeg må interviewe ham/hende en dag efter skoletid sammen med et par venner fra klassen, hvis der er nogen i klassen, han/hun spiller med? Rent praktisk vil jeg gerne have lov til at snakke med drengene/pigerne og stille dem lidt spørgsmål for derefter at se på deres iPad eller tlf. (eller en jeg har med), hvad de laver med engelsk. Jeg har naturligvis fuld forståelse for, hvis I/X ikke er interesserede eller har tid/mulighed for det.

Jeg håber, I vil give mig besked på sihaje@sdu.dk og hvis I har spørgsmål skal I endelig maile eller ringe til mig (xxxxxxx). Hvis I (X) er interesseret, vil jeg gerne bede jer give mig navnene på hans/hendes venner, som han/hun normalt spiller med, så jeg kan kontakte deres forældre også.

Mange hilsner

Signe

Dear parents of X

As you know X is part of The University of Southern Denmark's project about English in school.

I can see in the language diaries X has filled in that s/he likes to engage in X in English. I was wondering if you would allow me to interview him/her one day with some friends from class after school if s/he engages in X with anybody from his/her class? I would like to interview him/her and his/her friends as well as see the actual activities they engage in on their iPads or phone (or one that I bring).

I completely understand if you or X are not interested or do not have the time to participate.

I hope you will let me know by contacting me at sihaje@sdu.dk and if you have any questions please do not hesitate to mail or call me at xxxxxxx. If X is interested, I would like to get the names of the friends s/he engages in X with so that I may contact their parents as well.

Best regards

Signe

Appendix 2: Recruitment letter gaming study

Kære X og forældre

Igennem dagbog, testning og spørgeskema fra projektet ”Jo yngre, jo bedre?” (SDU), som X deltager i, kan vi se, at X har nogle spændende fritidsvaner, hvor engelsk indgår. X og jeg talte bl.a. i efteråret om han spiller spil. I min del af projektet, hvor jeg kigger på børns engelskvaner udenfor skolen, vil jeg bl.a. kigge på børns brug af engelske spil. I den forbindelse vil jeg synes, det kunne være meget spændende at optage X (og medspillere X og X) mens de spiller (hvis han stadig spillerspil). Jeg vil skulle optage ca. 3 gange spil her i foråret. Jeg vil opstille kamera samt skærmoptager og derefter komme tilbage efter 1 ½ - 2 timer og hente udstyret igen. Derefter vil jeg gerne lave et interview med X (og medspillere), hvor jeg spørger lidt ind til spillet. Ideelt set skal optagelsen foregå hos jer, da det er der, spil, konsol osv. er. Hvis I (fuld forståeligt) ikke vil tillade det, vil jeg forsøge at finde et andet sted, hvor optagelserne kan foregå.

Jeg håber, X og I vil være interesserede, da det vil kunne give et spændende indblik i en verden, der stort set står ubeskrevet hen indtil videre.

Hvis I ikke er interesserede, håber jeg I vil give Viceinspektør X besked. Hvis I er interesserede, må I meget gerne maile mig på sihaje@sdu.dk og jeg vil kontakte jer, så I kan stille eventuelle spørgsmål og vi kan aftale nærmere.

Mange hilsner

Signe

Dear X and parents

Through the language diary, through tests and the questionnaire from the project The Younger, the better (University of Southern Denmark) which X is part of, I can see that X has some interesting habits with English. In the fall, X and I talked about his gaming habits. In my part of the larger project, involving English outside school, I also plan to investigate engagement in gaming. In that connection, it would be interesting to record X (and his co-players?) while they're gaming if they still play games?. I plan to record their gaming three times this spring. I will place two cameras, one facing the boys and one facing the screen, leave and return for the equipment again after 1 ½ -2 hours. Here after, I would like to interview X and his friends. Ideally, the recording will take place at your house as that's where the gaming equipment is. If you do not feel comfortable with that arrangement, which is completely understandable, I will try to find some other location for the recordings.

