Jana Černá et al.

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by future teachers of English

Reviewers:
Dr. Barbara Loranc
doc. Mgr. Silvie Válková, Ph.D.

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Using online technologies for informal learning

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Jana Černá, Blanka Babická, Jana Kořínková,
Josef Nevařil, Barbora Bačíková,
Miroslav Chráska, Michaela Bartošová,
Lucie Hrňová, Kateřina Kačerovská,
Tereza Krsková, Zuzana Otevřelová

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Obsah

Abstract

This publication explores the phenomenon of using online technologies for informal learning from the perspective of future English teachers. The main aims of the research were to analyse the range of online technologies that future teachers of English use for informal learning, and to examine their previous and present experience with and attitudes to using online technologies. The study is based on mixed-methods research design, using a semi-structured questionnaire survey and interviews. 338 respondents from Palacký University Olomouc, Masaryk University in Brno and University of Pardubice participated in the quantitative part of the research and ten respondents from Palacký University Olomouc took part in the qualitative part of the research. The findings indicate that the most frequently used online technologies among future English teachers outside class are Google, YouTube, and social networks, and the average time spent using individual online technologies for study-related or unrelated purposes outside the respondents' university classes ranges from five to approximately 110 minutes a day. The respondents mostly view online technologies as beneficial, and also use them as a source of inspiration for teaching. Based on the analysis of their experience with online technologies, the respondents can be divided into 'users' and 'consumers'. 'Users' seem to exploit online technologies more directly for their professional and self-development, while 'consumers' tend to be less focused, and more entertainment-oriented in their use of online technologies.

Introduction

It is an undeniable fact that the place of online technologies in people's lives has become more dominant over the years. This process had begun long before the COVID-19 pandemic but was significantly accelerated by it. Because of the pandemic situation all over the globe, most forms of learning and education moved into the online space. Both teachers and learners alike had to become more autonomous and self-determined while exploring and interacting with online platforms, applications, social networks, and websites. Therefore, concepts such as hybrid teaching, the online space, or electronic study materials have come to play a much more important role in everybody's lives and have significantly changed the perception of what teaching and learning may be like.

These changes inevitably provide a suitable environment that supports informal learning with the use of online technologies. As discussed further, informal learning is the kind of learning which is not institutionalised, is rather incidental, and usually happens unintentionally. Given the current changes in society and the paradigm shift in the perception of teaching and learning, the focus of the research presented in this book is the use of online technologies especially for informal learning, as this area has not yet been explored in such depth as the field of formal education.

This publication attempts to explore this phenomenon from the perspective of future English teachers. We believe that online technologies, together with informal learning, are inextricably linked to English. Undoubtedly, in the Czech Republic, at the heart of European culture, English is the language of most online applications, games and websites. In general, online technologies play a major role in the lives of today's children and young people, and therefore it seems worthwhile to investigate this issue from the point of view of future English teachers as users of online technologies, as well as prospective educators of young people.

The first chapter of the book provides the theoretical background of the subject matter, introducing the essential terms, such as formal and informal learning and online technologies and tools. It further discusses various studies on the use of online technologies, informal learning, foreign language learning, and related issues.

The chapters that follow introduce the results of mixed design research conducted among future teachers of English at three universities in the Czech Republic: Palacký University Olomouc and, to a lesser extent, at Masaryk University in Brno and the University of Pardubice. The research followed the explanatory sequential mixed-methods design (Creswell 2014), in which quantitative data is collected in the first phase, typically by means of a questionnaire, and serves as a basis for building the second, qualitative, phase, which helps to explain the quantitative data. Chapter 2 presents the findings of quantitative research using a semi-structured questionnaire survey and Chapter 3 discusses the qualitative data gathered through semi-structured interviews.

The main aims of the research were to analyse the range of online technologies that tertiary students who are future teachers of English use for informal learning, in contrast to formal learning, and to examine their previous experience with and attitudes to using online technologies. The objectives of the research were:

- to analyse the types of online technologies that future English teachers use outside their university classes
- to ascertain the time that future English teachers spend using online technologies in their lives outside the classroom
- to investigate how future English teachers use online technologies outside their university classes
- to identify which online technologies future English teachers intend to use in their own teaching practice
- to explore future English teachers' views on using online technologies for informal learning
- to explore future English teachers' previous experience with and attitudes to using online technologies

The research was conducted as part of the student project IGA_Pdf_2021_021 *The phenomenon of informal learning with a focus on online technologies for future English language teachers* at Palacký University Olomouc. This book presents the complete and overall results of the research. Partial research findings can be found in Černá,

Babická, & Nevařil (2021), Černá, Bačíková, Chráska, & Babická (2021), Bartošová & Černá (2021), and Bačíková & Babická (2021).

In this publication, *The Chicago Manual of Style* was chosen as the reference style, using the author-date system. Where translations from Czech occur in the text, they were made by the authors.

1 Theoretical framework and classification of terms

1.1 Learning

Kantorová et al. (2008) draw attention to the fact that in the theory of education we frequently encounter inconsistent use of terminology and sometimes even content shifts. This is often due to the plurality of basic terms, automatic adoption from related scientific disciplines and also due to their use by people who are not professionals.

"Learning is a very complicated matter, and analyses, programmes and discussions of learning must consider the whole field if they are to be adequate and reliable" (Illeris 2018, 11). According to Illeris (2003), the *learning process* is not limited to acquiring knowledge and skills, but should rather be described in terms of three different processes; (a) cognitive, (b) emotional and (c) social processes. These processes can, in theory, be studied independently, but they occur simultaneously. Learning is a holistic process in which neither the physical nor the spiritual dimension can be neglected (Illeris 2003, 18).

Průcha, Walterová & Mareš (2013) see *learning* as a psychological concept that cannot be precisely defined because of the existence of a large number of theories that have their own paradigms and thus different views on what the learning process actually represents. Amongst others, the following definitions are provided to illustrate the differences:

1. Learning is a process which brings about changes in one's body of knowledge, forms of behaviour and modes of action, as well as one's qualities and self-image. Previous individual and social experience becomes transformed into knowledge (Průcha, Walterová & Mareš 2013, 324; Kulič 1992, 22–23).

2. Learning means gaining experience during one's life. What is learned is the opposite of what is innate (Průcha, Walterová & Mareš 2013, 324; Čáp & Mareš 2001, 80).

Considering a slightly different angle, Kolář et al. (2012) view learning as a process necessary for adaptation. They highlight the importance of the feedback process and classify learning according to the proportion of the conscious intention into *intentional* and *unintentional* (Kolář et al. 2012, 153–4).

Unintentional learning usually manifests itself in direct contact with reality, in real-life activities, in communication with people. It involves cognition without the intention to know, without the goal of knowing and can be described as unsystematic and unorganised. This type of learning is sometimes referred to as random learning (Kolář et al. 2012, 154). Unintentional learning is also defined similarly by Kantorová et al. (2008). This term leads to the concept of *informal learning*, which is discussed in the following subchapters.

1.1.1 Formal and non-formal education and learning

Formal education takes place in educational institutions, most frequently at schools educating learners at primary, secondary and tertiary levels. Its functions, goals, contents, organisational forms and methods of evaluation are defined by law. It usually involves achievement, i.e. gaining consecutive degrees of education, the completion of which is confirmed by an official certificate, diploma, etc. (Strategie celoživotního učení ČR 2007, 8).

In this book, the term *formal education* is understood as any intentional activity aiming to improve the learner's knowledge or skills within systematic learning at an educational institution, usually supervised by an educator. This also involves any activity outside the classroom which consciously supports the learner's formal studies (see also Černá, Bačíková, Chráska, & Babická 2021, 28).

Non-formal education focuses on gaining knowledge, skills, and competencies that can improve a person's social and working position but does not lead to obtaining a formal degree. It is provided by employers, private educational institutes, or schools and, similarly to formal education, requires the participation of a professional instructor. Non-formal education typically involves organised leisure activi-

ties, short-term training or individual lectures (Strategie celoživotního učení ČR 2007, 8).

Considering learning a foreign language, *formal learning* takes place in school classes (face-to-face or online), while *non-formal learning* is based on "professionally produced learning materials in a non-academic context", such as CD-ROMs, DVDs, or websites (Sockett 2014, 11).

1.1.2 Informal learning

Informal learning has been defined as "learning from experience that takes place outside formally structured, institutionally sponsored, classroom-based activities" (Watkins & Marsick 1992, 288) and is "unorganized, usually unsystematic and institutionally uncoordinated" (Strategie celoživotního učení ČR 2007, 8). Riegel and Kindermann (2015) and Sharma and Raghuvanshi (2020) also define informal learning in contrast to formal aspects of education. It is an everyday process of acquiring knowledge, skills, and competencies at work or home, which also involves self-education, where the learner cannot verify the knowledge they have acquired (Strategie celoživotního učení ČR 2007, 8). Marsick and Watkins (1990) developed a theory of informal and incidental learning in the workplace. In their modified model, they emphasize the importance of the context in which the learner lives and works, and it is central to gaining experience, interpreting and learning from it (Cseh, Watkins, & Marsick, 1999, as cited in Marsick, Watkins, Wilson Callahan & Volpe 2006, 795).

The term *informal learning* is rather controversial because it seems to overlap with a number of related concepts, for instance non-formal learning, implicit learning, tacit knowledge or self-directed learning (Drotner 2008; Colley, Hodkinson, & Malcolm 2002; Czerkawski & Hernandez 2012).

Informal learning is far beyond formal learning with regard to its scope and frequency, but at the same time it is much less covered by research because of a wide variability that is difficult to access, record and analyse (Průcha 2020, 26–28). Summarising the phenomenon of human learning in the historical context of psychology and education, Průcha (2020) also presents the concept of intergenerational learning, which is a kind of informal learning taking place in the course of the interactions and shared activities of different generations (Průcha 2020, 128).

Various concepts of *informal learning*, where the objectives of one's life inspire and lead to conscious personal development within any society, through the unity of work, games and individual growth, can be found in many educational theories, e.g. spiritualist theories, Platonism, Hinduism, Taoism, and Zen Buddhism (Bertrand 1998, 27–40).

The first person commonly associated with the idea of informal learning is John Dewey (1944, 1963), who proposed the theory of Progressive Education through a so-called 'hands-on' approach (Marešová 2012, 19). Dewey was well known for his approach 'meeting students where they are'. He believed that reality must be experienced and that learners need to interact with their environment to be able to adapt and learn (Conlon 2004; Messmann, Segers, & Dochy 2018).

The term *informal learning* was first used by Eduard Lindeman in 1926 and was presented in Malcolm Knowles' work Informal Adult Education in 1950. Later on, Mary Parker Follett contributed to broadening the concept of informal learning from the limited environment of schools to all areas of everyday life, and it came to be understood as a process continuing throughout one's lifetime (Messmann, Segers, & Dochy 2018; Conlon 2004).

Similarly, Zounek et al. (2016) emphasise that learning cannot be associated exclusively with school and school education, but it is a process that permeates the whole of human life, which can take many shapes and forms, and can take place in different contexts and environments, including the virtual environment. Siemens (2004, as cited in Zounek et al. 2016, 84) claims that nowadays formal learning does not play the main role in education anymore as non-formal and informal learning have become a significant part of everybody's educational process. Learning is now happening in many non-traditional ways such as internet communities, social networks, or online communication channels. Sockett (2014) argues that Web 2.0 enables people to cooperate on tasks using the target language (9). This is in accordance with Marsick and Volpe's view (1999, as cited in Marsick & Watkins 2001, 28), who see informal learning as "an inductive process of reflection and action", which is "linked to learning of others". This has become even more crucial due to the recent COVID-19 pandemic, which has brought complexity, interconnectedness and constant need for flexibility, experimentation, and reflection to the world of learning (Watkins & Marsick 2021, 94–95).

Although *informal learning* is mostly seen as incidental, or "not highly conscious" (Marsick & Volpe 1999, as cited in Marsick & Watkins 2001, 28), some authors (e.g. Livingstone, 2001; Cross, 2006) see it rather as intentional activity, but without a formal syllabus or requirements. Sockett (2014) also claims that learning informally makes use of resources whose primary purpose is not educational, as is frequently the case with online sources (11). All this is reflected in the questionnaire survey presented in this book (see Chapter 2), which focused on both purely incidental and deliberate learning with the help of online technologies in the respondents' free time. Therefore, in this book, *informal learning* is defined according to Czerkawski and Hernandez (2012) and Czerkawski (2016) as coincidental, unstructured and mostly unintentional learning that usually takes place outside the classroom.

1.2 Online technologies

In the past few decades, information and communication technologies (ICT) have been more and more viewed as key components of education. The term 'ICT' encompasses all technologies which are used to communicate and work with information (Marešová 2012, 14). While the term 'technology' may refer to other information-processing tools such as using the radio, television, or phones (Chráska 2004, 556), the term 'ICT' is rather used in reference to 'digital media' (Marešová 2012, 10).

As these technologies are mostly used online, in our research we use the term *online technologies* or *online tools*, which in general comprises all kinds of websites, online platforms, applications, and social networks (see also Černá, Bačíková, Chráska, & Babická 2021; Černá, Babická, & Nevařil 2021).

1.3 Informal learning and online technologies

Informal and incidental learning has been the focus of numerous studies. However, research in this field has been rather descriptive, mostly based on qualitative studies, with very little quantitative research, one of the reasons being the difficulty of measuring the process of informal learning (Marsick, Watkins, Wilson Callahan, & Volpe 2006, 799).

Studies from the past two decades view the internet and digital technologies in general as platforms which provide new opportunities for informal learning. Zounek et al. (2016) and Marešová (2012) point out the value of learning through a range of digital settings. The study Klíčové údaje o učení a inovacích prostřednictvím IKT ve školách v Evropě – Key Data on Learning and Innovation through ICT at European Schools concludes that learners frequently use online technologies at home in their free time (Horvath, Dalferth, & Ranguelov 2012, 9; see also Černá, Babická, & Nevařil 2021, 8595–8596). A study by Arnesen, Christophersen and Elstad (2018) also showed that teenage students tend to prefer informal online learning to formal learning at schools.

A New Zealand case study conducted on tertiary students' understanding and practices of informal learning (Lai & Smith 2017, 115–116) showed that 90% of the probands used informal learning to support their formal learning or their personal development. The participants used similar digital technologies to engage in informal learning, such as desktop computers, laptops, and mobile phones, mostly by accessing the internet and using online tools such as Google and Wikipedia.

Ahmed, Al-Kadi, and Hagar (2020) explore the functions and forms of ICT-based learning, which goes beyond conventional teaching methods, and investigates both teachers' and students' experience in the field of tertiary education. If encouraged to use internet resources and work outside the classroom, students may be motivated to independently identify, process, evaluate, and analyse digital resources. In this way, the concept of formal and informal language learning with the help of ICT can be naturally followed throughout students' lives.

Kashou (2016) focused on the online habits of post-secondary students and explored how frequently they use mobile technology for academic and non-academic purposes and how they participate in non-academic activities in formal and informal learning situations, e.g. "while in class, while studying, and during personal leisure time" (Kashou 2016, ii). Besides other aspects, the study identified gender differences in using online technologies during study time. Male students were found to use social media (Facebook, Twitter, Instagram, etc.) significantly more than female students, while female students tended to use tools such as email, texting, WhatsApp, or Snapchat significantly more than male students. When asked about the types of online tools they frequently engage with, the students mentioned tools used for

academic purposes, such as taking notes, to-do lists, and academic cloud storage, far less frequently than tools used for entertainment and social networking. However, tools such as Google Drive are used by 40% of students and search engines such as Google by 81% of the respondents (Kashou 2016, 153–154).

Warrell (2016) conducted a qualitative study examining informal learning and the development of professional identity in online learning communities amongst graduate learners. Her data analysis focused on six themes: connection, membership, professional development, emotional and social support, professional image, and autonomous self. One of the findings was that "emerging professionals identified the overlap between personal and professional content on Twitter and Facebook as useful in facilitating a personal connection" (Warrell 2016, 223).

Swanson and Walker (2015) explored the way students between 18 and 25 years of age engage with selected social media applications. Their observation that applications such as Facebook, Google, SnapChat, and Instagram were only used for non-academic purposes indicates a preference for keeping the social and academic use of technology separate. YouTube, with its potential to be used for instructive purposes, was also favoured as a non-academic resource. The study revealed that the probands struggled to transfer their technological abilities from one context to another, which suggests that they may find it difficult to conceptualise the academic potential of certain resources and applications. The authors of the study challenge educators of adult college students to openly discuss the application of technology with their students, as well as expand and incorporate varied technological innovations into educational practices (Swanson & Walker 2015, 147–158).

The most common Web 2.0 technologies used by students for their formal and informal learning as identified by Czerkawski (2012) were social networks, Wikis, Google Docs and multimedia sharing sites (see also Černá, Bačíková, Chráska, & Babická 2021, 29). The results of another survey on informal learning conducted by Czerkawski (2016) emphasise that via online technologies students tend to be more effective in making international connections and are also more capable of forming divergent points of view.

According to Statista (2022), the most popular website worldwide is Google, followed by YouTube. The study of Kross, Hargittai and Redmiles's (2021) among adults in the United States identified YouTube as the most popular online learning source, used

both for formal and informal learning. YouTube is generally a very common resource for foreign language learning, as shown in the following subchapter.

1.4 Online learning of languages

Since the study presented in this book aimed to explore future English teachers' experience with online technologies, learning the target language itself is an inseparable part of it, although the scope of this research is wider and comprises any learning outcomes related to future English teachers' personal and professional development (see Chapters 2 and 3).

Using an ecological approach, Godwin-Jones (2019) compares online language learning to "riding the digital wilds" and the learner to a "surfer", whose success depends on their individual skills and personal qualities, as well as the conditions given by the environment, both of which are not constant and make language learning a "dynamic process" (8–9).

Sockett (2014) argues that online informal learning of languages bears a resemblance to key features of both Krashen's (1978) 'input hypothesis' and Swain's (2005) 'output hypothesis' in that learners are exposed to large amounts of online materials in the target language but also interact and give and receive written feedback via social networks (24–25).

Learning languages informally in the online environment has been researched extensively in recent years. Some studies deal with general learning experience with online technologies (e.g. Lai, Hu & Lyu 2018), while others focus on learners' use of specific gadgets or online tools (e.g. Jurkovič 2019, Kim & Kim 2021, Wang & Chen 2020).

In their research among foreign language students at a university in Hong Kong, Lai, Hu & Lyu (2018), identified three main tendencies of their use of technologies in the target language outside school: "instruction-oriented technological experiences" (related to learning grammar and vocabulary), "entertainment and information-oriented experiences" (listening to music, watching films and videos, following news reports online, etc.), and "social-oriented technological experiences" (communication via social media) (6–11). The research study among Yemeni university students of English

(Bin-Hady & Al-Tamimi 2021, 112–119) showed similar results, as the students' main strategies when using technology to improve their English language proficiency were "social networking", "accessing media" (e.g. films and songs), "accessing websites" (e.g. dictionaries and e-books), and "being inspired by someone" (e.g. discussing and sharing materials with friends online). Similarly, learners' language skills may be enhanced by playing multi-player games online (Altinbaş & Savaş 2020).

Another research study, conducted among Austrian university students, revealed that the majority of them use video sources (TV series, films, etc.) on a regular basis and find them very useful in developing their foreign language skills. The technologies most frequently used by the students were online dictionaries, audio and video content and social networking, but the last one was evaluated as useful for language learning by only a small number of the students (Trinder 2017, 405). Popularity of watching films and listening to songs as a source of English language input was proved in a study among students of English and English language teaching (Babická & Nevařil 2014), where 99% of the students listed these as their typical free-time activities. In the same study, between 40 and 50% of the respondents claimed they usually read online magazines, played computer games, and spoke with native speakers online (Babická & Nevařil 2014, 59).

Jurkovič's (2019) research into undergraduate students' use of smartphones for learning English indicates that students are more likely to use online technologies receptively (e.g. reading emails, social media messages, news, and texts, watching video clips) than productively, such as writing short messages and emails (32–33).

As a commonly used online tool, You Tube has recently been the focus of various research studies. Kim and Kim (2021) found out that YouTube helped Korean students learn about different varieties of English and acquire native-like pronunciation. A study among university students of English as a foreign language in Taiwan proved that it is widely used outside the class as it provides greater flexibility and a wider variety of language learning resources than regular English classes (Wang & Chen 2020). Foreign language students use YouTube both to learn about the target language and for entertainment, as indicated in the study by Lai, Hu, and Lyu (2018).

Using social media for foreign language teaching and learning is very common and a widely studied issue, as Reinhardt's (2019) overview of 87 research studies shows. He concludes that informal learning via social media enhances "intercultural, so-

ciopragmatic, and audience awareness, language learner and user identities, and particular literacies" (31).

Overall, as Sockett (2014) suggests, online informal learning of a foreign language (English) depends largely on the specific way each language user interacts with various online and offline sources of language input and other users of the language (159). This is in accordance with the view of Godwin-Jones (2019), who claims that learner autonomy is a complex process comprising "learner beliefs, motivation, external guidance, the learner's sense of self (and of a potential future self), metacognitive knowledge and language learning history" (9). To research informal second language learning and reveal developmental patterns, he is in favour of exploring learner narratives, using qualitative studies (Godwin-Jones 2019, 12). The mixed-methods design of the research presented here allowed the authors to investigate the students' histories and personal tendencies in using online technologies (see Chapter 3).

1.5 Future English teachers

It seems undeniable that the position of English as a language of international communication has been on the rise in the 21st century. With the numbers of speakers or learners of English constantly increasing, and some estimates (Crystal 2009, 11) going as high as two billion all over the world, teachers of English are facing new challenges.

1.5.1 English teachers today

The development of online technologies and the fact that most online communication is happening via English have affected the language in two ways. On the one hand, as Seidlhofer (2003, 9) puts it, it has strengthened its position as the number one lingua franca and on the other hand, it has put English teachers into an unprecedented position.

English is available and easily accessible to learners of English practically anywhere and anytime. This may lead to learners' growing autonomy but also a false feeling of independence from their teachers as they may feel that everything can be learned online. Research also suggests that learners often lack the skills and strategies to make full use of online learning sources (Inayati, Rachmadhani, & Utami 2021, Serdy-

ukova & Serdyukov 2013). In more general terms, a study by Borg and Alshumaimeri (2019) showed that university teachers value learner autonomy and try to promote it but have reservations about the feasibility of implementing it in practice, one of the primary reasons being students' lack of motivation (20–32).

Learner autonomy in language learning is tied up with learners being "informed consumers", as defined by Cohen and White (2008), which involves a complex process of being aware of concepts and learning approaches, using metalanguage, exploring various learning opportunities and critically evaluating their language learning (White & Bown 2020, 10–11).

We believe that teachers, and English teachers in particular, should be ready to face these challenges and their preparation for the profession should reflect the current situation of the 'global' and 'online' world communicating in English. White and Bown (2020) suggest that, to be better-informed consumers, learners should be encouraged to explore and work with "the myriad of exciting and diverse possibilities available to them in their immediate environment", including digital resources and networks (17), which is an area investigated in the study presented in further chapters.

1.5.2 Future primary school English teachers

In the Czech Republic, primary school is for learners aged 6–11 and is the first stage of compulsory education (Eurydice 2022). Future primary school teachers should be prepared to teach any subject, including a foreign language (Rámcové požadavky na studijní programy 2017). Experience leads us to believe that future primary school teachers are often highly motivated by the prospect of teaching young learners. They tend to be interested in the education process, they want to help young learners discover new things, learn new skills and, generally, grow.

These young adults are complex personalities and their interests and talents are, obviously, varied. Some might be very good at language subjects, others at natural sciences. Some of these students are musically or artistically talented, some are very creative, and yet another group may excel in organisational skills.

For this group of students, English is just one of the many disciplines that are part of their teacher training study programme, and as such it may be a source of enjoy-

ment for those who like the language, want to improve their own language skills, and look forward to teaching it one day. Conversely, there are always those who dislike the prospect of having to lead English lessons and for whom the language might just be an uninteresting or even troublesome item in their study plan (see also Chapter 2.2).

1.5.3 Future lower secondary school English teachers

Learners aged 12–15 attend lower secondary school as the second stage of compulsory education in the Czech Republic (Eurydice 2022). In comparison to primary school teachers, the university studies of prospective lower secondary school teachers are rather more focused (see Chapter 2.2). During their studies, they concentrate on one or two school subjects of their own choice. Because English is a subject they have selected intentionally, it is very likely that their attitude towards the language as well as the theory of learning and teaching is reasonably positive.

It is relatively safe to assume that students of English for lower secondary school level are actively interested in the language itself. They are likely to seek informal contact with English via any means available to them, e.g. conversations with native or non-native speakers, watching films and TV series, and listening to music or playing computer games, often utilising online technologies in the process (see also Chapter 1.4).

The fact that their English is at the C1 level or higher (Zákon o pedagogických pracovnících 2004) gives them an advantage in the modern world of online technologies. Theoretically, it helps them make use of the available technologies easily and effectively not only for their own pleasure, but also for personal and professional growth.

1.6 Conclusion of Chapter 1

Informal learning by means of online technologies is a complex phenomenon integrated into most educational approaches. This chapter aimed to stress the importance of enhancing students' awareness of the use of online technologies and of involving the elements of informal use of ICT into the process of formal education.

Selected research studies were presented to introduce different aspects of the ways students engage with online technologies. Some studies mention an overlap between the use of technologies for entertainment and for academic purposes, while others claim that students tend to keep non-academic and academic use of technology separate. Most studies report online technologies as commonly used informal learning resources, with YouTube being among the most popular ones.

2 Questionnaire survey among future English teachers

2.1 Research problem and aims of the survey

As mentioned in the introduction, a mixed-methods research design was employed, combining the quantitative and qualitative research methods. For the quantitative part of the research, a questionnaire survey among future English teachers was used to collect the research data.