I hope X and you will be interested as it would be able to provide very interesting insights into an area of which very little is known.

If you are not interested, I hope you will let XX (Head of Didactics) know. If you are interested, please mail me at sihaje@sdu.dk and I will contact you, and you will get the chance to ask questions if you have any and we can make further arrangements.

Best regards

Signe

Appendix 3: SSLD (Sundqvist & Sylvén, 2014, p. 20)

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P. Sundqvist and L. K. Sylvén

Appendix 1

*Language diary (sample page, extramural English, Monday,
translated from Swedish)*

Monday ____ / ____

ENGLISH

What do you do in English in your spare time?

What do you do in English in your spare time?		Total time Write hours & minutes. If, for instance, you have read for 25 minutes, write 0 hrs. 25 min.
Reading books	Title:	
Reading newspapers/magazines	Name:	
Watching TV-programs (on TV or computer)	Name:	
Watching films (at the movie theater, on TV, video, DVD, computer, etc.)	Name:	
Using the Internet	Pages:	
Playing digital games (on a computer, PlayStation, Xbox etc.)	Name:	
Listening to music	Name:	
Other activity	Example:	

Copy of the SSLD was kindly allowed by the authors.

Sundqvist, P., & Sylvén, L. K. (2014). Language-related computer use: Focus on young L2 English learners in Sweden. *ReCALL*, 26(01), 3-20. doi:<https://doi.org/10.1017/S0958344013000232>

Appendix 4: LD 1 (filled in by pilot boy)

V n a

ENGELSK

Mandag 20/4

Jeg har brugt engelsk i dag til:

Engelske aktiviteter	Hvad præcist har du lavet? Skriv det hele ned nedenunder
At se engelske film, TV serier, tegneserier (f.eks. på TV, Youtube, i biografen, osv.)	done home 2.
At spille engelske spil (f.eks. på TV, tablet (f.eks. iPad), computer, osv.)	
At lytte til engelsk musik	*Star people; "Outside" og
At læse engelske bøger, blade eller tegneserier	
At tale engelsk i løbet af dagen f.eks. på nettet eller med min familie eller venner	
At bruge engelske sider på nettet	
Andet	Spillet fodbold's

SYDDANSK UNIVERSITET

Figure 1: page 1 (left side)



ENGELSK



Mandag 20/4

Handwritten notes in cursive script, including the word 'Lærings' and other illegible scribbles.

Navn af film/serie	Hvilket sprog snakkede de i filmen?
"Home" "Alone" 2 ^{de} Alenchejere	engelsk/Amerikansk

Navn på spil	Hvilket sprog snakkede de i spillet?

Figure 3: page 2 (left side)

Lidt mere om de film/
serier jeg har set i dag.

"Home Alone 2"

Hovedpersonen hedder Kevin's storebror her-
der "buzz"

Var der undertekster?		Hvor mange minutter har du set den? (skriv tid)
nej	ja, på engelsk ja, på dansk	
	X	45 Min.

Lidt mere om de spil
jeg har spillet i dag

Var der undertekster?		Hvor mange minutter har du spillet? (skriv tid)
nej	ja, på engelsk ja, på dansk	

Figure 4: page 2 (right side)

Appendix 4: LD 2



ENGELSK



Mandag

Engelske aktiviteter		Hvad præcist har du lavet? Skriv det hele ned nedenunder
Jeg har brugt engelsk i dag til:	At lytte til engelsk musik	
	At læse engelske bøger, blade eller tegneserier	
	At tale engelsk i løbet af dagen f.eks. på nettet eller med min familie eller venner	
	At bruge engelske sider på nettet	
	Andet	

Figure 5: page 1 (left side)



ENGELSK



Mandag

Navn af film/serie	Hvilket sprog snakkede de i filmen?

Navn på spil	Hvilket sprog snakkede de i spillet?