The questionnaire survey was conducted to investigate the main research problem:

What are the ways in which future English teachers use online technologies outside their university studies?

The main problem was further specified into the following sub-problems:

1 Which online platforms, applications, websites, and social networks are used by future English teachers in their free time, outside their studies at university?

2 How much time do future English teachers spend using these platforms, applications, websites, and social networks in their free time, outside their studies at university?

Each of the above-mentioned research problems was investigated in relation to three specified purposes (see Chapter 2.3 for the methodology and Chapter 2.4 for the research hypotheses).

The assumption was that future English teachers frequently use a wide range of online technologies but the purposes of their use may differ. Some online technologies may be used more commonly for study-related purposes, some for fun and leisure time activities, and some for professional development (see also Chapters 1.3 and 1.4).

A further objective of this study was to determine the similarities and differences in the use of online technologies depending on the gender, form of studies, and university.

2.2 Respondents

The target group of respondents was composed of university students training to be English teachers. This group comprised students of study programmes that focus on the pre-service training of teachers for the primary and lower secondary school levels.

Study programmes

The respondents were university students who, upon graduation, will gain a qualification to teach English. In the Czech Republic, there are basically two kinds of study programmes that offer this type of qualification (Zákon o pedagogických pracovnících 2004, Rámcové požadavky na studijní programy 2017).

Firstly, there are programmes training students to become teachers at the primary school level. These are unstructured five-year master's degree programmes. Graduates are qualified primary school teachers of all primary school subjects, including English. The study plans of these programmes contain courses in practical English and English language teaching methodology. The programmes are usually not completed by a final exam in English.

Secondly, universities offer study programmes with a specialisation in teaching the English language. These programmes focus on teaching English at lower secondary school level or at both primary and lower secondary school level. They are structured into bachelor's degree study programmes and follow-up master's degree study programmes. The bachelor's level is completed by a final exam in English and the master's level is completed by final exams in English and English language teaching. Upon completion of the bachelor's degree programme, graduates have the qualification to be teaching assistants; after gaining their master's degree, they are fully qualified teachers of English as a school subject. English can be studied as a single-major programme or double-major, in combination with another study field.

The main group of respondents were students of the Faculty of Education, Palacký University Olomouc. To gain comparison, the questionnaire was also distributed among students of the Faculty of Education, Masaryk University in Brno and the Faculty of Arts and Philosophy, University of Pardubice.

The respondents were students of the following study programmes:

- Anglický jazyk se zaměřením na vzdělávání (English with a focus on education, Palacký University Olomouc, bachelor's degree programme)
- Učitelství anglického jazyka pro základní školy (Teaching English at primary and lower secondary schools, Palacký University Olomouc, follow-up master's degree programme)
- Učitelství pro 1. stupeň základní školy (Teaching at primary schools, Palacký University Olomouc, five-year master's degree programme)
- Učitelství pro 1. stupeň základní školy a speciální pedagogika (Teaching at primary schools and special education, Palacký University Olomouc, five-year master's degree programme)
- Anglický jazyk pro vzdělávání (English for education, University of Pardubice, bachelor's degree programme)
- Učitelství anglického jazyka (Teaching English, University of Pardubice, follow-up master's degree programme)
- Anglický jazyk se zaměřením na vzdělávání (English with a focus on education, Masaryk University, bachelor's degree programme)
- Učitelství anglického jazyka pro základní školy (Teaching English at primary and lower secondary schools, Masaryk University, follow-up master's degree programme)
- Učitelství pro 1. stupeň základní školy (Teaching at primary schools, Masaryk University, five-year master's degree programme)

Study years

The target group was further narrowed down to specific study years, to include students who have already had at least the basic courses in English language teach-

ing in their study programme. Thus the respondents from the following study years were included in the survey:

- second- and third-year bachelor's degree students
- first- and second-year follow-up master's degree students
- third-, fourth- and fifth-year master's degree students

Type of studies

The respondents were students of both the full-time and part-time types of studies. Full-time students attend classes on a daily basis, while part-time students have classes on one day approximately every two weeks.

Sampling

Since the objective of the research was to target a particular group, in our case future English teachers, the respondents were selected by non-probability convenience sampling (Cohen, Manion, & Morrison 2007, 132), using all the students of the given study specialisation and study years at the three selected Czech universities as the basic research sample. Altogether 338 respondents filled in the questionnaire, of whom 283 were Palacký University students, 37 Masaryk University students and 18 University of Pardubice students. Originally, all the students from the required study years were asked to do so. 577 students from Palacký University were contacted; the return rate is therefore approximately 59%. It was not possible to ascertain the exact number of students from Masaryk University and the University of Pardubice who were addressed as the distribution was performed remotely with the help of the heads of the respective departments.

Gender and age

265 of the respondents were women and 73 were men; full-time students comprised 280 of the respondents and part-time students 58 (see Table 1 below). The respondents' ages ranged from 20 to 52. Only 31 respondents were 30 years old and older, the rest of them were between 20 and 29 years of age (307 respondents).

	Full-time	Part-time	Total
Men	62	11	73
Women	218	47	265
Total	280	58	338

Table 1: Respondents

2.3 Methodology

The data was collected in 2021 using a semi-structured questionnaire (in Czech), which was distributed online, via Google Forms. The questionnaire contained both closed-ended and open-ended questions. The combination of these types of questions allows the researcher both to gain data that can be easily coded and verified statistically and to explore the range of possibilities and allow the respondents to provide any suitable answer (Gavora 2010; Cohen, Manion, & Morrison 2007). The questionnaire was partially inspired by the survey conducted by Czerkawski (2016) and prepared on the basis of an informal survey among a group of future teachers of English at Palacký University Olomouc. Therefore, the online technologies listed in the questionnaire were chosen according to the students' answers in the informal survey. Besides the listed technologies, the respondents were given the possibility to mention other tools they use.

The questionnaire consisted of 14 sections, of which the last one collected demographic data (see Appendix 1). The other sections were divided according to the type of online technologies. There are 11 categories of online technologies, i.e. online platforms, applications, websites, and social networks. These contain specific tools that the respondents work with and devote some time to on a daily basis (the specific division will be discussed in the subchapters below). In each category, several tools to choose from were provided, but the respondents could also add more examples in the 'other' option.

The respondents were asked to specify

- which online tools they use on a daily basis,
- the average time (in minutes a day) they spend using online technologies outside their university studies,
- for what purpose they use them (see below).

As mentioned in Chapter 2.1, the main focus of the questionnaire was to explore three main purposes of using online technologies in students' free time, outside lessons:

1. to support the students' current studies at university; i.e. conscious use to support their formal learning (see the definition in Chapter 1.1.1)
2. outside their studies for general free-time activities (in an unstructured way), i.e. any use of online tools in their free time, which, as a result, is part of their informal learning (see the definition in Chapter 1.1.2)
3. outside their studies to develop their knowledge and skills for their future profession of English teachers, i.e. informal learning which can contribute to their teaching profession

To assess the differences in the time the future English teachers spend using different online technologies for these three purposes the Friedman test was used to conduct a non-parametric analysis of variance by ranks. This statistical test was used because the observed times always refer to the same respondent and the observations are therefore dependent on each other.

To ascertain the differences between genders and forms of studies the non-parametric Mann-Whitney U test was used. To identify the differences between universities, the Kruskal-Wallis test by ranks was used for a non-parametric analysis of variance. These two statistical tests were selected because the samples are statistically independent (Pecáková 2008).

Other questions dealt with the respondents' views of the advantages and disadvantages of using online technologies and their motivation to become English teachers. All the statistical tests were performed with the IBM SPSS software.

The answers to the closed-ended questionnaire items and related correlations were interpreted using inferential statistical analysis (Cohen, Manion, & Morrison 2007, 523). The open-ended answers were submitted to content analysis with subsequent categorisation and coding of units (Ezzy 2002, 83). The findings are presented in Chapters 2.4 – 2.6 below.

2.4 Online technologies used by future English teachers

On the basis of the research problem specified in Chapter 2.1, the following working hypothesis was specified:

Future English teachers use different online technologies differently.

The Friedman test (see also Chapter 2.3 above) at the 0.05 significance level was calculated to determine whether there is a significant difference between the respondents' use of online technologies for any of the three observed purposes. The null and alternative hypotheses were formulated as follows:

H_0 The respondents use the online technologies without any difference between the three observed purposes.

H_A The respondents use the online technologies with significant differences between the three observed purposes.

The indicator of the variable was the time the respondents spend each day using a particular technology (given in minutes per day; see Chapter 2.3).

In Tables 2–9 below, the P-value in the right-hand column shows the result. The results that show statistical significance at the 0.05 significance level are highlighted in red. Where the calculated P-value was smaller than 0.001, the number given in the table is 0.000. Where the P-value could not be ascertained, 'x' appears in the appropriate line in the table. N stands for the number of respondents who admit to using a specific tool for at least some time on a daily basis, i.e. the number of minutes a day given by the respondent was higher than zero. The mean (M) and the median (Med.) were calculated in minutes per day, SD stands for standard deviation. While

Tables 2 – 9 show all the values necessary for statistical calculations, the commentary mostly makes do with the number of respondents (N) and the mean (M) for general comprehensibility and brevity.

Additionally, to ascertain relationships between the genders and the forms of studies as variables, the Mann-Whitney U test was used. To compare the data obtained from different universities, the Kruskal-Wallis test was used (see also Chapter 2.3).

The null and alternative hypotheses for the differences between genders, form of studies, and universities were derived from the main hypothesis above.

The tables with the relevant data concerning the Mann-Whitney U test and the Kruskal-Wallis test can be found in Appendix 2.

2.4.1 Overall results

Table 2 below shows the overall data. As can be seen, for most of the categories and the specific tools in them, it can be said that there is a statistically significant difference in the way students use them (H_A can be accepted). In other words, the students, future English teachers, often tend to spend more time using an individual online tool for one or two specific purposes rather than for all three purposes equally.

Overall data		time related to university studies				time unrelated to university studies				time for professional development				P-value
Category	Specific tool	N	M	Med.	SD	N	M	Med.	SD	N	M	Med.	SD	
Search engines	GOOGLE	332	109.5	60.0	104.2	330	83.2	60.0	107.9	298	50.2	30.0	60.8	0.001
Online tools to create and manage documents	GOOGLE DRIVE	223	33.6	20.0	43.6	153	31.9	10.0	41.7	111	33.1	20.0	41.8	0.001
Social networks	FACE-BOOK	275	28.6	15.0	38.2	313	65.0	40.0	100.0	214	29.4	15.0	99.0	0.001
Chat and messaging tools	MES-SENGER	296	39.0	30.0	44.2	325	83.5	60.0	109.0	126	30.3	15.0	37.0	0.001
Video content	NETFLIX, HBO	78	58.6	55.0	54.2	199	80.1	60.0	57.0	137	68.5	60.0	55.0	0.001
	YOU-TUBE (video content)	259	29.6	20.0	28.6	297	63.9	50.0	66.0	262	35.3	20.0	36.0	0.001

Audio content	Audio Content Podcasts	58	27.9	20.0	25.9	149	39.7	30.0	32.0	80	30.1	20.0	32.0	0.001
Games and simulations	MINE-CRAFT	1	5.0	5.0	0.0	9	72.2	60.0	75.0	6	36.7	35.0	23.0	x
Music content	YOU-TUBE (music)	126	34.9	20.0	47.1	246	57.0	30.0	108.0	146	31.1	20.0	43.0	0.001
	SPOTIFY	56	72.8	30.0	108.5	167	77.5	60.0	88.0	65	60.0	25.0	113.0	0.001
Platforms and web-pages to learn while having fun	LYRICS TRAIN-ING	17	18.5	10.0	15.9	14	23.9	20.0	19.0	22	17.5	10.0	14.0	0.292
	BRITISH COUNCIL	85	20.3	15.0	18.8	33	25.2	20.0	24.0	94	25.4	15.0	25.0	0.028
Online courses	YOU-TUBE TUTORI-ALS	79	17.2	10.0	16.7	90	22.6	10.0	35.0	71	17.2	10.0	20.0	0.002
Online tools for learning languages	DUO-LINGO	46	19.8	10.0	20.2	61	20.6	15.0	14.0	54	19.0	15.0	15.0	0.485

Table 2: Overall data

Search engines

The most commonly used search engine is Google. The vast majority of the students selected it in all three sub-categories. The respondents spend almost 110 minutes a day on average searching the internet using Google to support their university studies(see the M value in Table 2). The median, which is 60 minutes here (see the Med. value in Table 2), suggests that 50 per cent of the students who use Google for this purpose spend more than 60 minutes a day doing so. They seem to use it less frequently for their free-time activities and to develop their teaching knowledge and skills (approximately 83 and 50 minutes a day on average). Google seems to be the most popular online tool with future English teachers in general, as it is used by 332 students as a tool to support their current studies, by 330 students outside their university studies, and by 298 to develop their knowledge and skills for their future teaching profession. The respondents also use it most frequently out of all the online tools in all the categories in the questionnaire – Google is the only tool that the vast majority of the students spend on average more than 100 minutes a day on (see Table 2).

Other search engines mentioned by the respondents include Seznam, Safari, Mozilla Firefox, and Microsoft Edge. Interestingly, Internet Explorer and Yahoo were mentioned just once each. Out of the 120 respondents who confessed to using other search engines, besides Google, the largest number named Seznam (44), then Safari (16) and Mozilla Firefox (8).

Online tools to create and manage documents

Google Drive is clearly the most commonly used document-managing tool; more than 100 of the students use it for each of the three stated purposes. While only about a third of the respondents (111) use Google Drive for developing their professional competences, almost two-thirds of the respondents (223) use it to help them in their university studies. It is used for approximately the same amount of time regardless of the purpose (means of 33.6, 31.9, and 33.1) when used.

142 students named other tools, e.g. Microsoft OneDrive (34), iCloud (13), Microsoft Office (12), and Microsoft Word and PowerPoint (12).

Social networks, Chat and messaging tools

The tools that the respondents selected most frequently are Messenger and Facebook. The respondents mostly spend time on them outside of their studies, 84 minutes a day on average on Messenger and 65 minutes a day on average on Facebook. They tend to use social networks less frequently to support their studies and their professional development.

228 respondents listed other instant messaging and calling platforms, Instagram being the most frequent one (184). Mostly, the time they spend on this tool is unrelated to their studies and it equals the average time spent on Facebook, i.e. 65 minutes. Among other tools, mentioned by a relatively small number of respondents, can be found Pinterest (8), Twitter (7), Reddit (5) and LinkedIn (3).

Video content

A fairly similar tendency to using social networks can be observed in the categories of video, audio, and music content (see Table 2).

Not surprisingly, the respondents most commonly follow video content on YouTube, which was selected by more than 250 of the respondents in each category. The respondents spend approximately half an hour on YouTube to support their studies and to develop their teaching knowledge and skills, but mainly use it for their free-time activities (more than one hour a day on average). YouTube appears to be generally very popular with the future English teachers since it also offers audio content and specialised courses (see also below).

Games and simulations

No statistically significant differences were found in the students' use of Minecraft, which is the game used in their free time for entertainment by nine respondents. About 16 per cent of all the respondents (54 students) admit to playing other games, such as The Sims (seven), World of Warcraft (six), League of Legends (five) and many more, usually mentioned by one to three respondents (e.g. The Witcher 3: Wild Hunt, Assassin's Creed Valhalla, Counter-Strike: Global Offensive, Valorant, etc.).

Music content

YouTube is followed for its music content by the vast majority of the respondents, especially as a free-time activity (246 respondents). However, the students spend more time a day listening to Spotify, although fewer of the respondents mentioned it. Spotify is used by 56 respondents to help with their studies for approximately 73 minutes a day, by 167 respondents for 77 minutes a day on average as a free-time activity and by 65 respondents for about 60 minutes a day to help them prepare for their teaching profession.

Among other platforms used by the respondents, we can find Apple Music (seven students), iTunes (three), Sound Cloud (two) and simply 'radio' (five).

Platforms and web pages to learn languages while having fun

Out of the given options, the respondents selected the British Council web pages most often; more of the students (85 and 94 respectively) mentioned they use them to help them with their studies and develop their teaching knowledge and skills, but the average time spent on these web pages is approximately the same for all three given purposes (20–25 minutes a day on average).

The respondents also listed some of their own choices, among these, Duolingo (22 students; see also below), Help for English (ten), English Me, Kahoot!, and Liveworksheets (each by two students).

Online courses

The most commonly selected online courses were YouTube tutorials. Not many students mentioned any other online courses, but from the few who did, seven mentioned online courses connected to foreign languages (e.g. Kubova English, BBC Learning English, Finally I Get It!, and generally "language courses for English, German, or French"). Other respondents admit to using courses aiming at "drawing with the right brain hemisphere" or dyslexic learners. Simply "webinars" without any further specifications were mentioned by three students.

Online tools for learning languages

Duolingo seems to be quite popular but it was not mentioned by a significantly high number of the respondents (see Table 2). Apart from Duolingo, a few respondents listed other online tools for learning languages, namely Quizlet (ten respondents) and Memrise (four). Additionally, online translators, dictionaries, books, and series were mentioned.

2.4.2 Gender-related differences

As can be seen in Table 1, from the 338 people who participated in the questionnaire research, there were 73 men and 265 women. Tables 3 and 4 below show the data gained from the men's and women's responses respectively.

Men		time related to university studies				time unrelated to university studies				time for professional development				P-value
Category	Specific tool	N	M	Med.	SD	N	M	Med.	SD	N	M	Med.	SD	
Search engines	GOOGLE	71	76.3	60.0	69.6	70	95.4	60.0	142.4	64	47.5	30.0	45.1	0.000
Online tools to create and manage documents	GOOGLE DRIVE	33	25.8	10.0	29.9	28	24.8	10.0	32	19	21.3	10.0	28.5	0.152
Social networks	FACEBOOK	56	22.1	12.5	19.4	66	83.4	50.0	181	37	66.6	20.0	233.5	0.000

Chat and messaging tools	MESSENGER	62	33.9	20.0	34.3	68	92.9	50.0	179.9	35	20.4	10.0	20	0.000
Video content	NETFLIX, HBO	13	40.4	40.0	17.6	36	81.7	60.0	46	25	68.2	60.0	41.7	0.030
	YOUTUBE (video content)	55	30.5	20.0	26.7	63	86.5	60.0	73.6	51	48.3	30.0	52.1	0.000
Audio content	Audio Content Podcasts	12	38.3	20.0	40.4	32	43.8	30.0	43.3	16	48.1	25.0	50.4	0.150
Games and simulations	MINECRAFT	0	x	x	x	8	73.8	40.0	80.2	5	40	50.0	23.5	x
Music content	YOUTUBE (music)	25	40.7	30.0	38.9	47	105.6	60.0	220	23	59.4	30.0	74.4	0.013
	SPOTIFY	14	118.6	60.0	180	37	114.7	60.0	135.7	15	89.3	45.0	177.9	0.012
Platforms and webpages to learn while having fun	LYRICS TRAINING	6	18.3	10.0	18.1	3	43.3	50.0	20.8	6	16.7	10.0	17.2	0.368
	BRITISH COUNCIL	9	28.9	10.0	38.5	6	51.7	50.0	39.2	11	37.3	20.0	35.5	0.607
Online courses	YOUTUBE TUTORIALS	16	21.4	20.0	26.9	15	44.3	15.0	76.6	13	26.2	10.0	37.7	0.041
Online tools for learning languages	DUOLINGO	5	16	15.0	8.2	5	11	10.0	2.2	4	11.3	10.0	2.5	0.368

Table 3: Men

Overview

It is interesting to note that out of the 14 online tools observed, the men's use of six of them shows no statistically significant differences (see Table 3), while the women's use displays significant differences in 11 of these. That seems to suggest that, as regards the purposes for which they use the tools, the male students use the tools in a slightly more homogenous way than the female students do.

Focusing on using Google, which is the one online tool almost all the students use regardless of their gender, both groups use it the least and for the shortest periods of time to develop their professional competences. Further comparison of the figures in Tables 3 and 4 shows rather contradictory tendencies. While the female students use Google on average for almost two hours a day (118.5 minutes) to help them with their studies and 80 minutes to do other than study things, the male

students use it for study purposes for 76.3 minutes on average. However, the men's time on Google increases to 95.4 minutes on average when the purpose is unrelated to university studies.

Women		time related to university studies				time unrelated to university studies				time for professional development				P-value
Category	Specific tool	N	M	Med.	SD	N	M	Med.	SD	N	M	Med.	SD	
Search engines	GOOGLE	261	118.5	90.0	110.2	260	80	60.0	96.6	234	50.9	30.0	64.5	0.000
Online tools to create and manage documents	GOOGLE DRIVE	190	35	20.0	45.5	125	33.5	15.0	43.5	92	35.5	20.0	43.8	0.001
Social networks	FACE-BOOK	219	30.3	15.0	41.6	247	60.1	40.0	63.5	177	21.6	15.0	19.9	0.000
Chat and messaging tools	MESSEN-GER	234	40.4	30.0	46.4	257	81	60.0	80.5	91	34.1	15.0	40.8	0.000
Video content	NETFLIX, HBO	65	62.2	60.0	58.3	163	79.7	60.0	58.8	112	68.5	60.0	58	0.000
	YOUTUBE (video content)	204	29.3	20.0	29.1	234	57.8	40.0	62.7	211	32.2	20.0	30.8	0.000
Audio content	Audio Content Podcasts	46	25.2	20.0	20.4	117	38.5	30.0	28.7	64	25.6	20.0	24.1	0.006
Games and simulations	MINE-CRAFT	1	5	5.0	x	1	60	60.0	x	1	20	20.0	x	x
Music content	YOUTUBE (music)	101	33.4	20.0	49	199	45.5	30.0	49.3	123	25.8	20.0	31.9	0.000
	SPOTIFY	42	57.5	30.0	67.6	130	66.8	40.0	66.1	50	51.3	20.0	86.1	0.001
Platforms and web-pages to learn while having fun	LYRICS TRAINING	11	18.6	10.0	15.5	11	18.5	10.0	15.6	16	17.8	10.0	13.5	0.264
	BRITISH COUNCIL	76	19.2	15.0	15.1	27	19.3	15.0	14.3	83	23.9	15.0	22.6	0.042
Online courses	YOUTUBE TUTORI-ALS	63	16.1	10.0	13	75	18.3	10.0	15.2	58	15.2	10.0	12.9	0.024
Online tools for learning languages	DUO-LINGO	41	20.3	10.0	21.2	56	21.5	17.5	14.5	50	19.6	15.0	15	0.707

Table 4: Women

Another tool that the male and female respondents tend to use rather differently is Google Drive, which, in the case of the way men use it, shows no statistically significant differences. Where the male students spend on average between 20 and 25 minutes on Google Drive, the female students work with it for 33 to 35 minutes a day on average. Both genders use Google Drive in the greatest numbers for university studies-related work. Nevertheless, only 45 per cent (33 out of 73) of the men but as much as 72 per cent (190 out of 265) of the women do so.

As far as video content is concerned, the figures show that the only significant difference in watching Netflix and HBO between the male and female respondents lies in the time each gender allocates to study purposes; approximately 40 minutes in the men's case and 60 minutes in the women's case (see Tables 3 and 4). YouTube video content is used rather differently, mostly for purposes unrelated to university studies. While the male students watch it for almost 87 minutes a day, the female students do so for only 58 minutes a day on average (compare Tables 3 and 4).

Rather similarly to YouTube video content, the respondents use YouTube tutorials, again, mostly for non-study purposes, and the men for longer periods of time than the women (44.3 minutes and 18.3 minutes a day on average respectively).

Music content is the last category worth noting. Although both YouTube music content and Spotify are used by the two genders for similar purposes, the length of time spent on these differs significantly. The male respondents spend about twice as much time as the female respondents on YouTube and Spotify in their non-university-studies time (almost 106 and 115 minutes compared to approximately 46 and 67 minutes per day respectively). Similarly, they enhance their professional skills with YouTube music content for almost 60 minutes a day while the women spend only 26 minutes per day on it on average. Additionally, some of the men use Spotify in relation to their studies for almost two hours a day, while the women use it for less than an hour on average (see Tables 3 and 4).

Comparison

The Mann-Whitney U test results show that statistically significant differences between the male and female respondents at the 0.05 level of significance can be observed in the case of the use of Google, YouTube for both video and music content, Spotify, and the British Council web pages. The women tend to use Google to

support their university studies significantly more than the men do. When it comes to YouTube, the male students spend significantly more time watching videos and listening to music content for purposes unrelated to their studies, as well as for their professional development, than the female students. Similarly, Spotify and the British Council web pages are the tools the male respondents tend to utilise for significantly longer periods of time outside their university studies (see Appendix 2).

2.4.3 Differences related to the type of studies

Out of the 338 respondents, 280 study in the full-time and 58 in the part-time form of university studies (see Table 1 above). The differences between the ways the full-time and part-time students use online tools are illustrated by the figures in Tables 5 and 6.