Figure 7: page 2 (left side)

Var der undertekster?			Hvor mange minutter har du set den? (skriv tid)
nej	ja, på engelsk	ja, på dansk	

Har du set engelske film, TV serier, tegneserier i dag? (f.eks. på TV, Youtube, i biografen, osv.)



Var der undertekster?			Hvor mange minutter har du spillet? (skriv tid)
nej	ja, på engelsk	ja, på dansk	

Har du spillet engelske spil i dag? (f.eks. på TV, tablet (f.eks. iPad), computer, osv.)

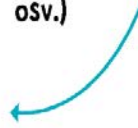


Figure 8: page 2 (right side)

Appendix 4: LD3



Mandag _____

Engelske aktiviteter	Hvad præcist har du lavet? Skriv det hele ned nedenunder
At se engelske film, TV serier, tegneserier (f.eks. på TV, Youtube, i biografen, osv.)	
At spille engelske spil (f.eks. på TV, tablet (f.eks. iPad), computer, osv.)	
At lytte til engelsk musik	
At læse engelske bøger, blade eller tegneserier	
At tale engelsk i løbet af dagen f.eks. på nettet eller med min familie eller venner	
At bruge engelske sider på nettet	
Andet	

Jeg har brugt engelsk i dag til:


Figure 9: page 1 (left side)

Sæt kryds i kassen, der passer til den tid du cirka har brugt på det, du har lavet


0 minutter	15 minutter	30 minutter	45 minutter	1 time	1 time og 15 minutter	1 time og 30 minutter	1 time og 45 minutter	2 timer	2 timer og 15 minutter	2 timer og 30 minutter	2 timer og 45 minutter	3 timer	3 timer og 15 minutter	3 timer og 30 minutter	3 timer og 45 minutter	4 timer eller mere (skriv tid)

Figure 10: page 1 (right side)

Appendix 5: LD4



ENGELSK



Tirsdag

HUSK: Det du har lavet i skolen gælder ikke.

Engelske aktiviteter når jeg ikke er i skole	Hvad præcist har du lavet? Skriv det hele ned nedenunder	Skriv hvor meget tid du cirka har brugt på det, du har lavet.
At lytte til engelsk musik (f.eks. på youtube, playliste, CD, spotify, osv.)		
At læse engelske bøger, blade og tegnerserier (f.eks. på nettet)		
At tale engelsk i løbet af dagen (f.eks. på skype, på nettet eller med familie og venner)		
At skrive på engelsk (f.eks. chat, mails, historier, osv.)		
Andet (engelske aktiviteter)		

Jeg har brugt engelsk i dag til:

Figure 11: page 1 (left side)

Har du set engelske film, TV serier, tegneserier i dag? (f.eks. på TV, Youtube, i biografen, osv.)

Navn af film/serie	Hvilket sprog snakkede de i filmen?	Var der undertekster?		Hvor mange minutter har du set den? (skriv tid)
		nej	ja, på engelsk ja, på dansk	

Har du spillet engelske spil i dag? (f.eks. på TV, tablet (f.eks. iPad), computer, osv.)

Navn på spil	Hvilket sprog snakkede de i spillet?	Var der tekster?		Hvor mange minutter har du spillet? (skriv tid)
		nej	ja, på engelsk ja, på dansk	

Figure 12: page 1 (right side)

Appendix 6: LD (final)



Mandag

HUSK: Det du har lavet i skolen gælder ikke.

Engelske aktiviteter når jeg ikke er i skole	Hvad præcist har du lavet? Skriv det hele ned nedenunder	Skriv hvor meget tid du cirka har brugt på det, du har lavet.
At lytte til engelsk musik (f.eks. på youtube, playliste, CD, spotify, osv.)		
At læse engelske bøger, blade og tegneserier (f.eks. på nettet)		
At tale engelsk i løbet af dagen (f.eks. på skype, på nettet eller med familie og venner)		
At skrive på engelsk (f.eks. chat, mails, historier, osv.)		
Andet (engelske aktiviteter)		

Figure 13: page 1 (left side)

**Har du set engelske film, youtube klip (el. lignende fra nettet), tegneserier, osv. i dag?
(f.eks. på nettet, i TV, biografen, osv.)**

Navn af film/serie	Hvilket sprog snakkede de i filmen?	Var der undertekster?			Hvor mange minutter har du set den? (skriv tid)
		nej	ja, på engelsk	ja, på dansk	

Har du spillet engelske spil i dag? (f.eks. på TV, tablet (f.eks. iPad), computer, osv.)