Full-time students		time related to university studies				time unrelated to university studies				time for professional development				P-value
Category	Specific tool	N	M	Med.	SD	N	M	Med.	SD	N	M	Med.	SD	
Search engines	GOOGLE	276	112.9	80.0	100.0	274	78.3	60.0	94.2	249	48.9	30.0	58.5	0.000
Online tools to create and manage documents	GOOGLE DRIVE	190	32.8	20.0	40.5	126	28.1	10.0	36.5	87	31.5	15.0	42.8	0.000
Social networks	FACE-BOOK	232	30.0	20.0	40.0	267	70.3	40.0	107.2	181	31.1	15.0	107.6	0.000
Chat and messaging tools	MESSEN-GER	256	39.6	30.0	44.9	274	87.6	60.0	114.1	108	31.6	15.0	37.9	0.000
Video content	NETFLIX, HBO	68	60.1	60.0	55.9	172	80.1	60.0	52.4	121	70.7	60.0	55.9	0.000
	YOU-TUBE (video content)	217	30.7	20.0	29.5	252	68.5	52.5	69.2	219	36.8	20.0	38.2	0.000
Audio content	Audio Content Podcasts	47	29.9	20.0	28.2	131	40.4	30.0	33.4	66	32.8	20.0	34.5	0.015
Games and simulations	MINE-CRAFT	0	x	x	x	9	72.2	60.0	75.1	5	40.0	50.0	23.5	x

Music content	YOUTUBE (music)	106	37.6	20.0	49.9	207	61.7	30.0	116.2	119	33.9	20.0	46.8	0.000
	SPOTIFY	52	76.3	45.0	111.7	154	80.6	60.0	90.8	61	62.8	30.0	116.6	0.000
Platforms and webpages to learn while having fun	LYRICS TRAINING	17	18.5	10.0	15.9	14	23.9	20.0	19.1	18	16.9	10.0	15.0	0.292
	BRITISH COUNCIL	68	20.8	15.0	19.7	24	25.4	15.0	26.5	68	24.8	15.0	24.6	0.025
Online courses	YOUTUBE TUTORIALS	66	16.6	10.0	17.1	81	22.9	10.0	36.3	60	17.4	10.0	21.4	0.002
Online tools for learning languages	DUOLINGO	39	20.8	10.0	21.8	56	21.1	15.0	14.4	45	20.3	15.0	15.6	0.756

Table 5: Full-time students

Overview

Generally, the results of the Friedman test at the 0.05 significance level show more statistically significant differences for the full-time students (11 out of the 14 online tools) than the part-time students (six out of the 14), which suggests these two groups use the observed online tools differently (statistically significant results in red; see Tables 5 and 6).

Consistently with the overall results, Google is the search engine almost all the students use on a daily basis. In relation to their university studies, the full-time students use it for approximately 113 minutes a day, while the part-time students do so for about 93 minutes. When it comes to purposes unrelated to their studies, the situation is quite the reverse, with the full-time students spending, on average, 78 minutes and the part-time students devoting about 107 minutes a day to this activity. Relatively fewer students admit to using Google for their professional development (89 per cent of the full-time and 84 per cent of the part-time students) and those who do spend the shortest amount of time on Google for this particular purpose (means of 48.9 and 56.9 minutes per day respectively; compare Tables 5 and 6).

Part-time studies		time related to university studies				time unrelated to university studies				time for professional development				P-value
Category	Specific tool	N	M	Med.	SD	N	M	Med.	SD	N	M	Med.	SD	
Search engines	GOOGLE	56	92.7	60.0	122.6	56	107.3	60.0	157.7	49	56.9	30.0	71.7	0.000
Online tools to create and manage documents	GOOGLE DRIVE	33	38.3	20.0	59.1	27	49.7	30.0	57.9	24	38.8	25.0	38.1	0.273
Social networks	FACE-BOOK	43	21.3	10.0	26.1	46	34.0	27.5	29.6	33	19.7	20.0	14.9	0.000
Chat and messaging tools	MESSEN-GER	40	35.6	20.0	39.4	51	61.8	30.0	71.1	18	22.6	15.0	27.7	0.000
Video content	NETFLIX, HBO	10	48.5	30.0	41.6	27	80.0	60.0	79.7	16	51.6	32.5	48.4	0.584
	YOUTUBE (video content)	42	23.8	15.0	22.4	45	38.1	30.0	35.1	43	27.9	20.0	23.7	0.028
Audio content	Audio Content Podcasts	11	19.5	20.0	9.1	18	34.2	30.0	22.6	14	17.5	20.0	10.0	0.057
Games and simulations	MINE-CRAFT	1	5.0	5.0	x	0	x	x	x	1	20.0	20.0	x	x
Music content	YOUTUBE (music)	20	20.3	15.0	24.8	39	32.2	20.0	29.2	27	18.9	15.0	13.7	0.010
	SPOTIFY	4	26.3	20.0	25.0	13	40.0	30.0	31.1	4	17.5	15.0	8.7	x
Platforms and web-pages to learn while having fun	LYRICS TRAINING	0	x	x	x	0	x	x	x	4	20.0	20.0	11.5	x
	BRITISH COUNCIL	17	18.1	10.0	14.6	9	24.4	20.0	15.9	26	27.2	20.0	24.9	0.037
Online courses	YOUTUBE TUTORI-ALS	13	20.2	20.0	14.1	9	20.6	20.0	16.5	11	15.9	10.0	9.2	0.420
Online tools for learning languages	DUO-LINGO	7	14.3	15.0	4.5	5	15.4	15.0	10.5	9	12.8	10.0	4.4	0.368

Table 6: Part-time students

Social networks and messaging tools, e.g. Facebook and Messenger, are the only online tools that display statistically significant differences within the two groups of

students but show relatively similar tendencies across the two groups. Although the full-time students claim to spend slightly longer periods of time using these tools, the data seems to suggest that the students, regardless of the form of their studies, use social networks similarly and mostly for purposes unrelated to their studies (see Tables 5 and 6).

Although the respondents' use of YouTube video content and music content shows similar tendencies to the use of social networks, the amount of time the students spend on these is, on average, significantly longer in the case of the full-time students. This is especially noticeable in the case of music content, where the times for the full-time students are almost twice as long as the part-time students mention in all three categories of use (compare Tables 5 and 6).

There are five specific tools that the two groups of students have a tendency to use differently. Google Drive, Netflix and HBO, Audio Content Podcasts, Spotify, and YouTube tutorials display even distribution as for the time and purposes of use within the group of the part-time students. For the full-time students, however, the Friedman test shows statistically significant differences at the 0.05 significance level. Specifically, this group of students uses Netflix and HBO, Audio Content Podcasts, Spotify, and YouTube tutorials in greater numbers and for longer periods in situations not connected with their studies, while Google Drive is the tool they predominantly use in relation to their studies (see Table 5).

The data concerning the British Council website, one of the platforms and websites for learning while having fun, show that within both the groups of students a statistically significant tendency occurs. Many of the full-time students spend most of their time on the British Council web pages either developing their professional skills and knowledge or for study-related purposes (see Table 5). The part-time students, however, are slightly more likely to use this website for their professional development (see Table 6).

Comparison

With the help of the Mann-Whitney U test, statistically significant differences were found between the full-time and part-time students' treatment of the following online tools; Google, Google Drive, Messenger, YouTube video and music and Spotify. The full-time students spend more time on Google for study-related purposes. For all

the other tools, the difference is in their free-time use. While the full-time students spend significantly more time on Messenger, YouTube video and music content and Spotify, the part-time students tend to work for much longer with Google Drive (see Appendix 2).

2.4.4 Differences between the students of different universities

As the respondents participating in our research were students of three different universities, namely Palacký University Olomouc (283 respondents), Masaryk University in Brno (37 respondents), and the University of Pardubice (18 respondents), one of the objectives was to determine whether studying at a different university means that future teachers use online tools differently.

Palacký University Olomouc		time related to university studies				time unrelated to university studies				time for professional development				P-value
Category	Specific tool	N	M	Med.	SD	N	M	Med.	SD	N	M	Med.	SD	
Search engines	GOOGLE	278	110.7	60.0	107.1	277	81.5	60.0	101.0	249	48.9	30.0	57.6	0.000
Online tools to create and manage documents	GOOGLE DRIVE	190	35.4	20.0	45.8	130	29.1	10.0	37.5	93	32.1	20.0	42.1	0.000
Social networks	FACE-BOOK	241	29.3	15.0	39.7	263	67.0	40.0	107.8	181	30.9	20.0	107.5	0.000
Chat and messaging tools	MESSEN-GER	251	39.0	30.0	43.7	270	82.4	60.0	115.2	106	31.7	20.0	36.2	0.000
Video content	NETFLIX, HBO	68	57.1	40.0	56.3	163	80.4	60.0	58.3	119	68.3	60.0	58.1	0.000
	YOUTUBE (video content)	223	28.7	20.0	26.9	248	61.4	45.0	62.9	216	35.2	20.0	37.7	0.000
Audio content	Audio Content Podcasts	52	29.4	20.0	26.9	119	40.4	30.0	32.5	64	31.9	20.0	34.6	0.019
Games and simulations	MINE-CRAFT	1	5.0	5.0	x	7	55.7	20.0	66.8	5	32.0	20.0	21.7	x
Music content	YOUTUBE (music)	107	30.2	20.0	34.8	205	57.0	30.0	114.3	124	32.1	20.0	45.3	0.000
	SPOTIFY	50	77.4	45.0	113.9	140	78.1	55.0	91.0	57	66.0	30.0	119.8	0.000

Platforms and web-pages to learn while having fun	LYRICS TRAINING	14	18.6	10.0	16.9	12	24.9	20.0	19.8	13	18.5	10.0	17.1	0.497
	BRITISH COUNCIL	71	19.8	15.0	18.3	27	28.7	20.0	24.9	67	23.6	15.0	21.7	0.109
Online courses	YOUTUBE TUTORIALS	71	17.9	10.0	17.2	81	23.2	10.0	36.3	64	17.7	10.0	20.6	0.005
Online tools for learning languages	DUOLINGO	42	20.1	10.0	21.0	54	21.5	15.0	14.7	51	19.5	15.0	14.9	0.707

Table 7: Palacký University Olomouc

Overview

Analysing the data gathered from the students of each of the three universities, the Friedman test at the 0.05 significance level shows statistically significant differences in seven out of ten categories (ten out of 14 specific tools) for Palacký University Olomouc (see Table 7), in three categories (four specific tools) for Masaryk University (see Table 8) and two categories (two specific tools) for the University of Pardubice students (see Table 9). The data shows the differences in how the future English teachers use the tools at each university.

Masaryk University		time related to university studies				time unrelated to university studies				time for professional development				P-value
Category	Specific tool	N	M	Med.	SD	N	M	Med.	SD	N	M	Med.	SD	
Search engines	GOOGLE	37	105.4	60.0	98.2	37	105.8	50.0	159.9	33	58.1	30.0	84.5	0.000
Online tools to create and manage documents	GOOGLE DRIVE	22	17.4	10.0	18.6	15	48.7	30.0	67.8	12	39.6	20.0	43.7	0.424
Social networks	FACEBOOK	27	23.9	15.0	26.5	34	54.0	45.0	44.4	22	21.3	17.5	16.9	0.000
Chat and messaging tools	MESSENGER	30	34.6	20.0	40.1	37	95.5	60.0	79.0	10	12.2	10.0	7.9	0.000
Video content	NETFLIX, HBO	5	54	40.0	39.7	24	80.0	60.0	51.8	11	69.1	60.0	35.1	0.156
	YOUTUBE (video content)	21	26	20.0	25.1	32	82.3	50.0	89.1	29	37.1	30.0	30.0	0.000

Audio content	Audio Content Podcasts	4	12.5	12.5	6.5	21	28.8	30.0	14.3	11	22.7	20.0	16.0	0.156
Games and simulations	MINE-CRAFT	0	x	x	x	1	200.0	200.0	x	1	60.0	60.0	x	x
Music content	YOUTUBE (music)	11	68.2	30.0	94.5	26	58.8	30.0	75.9	13	25.4	15.0	30.6	0.807
	SPOTIFY	3	18.3	20.0	12.6	17	65.9	60.0	67.9	7	11.4	10.0	9.0	0.368
Platforms and web-pages to learn while having fun	LYRICS TRAINING	1	5	5.0	x	0	x	x	x	6	15.8	10.0	11.1	x
	BRITISH COUNCIL	10	19.7	10.0	20.5	2	7.5	7.5	3.5	17	26.2	20.0	27.6	x
Online courses	YOUTUBE TUTORI-ALS	5	14	10.0	9.6	4	22.8	20.0	20.3	3	20.0	15.0	18.0	0.156
Online tools for learning languages	DUO-LINGO	4	16.3	12.5	9.5	5	13.0	10.0	4.5	3	10.0	10.0	0.0	0.368

Table 8: Masaryk University

Messenger and YouTube video content use indicates statistically significant differences with regard to the respondents from all three universities. In the case of Messenger, it is interesting to note that the Masaryk University students list using it for their professional development the least; only 27 per cent of them for just 12 minutes a day on average (see Table 8). In contrast, 37 per cent of the Palacký University students and 56 per cent of the University of Pardubice students spend more than 30 minutes daily (32 and 34 minutes on average respectively) on their professional growth with the help of Messenger (see Tables 7 and 9).

University of Pardubice		time related to university studies				time unrelated to university studies				time for professional development				P-value
Category	Specific tool	N	M	Med.	SD	N	M	Med.	SD	N	M	Med.	SD	
Search engines	GOOGLE	17	98.5	100.0	65.4	16	60.6	50.0	67.1	16	54.1	50.0	53.2	0.052
Online tools to create and manage documents	GOOGLE DRIVE	11	36.2	30.0	34.7	8	45.6	30.0	39.9	6	35.2	20.0	38.2	0.627
Social networks	FACE-BOOK	7	23.1	20.0	19.4	16	54.7	50.0	47.3	11	21.4	10.0	26.8	0.101

Chat and messaging tools	MESSENGER	15	49.3	30.0	59.0	18	75.8	60.0	44.7	10	33.8	10.0	54.1	0.043
Video content	NETFLIX, HBO	5	84	60.0	32.9	12	75.8	60.0	45.4	7	70.0	60.0	26.5	0.607
	YOUTUBE (video content)	15	47.7	30.0	47.4	17	66.2	60.0	59.9	17	33.5	30.0	30.0	0.002
Audio content	Audio Content Podcasts	2	20	20.0	0.0	9	55.6	30.0	51.0	5	23.0	20.0	21.7	0.135
Games and simulations	MINECRAFT	0	x	x	x	1	60.0	60.0		0	x	x		x
Music content	YOUTUBE (music)	8	51	20.0	78.8	15	53.3	45.0	50.6	9	26.1	20.0	20.0	0.057
	SPOTIFY	3	50	60.0	17.3	10	88.5	60.0	85.6	1	60.0	60.0		x
Platforms and webpages to learn while having fun	LYRICS TRAINING	2	25	25.0	7.1	2	17.5	17.5	17.7	3	16.7	20.0	5.8	x
	BRITISH COUNCIL	4	30	27.5	24.8	4	10.0	10.0	4.1	10	36.5	22.5	35.7	0.368
Online courses	YOUTUBE TUTORIALS	3	5.7	5.0	4.0	5	13.0	10.0	9.7	4	7.5	7.5	2.9	0.223
Online tools for learning languages	DUOLINGO	0	x	x	x	2	15.0	15.0	7.1	0	x	x	x	x

Table 9: University of Pardubice

As mentioned above, Google is the one tool used regularly by almost all the respondents for all three observed purposes. Where the Masaryk University students are concerned, it is worth mentioning that all of them use Google for practically the same length of time, on average slightly more than 100 minutes a day, for purposes both related and unrelated to their studies. The standard deviation differs immensely in these cases though (98.2 for study-related and 160 for study-unrelated purposes) which suggests the distribution around the standard deviation is very different for the two purposes Google is used for. It may be concluded that while the Masaryk University students spend between 50 and 150 minutes a day on Google in relation to their studies, the same students spend between 25 and 185 minutes a day on this tool searching for things unrelated to their studies (see Table 8).

It is also interesting to notice that the time related to university studies on Google is practically the same on average for all the students, regardless of the university. While the Palacký and Masaryk University students use Google predominantly for study-related or study-unrelated purposes, the University of Pardubice students do not distinguish between the three purposes in any statistically significant way (compare Tables 7, 8 and 9).

The students' use of Facebook is another aspect worth commenting on. In terms of the initial interpretation, regardless of the university, the respondents' answers demonstrate similar tendencies. Almost all of them use Facebook in their free time, for purposes unrelated to their studies for approximately an hour a day (on average 67, 54 and 55 minutes a day respectively; see Tables 7, 8 and 9). In relation to their studies, however, Facebook is used most by the Palacký University students (241 of them (85%) for almost 30 minutes a day on average; see Table 7), followed by the Masaryk University students (27 students (73%) for nearly 25 minutes a day; see Table 8). The University of Pardubice students mention Facebook rather sporadically in this case, only 39 per cent of them, with an average time of 23 minutes a day (see Table 9).

The tools in the music content category, whether YouTube or Spotify, are utilised by the Palacký University students differently than by the students of the other two universities. They use them predominantly for purposes unrelated to their studies. The data related to the other two purposes indicates either a considerably shorter period of time spent on it or a smaller number of students who make use of the particular tool (compare Tables 7, 8 and 9).

Comparison

The Kruskall-Wallis test confirms statistically significant differences at the 0.05 significance level in the use of Google Drive, Spotify, and the British Council website (see Appendix 2). Google Drive is used by quite a lot of students for study-related purposes; however, the Palacký and the University of Pardubice students spend approximately 35 minutes a day on it (35.4 and 36.2 respectively; see Tables 7 and 8) while the Masaryk University students use it for less than 20 minutes (17.4 on average; see Table 8). Only a few students use Spotify for their professional growth, but those who do come predominantly from Palacký University Olomouc and they do it for about an hour a day (see Table 7). Using the British Council web pages for purposes unrelated to their studies

is the least frequent way of using this particular tool, but it generates the greatest differences. The Palacký University students spend nearly half an hour on this website for this purpose, whereas the Masaryk and the University of Pardubice students are inclined to use it for ten or even fewer minutes a day on average (compare Tables 7, 8 and 9).

2.5 Advantages and disadvantages of using online technologies

2.5.1 Advantages and disadvantages of using online technologies for online learning

The respondents were asked to choose from a pool of options with regard to the advantages and disadvantages of using online technologies for online learning, i.e. formal learning. They could choose any of the suggested answers or provide their own answer.

The chi-square test was ascertained to determine whether or not there is a statistically significant difference between the observed (O) and expected (E) frequencies of answers.

H_0: There are no differences in the respondents' choice of answers.

H_A: There are differences in the respondents' choice of answers.

no	advantage	O	E	O-E	$(O-E)^2$	$(O-E)^2/E$
1	They are cheap or free.	212	127.125	84.875	7203.766	56.66679
2	They are motivating and interesting.	179	127.125	51.875	2691.016	21.16826
3	They make communication easier.	173	127.125	45.875	2104.516	16.5547
4	They make cooperation easier.	145	127.125	17.875	319.5156	2.513397
5	They make me more active and I participate more.	89	127.125	-38.125	1453.516	11.43375
6	They nurture my creativity.	82	127.125	-45.125	2036.266	16.01782
7	They help me improve my ability to find solutions to problems.	77	127.125	-50.125	2512.516	19.76413
8	They help me remember information.	60	127.125	-67.125	4505.766	35.44358
	TOTAL	1017	1017			**179.5624**

Table 10: Advantages of using online technologies for online learning

The calculated chi-square value (179.5624; see Table 10) is larger than both the critical value at the 0.05 significance level and seven degrees of freedom (14.067), as well as the critical value at the 0.01 significance level (18.475). Therefore, the null hypothesis can be rejected. There is a statistically significant difference in the respondents' choice of answers at the 0.05 and 0.01 significance levels.

As can be seen in Table 10 above, the top three advantages of online learning are, in the respondents' point of view, that it is cheap or free (212 respondents), motivating and interesting (179 respondents), and it makes communication easier (173 respondents). On the other hand, only 60 respondents chose the fact that it helps students remember information. The respondents who chose to write their own answers were few in number (14 in total). Two respondents wrote that online learning saves time. Among other advantages mentioned by individual students were the following; the possibility of working from home, it brings fast access to information, learning is more fun with its help, etc.

no	disadvantage	O	E	O-E	$(O-E)^2$	$(O-E)^2/E$
1	Loss of students' attention	235	135.6666	99.3334	9867.124	72.73068
2	The necessity of owning one's certain hardware and software	175	135.6666	39.3334	1547.116	11.40381
3	Problems with the organisation of classes	148	135.6666	12.3334	152.1128	1.121225
4	Cheating in tests	141	135.6666	5.3334	28.44516	0.20967
5	Higher demands on technical support	125	135.6666	-10.6666	113.7764	0.838647
6	It is time-consuming	110	135.6666	-25.6666	658.7744	4.855833
7	Higher demands on technical skills	108	135.6666	-27.6666	765.4408	5.642072
8	Impossibility of explaining the curriculum adequately	95	135.6666	-40.6666	1653.772	12.18997
9	Growth of plagiarism	84	135.6666	-51.6666	2669.438	19.67645
	TOTAL	1221	1221			**128.6684**

Table 11: Disadvantages of using online technologies for online learning

Similarly to the advantages, the calculated chi-square value (128.6684) for the tabulated disadvantages is greater at the 0.05 (15.507) and 0.01 (20.09) significance levels for eight degrees of freedom. Once again, the alternative hypothesis can be accepted. There are statistically significant differences in the students' answers.

Table 11 above shows that a substantial number of the respondents see the biggest disadvantage of online learning in their loss of attention (235 respondents), followed

by the necessity of owning the necessary equipment and software (175 respondents). The third most frequently chosen disadvantage encompasses the problems with the organisation of classes (148 respondents). As for other disadvantages, only 20 students opted to formulate their own disadvantages. These students mentioned various issues ranging from health problems (e.g. headaches, backaches, sore eyes, etc.), lack of motivation, and loss of natural contact with fellow-students or teachers to technical difficulties.

2.5.2 Advantages and disadvantages of using online technologies to explore one's interests and hobbies

The respondents' opinions on the advantages and disadvantages of using online technologies to explore their interests and hobbies and for their professional development in their free time were gathered through open-ended questions (see Appendix 1, questions 26, 27, 29, 30). Largely, the students listed similar reasons to those discussed in Chapter 2.5.1 above. Altogether, 260 respondents listed some advantages and 212 mentioned disadvantages.

The most frequently mentioned benefit was the availability of online tools (85 respondents). Other common benefits according to the respondents are the fact that technologies allow quick searching and save time, they are motivating, attractive, and usually free, the possibility of connecting with other people and sharing ideas, and that they are a valuable source of information.

In contrast to that, the respondents frequently view online tools as very time-consuming, leading to procrastination and addiction to the online environment. Other frequent drawbacks listed were a lack of concentration, contact and interaction with other people, and a lack of feedback. Some respondents mentioned information overload, frequent disinformation, and internet safety as possible disadvantages. Another group of disadvantages comprises technical aspects, such as the need to own the necessary technology and the necessity of a good internet connection. The last group of drawbacks concerns harmful effects on a person's health, e.g. eye pain.

2.5.3 Advantages and disadvantages of using online technologies for professional development

241 respondents listed advantages and 174 of them mentioned disadvantages.

Besides the advantages, which are similar to those mentioned above, such as availability, time flexibility, and the attractiveness of online technologies, the respondents named a range of more specific benefits. Those include varied sources of knowledge and ideas and inspiration for teaching, including ready-made materials. The importance of ideas for future practice was repeatedly mentioned, as was the usefulness of online teachers' groups and interaction and communication with other teachers. Some of the respondents think online tools support their creativity when developing their professional skills.

Similarly, the disadvantages include time consumption, addiction, and loss of concentration but also drawbacks more specifically related to developing the knowledge and skills needed for the teaching profession. The respondents frequently mentioned that information found online can be false or misleading and therefore it is important to learn to use the sources critically. The students also see the information as incomplete, simplified and often not possible to apply in practice. Another group of disadvantages relates to the lack of personal contact and a teacher role model, and lack of communication with learners. In addition, online teaching resources often require registration and are not free, which is seen as an important drawback by some of the respondents.

2.6 Future teaching profession

The last two questions concerned the respondents' motivation and plans for the profession of a teacher.

The vast majority of the respondents (302) feel motivated to become teachers. The most frequent motivational factor is the desire to work with children (101 respondents). The respondents also wish to pass on knowledge and develop their learners' skills and competences. Common motivational factors are previous experience with the education system or teachers – either positive or negative – and love of the English language. For some of the students having a teaching job was a childhood

dream, while some were influenced by their families or family friends. Teaching is also viewed as a creative profession offering variability, space for self-development and teamwork. A smaller group of the respondents is rather motivated by practical considerations, such as rising salaries and the prestige of being a teacher, the relative certainty of finding a job, and short working hours and holidays.

In accordance with the results discussed in the previous chapters, the students mostly plan to use in their future teaching practice those online platforms and applications they already use themselves. 102 respondents plan to use YouTube and 60 respondents mentioned Google and related applications. Many respondents would like to use quiz applications, for example Kahoot (42 respondents), Wordwall, or Quizlet. Probably because of the recent online education experience during the pandemic, some respondents listed online teaching platforms such as MS Teams (26 respondents), Zoom, or GoogleMeet.

2.7 Conclusion of Chapter 2

On the one hand, the future English teachers seem to be aware of and use a rather wide variety of online technologies, while on the other hand there seems to be a clear tendency towards using a select few reliable and trustworthy tools.

Although online tools such as Google and YouTube are used very frequently, the men seem to have a stronger tendency than the women to use these tools in their free time for purposes unrelated to their studies. Simply put, the men appear to spend more time with these tools for the sake of entertainment while the women tend towards a rather more studies and profession-oriented utilisation of the tools. When the groups of full-time and part-time students are compared, Google tends to be used for roughly the same amount of time on a daily basis (together approx. four hours). However, the full-time students devote the greatest proportion of this time to study-related purposes, and the part-time students to ones unrelated to their studies. Interestingly, the most significant differences between the students of different universities were found not in the way they use the 'mainstream' tools such as Google or YouTube, but in the relatively supportive tools, for example Google Drive, Spotify, and the British Council website.