Navn på spil	Hvilket sprog snakkede de i spillet?	Var der tekster?			Hvor mange minutter har du spillet? (skriv tid)
		nej	ja, på engelsk	ja, på dansk	

Figure 14: page 1 (right side)

Appendix 7: Alert letter before LD hand out

Original Danish version

Kære forældre til børn i projektet The younger, the better?

Som I ved deltager jeres børn i engelsk projektet The younger, the better som udføres af Syddansk universitet. I den forbindelse indsamler vi data bl.a. om børnenes brug af engelsk udenfor skolen. Efter efterårsferien vil I dels modtage en sprogdagbog (som beskrevet nedenfor) samt ved senere lejlighed et spørgeskema. Vi indsamler blot disse data to gange – i efteråret 2015 og efteråret 2016. Vi håber meget, I vil hjælpe os med at udfylde data, da vi er afhængige af de data for at kunne sammenligne dem med de tests, som vi allerede har lavet med børnene samt kommer og laver igen i uge 44.

I samme uge (nærmere bestemt d. 27. oktober) vil Jeres børn få udleveret en sprogdagbog af mig, hvori de hver aften i en uge skal skrive, hvad de har lavet af engelske aktiviteter i løbet af dagen efter skole. Det er ikke meningen, de skal lave aktiviteter, de ikke plejer at lave, de skal bare skrive ned, hvad de har lavet i løbet af dagen. Hvis ikke de har lavet noget, er det fint. Bogen skal blot give et billede af en tilfældig uge i børnenes liv.

Hvis dagbogen skal fungere optimalt, vil børnene få brug for jeres hjælp til at udfylde den. Jeg håber derfor, I vil sætte 10 min. af hver aften en uge til at udfylde bogen sammen med børnene.

I vil få en besked, når børnene får bogen med hjem.

Rigtig god efterårsferie

Mange hilsner, Signe

Translated English version

Dear parents of the children in the project The younger, the better?

As you know, your child is part of the project The Younger, the better which is carried out by the University of Southern Denmark. In that connection, we are gathering information of the children's use of English outside school. After the Fall break, you will get a language diary (described below) and later; a questionnaire. We will collect these data only twice – the Fall 2015 and the Fall of 2016. We very much hope that you will help us by filling in the material as we are dependent on that data for comparisons with the tests that we already carried out with the children and will be doing again in week 44.

In the same week (more specifically 27. October) your children will be given a language diary by me wherein every night they have to fill in which English activities they have been engaged in after school. They are not supposed to engage in activities if they don't normally do so. They simply have to write down if they do anything. If they haven't done anything, that's fine. The book is merely supposed to give a picture of a random week in your child's life.

If the diary is to function optimally, they will need your help in filling it out. I therefore hope you will set aside 10 minutes every night to fill in the book.

You will be told when the book is given to your child.

Have a really nice Fall break

Best wishes, Signe

Appendix 7: Accompanying LD letter

Original Danish version

Kære forældre til børn i x på x skole

I dag, xx dato, har dit barn fået en sprogdagbog med hjem. Den skal udfyldes i aften og indtil alle dage i bogen er udfyldt – dvs. til og med xx dato og dag. Der er også lidt spørgsmål efter den sidste dag er udfyldt.