3 Future English teachers' histories with online technologies

3.1 Aims and research questions

The goal of this qualitative study was to contextualize and complement the results of our quantitative research into the current use of online technologies (henceforth OTs) by future English teachers by eliciting and comparing their personal histories with these technologies from when they first started interacting with them until today. We were interested to find out to what extent the histories might be similar or different, and how they might be reflected in the respondents' plans to exploit online technologies in their future careers as English teachers. The following research questions were formulated:

1. Which factors have shaped the personal histories of the selected teacher trainees with OTs?
2. What strategies of using OTs have the selected teacher trainees adopted in the course of their histories with OTs?
3. What benefits and drawbacks of using OTs have the selected teacher trainees experienced in various stages in their personal histories?
4. Is there a link between the selected teacher trainees' past and present use of OTs and how they plan to use these in their future English lessons?

3.2 Respondents

The respondents were chosen by purposeful sampling, which is a conscious selection of a small number of data sources that meet particular criteria. In order to meet our selection criteria, a prospective respondent had to be a student of a master's degree teacher training programme with an English language teaching component. 25 participants in the quantitative part of the research, students of primary and lower secondary education, were addressed via e-mail and asked whether they would be willing to be interviewed about their past experience with OTs. Fifteen positive responses were received and after the timetables of the prospective interviewees and interviewers were consulted, the final choice of ten respondents was made. These included seven females and three males between 23 and 26 years of age, five students of Teaching at primary schools and five students of Teaching English at primary and lower secondary schools at Palacký University Olomouc. All these respondents gave their oral consent to being interviewed for the sake of the research. In order to maintain anonymity, each respondent has been allocated a randomly chosen first name.

3.3 Methodology

The qualitative phase of our study, reported here, was designed after the quantitative data from the initial part of this research had been processed and analysed to gain a more detailed insight into how the current practices of future English teachers with OTs have developed over time. In the quantitative part of the research the data was gathered via administering and processing a questionnaire comprising a majority of closed items. This means that the answers could sometimes be implied to the respondents by directly providing a number of certain options. However, as Hendl (2005) puts it, the exploration and description of individual cases belong among the typical goals of qualitative research.

We therefore decided to interview the selected teacher trainees in more depth to let them freely share what they remembered about their past practices with OTs and what they consider essential about their present ones. The future teachers

were also asked to talk about their plans to use OTs in their future careers as English teachers. To elicit the respondents' histories, an interview with prompts was used, which, according to Hendl (2005), consists of a list of questions or topics which must be covered during the interview. The accompanying list of prompts ensures that no topic of interest for the interviewer is left out (see the interview design in Appendix 3).

In the initial phase, a basic structure of an interview with prompts was drafted in Czech, the respondents' mother tongue, following the guidelines for constructing effective questionnaires in education research (Anderson & Arsenault 2005; Hendl 2005; Mišovič 2019). This first version of the interview was piloted with three volunteer students who also met our research criteria. Two researchers were present during this piloting stage to adapt and fine-tune the questions and prompts, which were then used to design the final version of the interview. The interview consisted of eight questions with prompts mapping the respondents' memories of using OTs from the very beginning until today, and two questions aiming at their future English teaching career. All the respondents were interviewed by one of the researchers present during the piloting stage. The interviews took place on the Zoom platform, each taking between 30 and 45 minutes, depending on the length of the responses of each individual interviewee.

The interviews were transcribed using the Beey software and subject to three rounds of open coding (Strauss & Corbin 1990; Hendl 2005; Švaříček & Šeďová 2007). The outcome of this phase was three sets of in-vivo codes. The first set traced various factors influencing the interaction of the respondents with OTs, the second traced their strategies for using OTs in the course of their lives, and the third followed the positive and negative experience our respondents had gained while engaging with OTs. Within each set, the in-vivo codes were grouped into wider categories, which were then used to describe our respondents' experience and practices with OTs during their primary, secondary, and tertiary education (see the following chapter). Finally, each respondent's history was summed up chronologically, highlighting its key points and including the outlook on the respondent's future teaching career, so that the connections between the past and future became more evident.

3.4 Results

Upon carefully reading all the transcripts several times and creating and revisiting the categories that reappear in the individual respondents' responses, it became evident that the future English teachers' histories with OTs follow a generally similar pattern, with some individual deviations or particularities, caused by the unique personal characteristics of the respondents and/or by the external influences shaping their lives. It was also observed that each individual history contributed to and is reflected in the respondent's current approach to OTs and the importance he or she assigns to engaging with them in his or her personal and professional pursuits. Since qualitative research is non-numerical, the findings below are not quantified, but based on descriptive analysis (Švaříček & Šeďová 2007, 210).

Below, first, the various factors potentially affecting the future English teachers' practices with OTs are outlined, general strategies identified within these practices, and the main categories of the benefits and disadvantages of using OTs as presented by the individual respondents during the interviews. Then we proceed to describe how the teacher trainees' histories with OTs developed from when they first started engaging with them until the present time, focusing mainly on the common features of the histories within the three areas identified above. Finally, the respondents are put into two broad categories reflecting their prevalent current practices with OTs and we suggest how these may be linked to their approach to using OTs in their future English teaching careers. The key findings of our quantitative research are supported by the respondents' direct quotations, where relevant.

3.4.1 Factors, strategies and benefits and drawbacks of using online technologies

As explained above, the open coding of the transcribed interviews focused in turn on three distinctive areas; factors, strategies, and perceived benefits and drawbacks. When the individual codes were compared, we realised that some aspects of the respondents' practices with OTs are reflected in more than one category. For example, spending free time online could be viewed both as a strategy (a tendency to relax with OTs) and as a benefit of OTs (potential for passing free time). Equally, communication with friends and family manifests itself both as a factor influencing our respondents'

regime with OTs (need to stay in touch) and as a benefit of OTs (the possibility of maintaining contacts and communication) or even a strategy – relaxing online.

The choice of online applications and websites one engages with during a certain period of one's life is determined by certain external and internal influences or factors, as can be clearly seen in all of the respondents' histories. Some of these factors were found to potentially influence our respondents' interaction with OTs in two opposite ways: they either increase or limit the time online. For instance, one's personal hobbies can either result in more time spent on various related online platforms, or they can actually reduce the overall time one spends on the internet, if the hobby in question is e.g. reading books or hiking. The **external factors** were noted to have shaped the respondents' histories with OTs mainly during their primary and secondary school years. These include:

- the influence of family members,
- the socio-economic situation of the family,
- current trends in society,
- the influence of school.

The **internal factors**, which seem to play an important role mainly from the final years of secondary school until now, include:

- the need to belong,
- personal interests and hobbies,
- approach to personal growth,
- choice of work experience.

The term **strategy**, as used in this research, refers to a deliberate regular practice within one´s interaction with OTs. In the interviews with the future English teachers, the following broad areas of strategic behaviour were identified:

- relaxing online,
- limiting time spent online,
- enhancing productivity,
- discovering new technologies.

Relaxing online comprises the ways of using OTs for the purpose for pure "chilling-out", with no other pronounced aim. **Limiting time spent online** involves various practices our respondents adopt to limit their time spent on the internet. **Enhancing productivity** refers to pronounced tendencies to use several OTs simultaneously, or to use an OT in combination with a physical activity. Finally, **discovering new technologies** refers to the ways our respondents find and start using new online websites and applications.

It seems that most of the strategies of online behaviour that the future English teachers who were interviewed formed from their early engagement with OTs until roughly the end of their secondary school years were related to relaxing online. During this period, the remaining three types of strategies were represented only scarcely, which, however, changed for most of the respondents once they matured into young adults with their own distinctive interests and ambitions and started their university studies.

During the interviews, the respondents were also asked to summarise the positive and negative ways in which OTs have affected them in the past and today. Overall, more **benefits** than disadvantages were perceived by all the respondents, especially during their primary and secondary school years, when almost everyone recalled only positive experience with OTs. The reported benefits included:

- contact and communication,
- the informativeness, availability, and versatile usability of online sources,
- inspiration for personal and professional growth,
- potential for filling free time,
- making work easier,
- acquiring various new skills,
- potential for children's learning.

On the other hand, our respondents mentioned the following **disadvantages**:

- potential waste of time,
- loss of real social contact,

- physical and mental fatigue,
- anonymity,
- the need to secure personal data,
- annoying advertisements.

3.4.2 Respondents' practices with online technologies during their basic school years

Initially, the primary school and the lower secondary school phases of the respondents' histories with OTs were to be dealt with separately, but it was found impractical as most of them claimed they had had very little or no experience with OTs while at primary school. Many could not recall exactly whether a certain experience dated back to their primary or lower secondary school age. This is not surprising, because in the Czech Republic, both levels of school are typically located in one building and traditionally called the 'basic' school. Therefore, the term 'basic school' used here refers to the grades 1 to 9 of primary and lower secondary education and the term 'secondary school' to the following four grades of upper secondary education.

Most of the respondents first encountered OTs sometime between the age of eight and ten, when they started playing computer games and listening to music online. In these early years, some remember creating their first email account. Towards the end of their basic school years some report watching and downloading films and actively looking for websites consistent with their personal interests. Most of the respondents confess that throughout their basic school studies they simply used OTs to have fun and to interact with their classmates on the emergent messaging platforms and social networks. Deliberate usage of OTs for learning purposes was rare because most schools did not require or inspire it at that time. In some cases, however, a tendency to use OTs for personal growth can be traced even in this period, reflecting our respondents' personal aims and ambitions.

Factors influencing the usage of OTs during the basic school years

This initial phase of the future English teachers' use of OTs was primarily shaped by the respondents' families and hobbies, by the current trends of the time and by their need to belong.

The influence of **parents** was reported mainly during the earliest stages of using OTs. Most parents limited the time their children spent on the computer, typically until the age of 11 or 12, as described by James: *"At the beginning… my limit was 30 minutes, I guess, and then, perhaps when I was 11 or so, it became more free, less limited. Sometimes my parents might have said 'that's enough' but there were no set limits anymore."* Rachel, on the other hand, remembers that her parents limited her throughout her basic school years: *"My parents had been very careful and for many years I had a strict limit on how much time I could spend on the internet."* The strictest parental limitations were reported by Sid, whose parents were strongly opposed to playing computer games and only allowed him 20–30 minutes online each day. He explains that this has had a profound effect on him: *"I guess I didn't spend much time there because my parents kept me away from it … and, actually, even now I tend to spend minimum or no time playing games."*

Only three respondents do not recall any limits imposed by their parents. Thea talks about her mother, who was a single parent raising twins: *"Mom did not have a clue how much time we spent online and she did not use the internet herself. She belongs to the 'old school' and doesn't use the computer much even today. So we weren't limited at all, except that we had to share one computer."*

Children's practices with OTs can also be influenced by their **parents' profession**, especially if it is related to the IT sphere, as reported by Nick and Karen. Nick's father was a programmer, so the family have always had the newest technology at home, and Karen learned internet safety and computer skills from her IT parents: *"We are an IT family, so I am very well able to secure my personal data, passwords, and suchlike. But I know many people who are hopeless at this, who are not on very good terms with technology."* It is interesting that neither Nick's nor Karen's parents strictly limited the time their children spent on the computer.

A number of respondents reported that during their time at basic school they actively enjoyed some online activities with their **siblings** and/or **cousins**. Holly remembers playing online educational games with her siblings, Rachel recalls playing online games with her younger Australian cousins, and Karen and her cousin helped each other set up accounts on the popular Czech websites Seznam and Lidé.cz. Thea's hobby, shared with her twin sister, resulted in her developing rather advanced computer and internet skills for her age. She explains: *"I remember how me and my*

sister were learning to use Photoshop. We edited photos, formatted them in a special way, drew into them and combined, for example, different bodies and faces. We started a blog, where we posted some graphics. I was really good at it. We learned so much from Photoshop, and that has stayed with me until now."

Another factor that influenced our respondents' engagement with OTs during their basic school years was the **socio-economic situation of the family**. More than half of our respondents mention the purchase of the first family computer and/or the availability of an internet connection as the starting point of their history with OTs. Some mention the possession of a smartphone as an important factor which increased their time spent online. James says: *"I didn't have a smartphone for quite a long time, until I was 15, and the computer was quite uncomfortable."* Vicky remembers that she did not have a smartphone for the most part of her time at basic school: *"just a Nokia with some games and a camera"*, and Nancy recalls: *"In the fifth or sixth grade I already had a better phone with the internet, which made it possible to play games."*

Like Thea, most respondents reported that their time spent on OTs was limited by the necessity to share a single family computer with other members of their household. Ida even had to share a mobile phone: *"I only got my own phone some time towards the end of basic school. I had to share one with my sibling for some time before that."*

Various **trends of the time** seem to have strongly influenced the future English teachers´ choice and usage of OTs, especially during the second half of their time at basic school. This appears to be related to their desire to belong, to be and do the same as their peers, which is characteristic of this stage of life. The tendency is illustrated by the recollections below: *"Because we already owned a computer and I had my own phone, I had a greater chance to participate in that… I went to social networks because others were there too…"* (Ida) *"Games were 'in'; we all played."* (Holly) *"I got really affected by social networks. Yes, it was really a thing, everybody had that."* (Nick) *"It was the time of ICQ and those first chatting applications, where we simply communicated with our classmates… at that time one really wanted to spend more time there because it was somehow 'in'."* (Rachel)

Like Rachel, most respondents talk about a strong desire to communicate with friends, especially those from school, which developed rapidly over their last years at basic school with the growing popularity of social networks. James and Nick,

respectively, describe this very clearly: *"I started using Facebook around, I don't know, perhaps 14. Because we had a class group there, so we communicated with each other and, of course, in those days I still enjoyed browsing the profiles, which is something I don't care for now."* *"It was about following people, reading their statuses, fixing up where to go and what to do."*

Using OTs inspired or demanded by **school**, i.e. formal education, appears rare in this period of the respondents' histories. For most of them the school requirements in this respect were negligible, especially during the first years of basic school, as Karen explains: *"The school didn't ask anything from us in this respect, it was all just for fun… Wikipedia, maybe."* Nancy remembers a specific task she was required to complete online: *"It was mostly for fun; I remember watching a lot of YouTube in those days. And playing games a lot. When it came to school, it was just about looking for some extra information, because for our civics lessons, we always had to search for a piece of interesting news and report it in class. But that only took a few minutes. I would just find some information on Seznam.cz and hand-copy it onto a piece of paper."* Ida recalls a teacher who used an interactive white board and Sid recalls watching internet educational programmes in Geography and Math lessons.