Jeg har været og fortælle børnene i timen i dag, hvordan, de skal udfylde bogen. Jeg håber, I vil hjælpe dem med at udfylde den (især når de skal angive hvor meget tid, de har brugt), der er en eksempelside på første side, så I kan se, hvordan det skal gøres. Det er vigtigt, børnene udfylder bogen hver dag og også udfylder den sidste side, så jeg håber, I vil hjælpe dem med at huske det.

Jeres børn skal have bogen med til deres engelsklærer igen xx dato.

Hvis I har spørgsmål eller kommentarer skal I endelig kontakte mig. I kan finde nummer og mail nederst på siden.

Som nævnt på nogle forældremødet, vil I om kort tid modtage et spørgeskema, derefter vil I om et år igen modtage både dagbog og spørgeskema, men ikke noget i mellemtiden.

Mange tak til jeres børn (og jer) for hjælpen.

Mange hilsner

Signe

sihaje@sdu.dk

65 50 20 91

Translated English version

Dear parents to children in x class at x school

Today, xx date, your child has been given a language diary to bring home. It must be filled in tonight and all days until it has been filled out, that means until xx date. There are also some questions after the last day has been filled out.

I've been to class today to instruct the children in filling in the book. I hope you will help them fill it out (especially when they are to state how much time they've spent on the activities). There is an example page on the first page where you can see how it is to be filled out. It is important the children fill out the book every day and also the last page. I hope you'll help them remember.

Your child must return the book to their English teacher again on xx date.

If you have any questions or comments, please do not hesitate to contact me. You can find my number and mail at the bottom of the page.

As mentioned at the parent teacher meeting, you will also receive a questionnaire in a while, hereafter you will receive the diary and the questionnaire again in a year but nothing else.

Thank you very much both to you and your children.

Best regards

Signe

sihaje@sdu.dk

65 50 20 91

Appendix 7: LD Reminder during LD week

Original Danish version

Hand out day electronic reminder

DANSK

Kære forældre

I går fik jeres børn sprogdagbogen med hjem. Jeg håber, I vil hjælpe dem med at få den udfyldt hver dag indtil søndag. De skal have den med i skole igen mandag i næste uge.

På forhånd mange tak for hjælpen.

Mange hilsner

Signe

(Syddansk universitet)

Translated English version

Dear parents

Yesterday, your child has been given a language diary. I hope you will help them fill it in until Sunday. They must return it to school next Monday.

Many thanks for your help.

Best regards

Signe

(University of Southern Denmark)

Appendix 8: LD coding scheme, missing data

Coding scheme: LD

Missing info on time

default categories if time is missing:

Music: 15 min. (including Musical.ly)

Talk: 10 minutes

Read: 5 minutes

Talk: 5 minutes

Write: 10 (NB **Chat:** follow the time of the game)

Other: 10 minutes

Watching TV: 30 minutes

Gaming: 30 minutes

Missing language info

Games:

If a game is missing information on the language mode (either in the oral or written mode) and the activity (mostly games) has been mentioned before with this information, code the language mode that had been stated previously.

If a game/TV/YouTube clip is missing a language i.e. either in the oral or written mode and the information has not been mentioned before:

1. If they have stated one mode e.g. oral or written, code the missing mode as zero (no language) based on the assumption that they have merely ticked off the relevant bit.
2. If there is no mentioning of language, search online for the activity to see if it is possible to determine the language mode.

If they state a generic title 'film' with no language, dismiss the data

If they state they have watched music videos on YouTube under the category 'films, YouTube', etc., code as such because they will have had visual 'stimuli' to go with the language possibly providing contextual cues to the understanding of this. If coded as music keep it in the music category.

If they state a film with no language, do not code it.

If they state that e.g. Instagram is with both English and Danish both speech and text, code it as E/E, i.e., given that English was present both in the spoken and written mode.

If they state that they do something for only seconds, code as 0 given the negligible nature of the activity.

Missing data in general

If a page is completely blank even without a date, code as missing.

If a date is provided, code as filled in, i.e. assuming that the page has been filled in but no activities have taken place on that particular day.

If more than 3 pages are missing, exclude the diary from the study.