In the final years of basic school, the demands on using OTs for learning grew somewhat, as Vicky reports: *"Well, in the eight, ninth grade it was already more about the school. At the beginning we used Wikipedia a lot; Google was not that popular yet, I think."* Both Nancy and Ida, respectively, talk about a slightly more intensive experience with OTs in their lessons:

"We had a really good teacher of ICT. We were asked to solve some really difficult tasks and also did some online tests." *"The lessons took place in a computer classroom and it was always so exciting to be able to go there!"*

During their time at basic school, **hobbies**, or preferred ways of spending free time, influenced the respondents' engagement with OTs in two opposite ways. Most respondents enjoyed activities which actually limited the time they spent online, as illustrated by the following comments: *"I had many interests and hobbies. There was not much time to sit at the computer."* (Holly) *"Before I was 13 or 14, I still had a normal childhood, we were outside all the time, playing in the mud."* (Nick) *"I don't think I spent as much time there as I do now because I followed many more interests like sports, music lessons, and suchlike, so my programme was rather different."* (Sid)

On the other hand, all the respondents remember spending quite a lot of time using OTs to simply pass their free time in an enjoyable way – playing games, listening to music, and watching videos. These activities are discussed in more detail below in connection with their online relaxation strategies.

Nevertheless, it cannot be said that all the time the respondents spent online during the basic school years was devoted to passive entertainment. Towards the end of this period, about half of them reported online practices that could be linked to their **personal growth**. In other words, even at this age some respondents demonstrated a degree of conscious effort to learn something new or to improve at something that was of special interest to them. Holly enjoyed educational games focused on history and science, Sid watched instructional videos related to his hobbies and Nick recalls watching *"everything from conspiracy theories to tutorials"* on YouTube and learning how to edit pages on Wikipedia. The respondents were also conscious of improving their foreign language skills. Thea remembers: *"I learned more English because I watched many English videos… some videos on YouTube about fashion or clothes, about makeup."* Rachel was keen on TV shows: *"I know that at 14 or 15 I used to watch those American series like Gossip Girl and so on. I really enjoyed that at that time."* Karen learned English from song lyrics: *"I had started visiting some English websites, for instance Lyrics, during my basic school, from the seventh grade or so. And I often used karaoke lyrics, which always presented the English version and the Czech version, and I used to compare them."*

Strategies developed during the basic school years

Most of the practices with OTs that the future English teachers reported during their basic school years fall into the category of **relaxing online**. As suggested above, this is because at this age they generally considered spending time on the internet purely a leisure activity and used it much more for fun than for educational purposes. Typically, they watched videos and listened to music on YouTube, with the exception of Rachel, who could not recall any time spent on this platform before she started secondary school. James remembers: *"It began sometime around the age of nine. I started following my favourite music bands and was able to spend almost the whole afternoon after school on YouTube, really."* Other respondents, such as Vicky, also mention watching or even downloading films: *"To entertain ourselves, we downloaded films from Uloz.to. I remember watching films very often, or listening to music on*

YouTube and … now I cannot remember the name of the page, but there was another page where we watched films and TV shows as well."

The second most common strategy for online relaxation seems to be exchanging messages with friends, which was reported by all but Holly and Nancy. Facebook was the most common platform, but several respondents also mention ICQ, an older online messaging platform.

Finally, almost all the respondents recall playing online games, which was sometimes preceded or accompanied by playing offline computer games, as Holly describes: *"It was those games that you put into the CD drive… those game CDs came with magazines. We played those a lot at home."* Nancy remembers playing online games on several different platforms: *"I also played games on Superhry.cz and Nejlepšíhry.cz; those were the classic platforms of the time, and then some games on Seznam.cz. Seznam had classic games like Criss Cross and Battleships, and also Noughts and Crosses… those I played all the time."*

Almost no strategies related to **limiting time spent online** seem to have been applied by the respondents themselves in the course of their basic school years. As suggested above, the amount of time they spent using OTs was mostly limited by their parents, access to OTs, or a preference for other free time activities. Only Karen mentions something that could be interpreted as managing her time on the internet by herself: *"I did not spend much time online when I was at basic school. Two hours a week was my maximum. Sometimes, when I was sitting there for a longer time, because I was playing a game or so, my parents came to tell me that it'd been too long, but most of the times I just left the computer by myself."*

Enhancing productivity by using more than one platform at a time was not reported by any of our respondents during this phase of their lives, the possible reason being that the OTs available at that time were not so advanced as to enable such a mode of interaction. It could be speculated that, at the most, certain online activities were combined with regular daily activities, for instance listening to music or watching online films while having a meal.

Our respondents' approach to **discovering new technologies** was hardly an active one at this period. Their choice of online platforms was mostly influenced by friends from school and sometimes siblings or cousins, as suggested above. Vicky expresses

this tendency rather succinctly: *"Towards the end of basic school, we started discovering Facebook, and other new applications started to pile on as time went by… because everybody always started using the same application and we all began communicating with one another."*

Benefits and drawbacks of using OTs perceived during the basic school years

Looking back at when they first started using the internet while at basic school, most of the respondents could not recall any **negative influence** OTs would have had on their lives at that time. Only Nancy observed that *"one disadvantage could be that those apps, social networks and so on, cost us time."*

The most frequently stated **benefits** of using OTs in this phase of our respondents' histories were acquiring various new skills and enabling contact/communication. All but three respondents mentioned developing skills related to using computers and the internet. Among these, Nancy mentioned learning how to use Word and Excel and *"getting to know how the internet generally works"*. Learning how to find information online and work with it was mentioned by Vicky and Rachel, who remarks that *"one got to know the media environment"*. Karen speaks about learning to use the Microsoft Office and Wikipedia, together with the basics of computer safety. Sid appreciated learning the basics of MS Office and learning to type on the computer keyboard using all ten digits. Holly remembers how playing computer games improved her thinking and learning: *"I think some of those games helped develop our analytical thinking. We played a series of games called 'Why is it so?' focused on history and science, and such activity must have broadened our horizons when we were children. As long as we were interested, we could grow in this way."*

Almost half of the respondents claimed that a major benefit of OTs was the fact that they enabled more frequent contact and communication with their friends. Ida says: *"The main benefit was that I could be in contact with my classmates."* Vicky adds: *"I became part of the gang."*

Rachel and James saw OTs mostly as a helpful source of information and appreciated easy access to news and information, and so did Ida, who explained: *"I realized that they actually gave me the chance to find what I wanted."*

As suggested earlier, from the start of their engagement with OTs, three of our respondents saw their potential for improving their foreign language skills. While

Nick only appreciated a greater exposure to foreign languages, Thea claims to have become more familiar with English because she watched *"loads of English videos, films and TV shows"* and Rachel mentions beneficial contact with English through English educational games.

3.4.3 Respondents' practices with online technologies during their secondary school years

The secondary school years in the respondents' histories with OTs were characterised by reduced influence of their families on the one hand and by a continued and perhaps even more acute need to keep in touch with their friends on the other. Although having fun was still the most frequent motivation to spend time online, a number of practices with OTs were also inspired by school demands and ambitions for personal growth. However, the strategies for using OTs, as well as the perceived benefits and disadvantages of working with online platforms, had not changed in any remarkable way when compared to the previous basic school years.

Factors influencing the usage of OTs during the secondary school years

At this stage, the previously important factors related to the family and its socio-economic situation became largely irrelevant. The use of smartphones became commonplace; our respondents all owned one of their own, and none of them experienced major parental limitations on the time spent online. Even Sid, whose parents' control used to be very strict, says: *"My regime with OTs had changed because I was older now and so my parents allowed me much more freedom. It was also due to the fact that I had my own smartphone… I could spend more time with it."*

During their secondary school years, our respondents' preferences and practices related to OTs were perhaps predominantly influenced by the **need to belong**, which led them to follow the current trends popular with their peers. Most report that their time spent online increased because they just did what everybody else was doing. Vicky describes the situation: *"I'd say that we gradually used more and more web pages and applications. When a new game appeared, for example, everyone started playing it and we all downloaded it into our phones. Of course, we deleted it after a while … this was how it went as the time and our age advanced. We used many more pages and applications than when we were the basic school."*

For almost everybody, social networks became the most important focus of their online activity. For many, Facebook was a must to keep in close touch with friends and also family, if one studied in a different town. For several respondents, Facebook was also important because their class had a group there to communicate about school matters. Some even recall setting up Instagram accounts at that age. Rachel describes how keeping in touch was absolutely crucial for her: *"When we were teens, it was terribly important for us, those social networks – Instagram and suchlike. Everyone posted pictures and the most important thing was to have many friends… that was simply essential. Now it's kind of decreasing. We still use the networks, but we only take them as means of communication. Then they were somehow more 'in'; it was more important to meet online than to go out. We ended up following all sorts of things and people; the more, the better."*

Besides interacting with others on social networks, our respondents' favourite **free time activities** were similar to those pursued during their basic school years – listening to music and watching films and TV shows. The time spent on these pastimes increased in all cases and exceeded the time spent online for formal and informal educational purposes, as reported by many. Nick attempted to quantify the ratio: *"It was about 1:3; entertainment still prevailed."* As the above-mentioned activities can be generally counted as relaxing online, they are described in more detail below among the strategies.

Although our respondents frequently used the internet for fun, many of them remember that their online activities related to **school** also intensified. While Wikipedia remained the most commonly used website, for some, such as Karen, online learning became more varied: *"When I was at secondary school, I started using the internet to learn more often. But I'd say fun still took up 70–80% of my time. I used Wikipedia for school quite a lot but at that time we started working with various other sources as well."*

Some respondents mainly remember using OTs for school when studying for their school leaving exam. James recalls: *"I only used OTs for learning in a limited way, mostly in the final year of my secondary school because of my school-leaving exam. That was the time when I used Wikipedia a lot."* For Thea, it was similar: *"Because I had to pass my school-leaving exam, I probably searched for information that I considered useful. I possibly looked for some websites focused on the Czech language and, of course, Wikipedia."*

Nancy, on the other hand, gained more extensive online experience because of her school's demands: *"At the secondary school, I definitely spent more time on the internet because of the application called Bakalář.cz, which was a kind of turning point in my using OTs for school. At the basic school, grades had been written down into our paper 'books of reports', but at the secondary school everything went online. All homework had to be downloaded, all grades were recorded online… This meant that we had to open the application every day. In fact, we also had to check our daily timetable. Some days we were supposed to have a lesson after lunch and we waited in front of the classroom for 15 minutes but the teacher never came. And then we found out in the app that the lesson had been cancelled. So we had to keep checking the app to see if something had been cancelled… And the demands really increased with time; our homework was there, we were always checking the timetable and our grades, and we also followed our attendance records because we were not allowed to miss more that 25% of our scheduled lessons. So we were checking the app all the time."* Vicky recalls inspiring time spent online directly in her secondary school lessons: *"Well, at the secondary school we used OTs more even during our lessons; one teacher, for instance, used Kahoot and we simply loved that. Or we all used our mobiles and connected with one another during the lesson. And we also used Google to search for information."*

On the other hand, some of the respondents' experience with OTs during this period was inspired by a negative experience from school. Ida says: *"Well, we didn't use computers much at school, when I think about it, our school was old, so it wasn't that well equipped. I remember just using Google."* Rachel describes how she and her classmates used the internet to compensate for an incompetent physics teacher: *"I don't remember what the website was called but it featured topics that we had covered at school. We used to go there to study the problems, how to solve them … that helped us a lot. And there was another page where everything was explained and described, which was great because our physics teacher was not good at all."*

Using OTs for **personal growth** was reported to be more common by the respondents than during their earlier phase of their life. Many remembered watching various tutorials and reading online content related to their hobbies. Karen used to watch tutorials for playing computer games, putting on makeup and drawing. Holly remembers using tutoring platforms to learn English and Physics. James followed a fan page while learning at the same time: *"Because I was a great Star Wars fan, I read a lot of information, interesting facts, about the films on the internet. I educated*

myself in these fictional matters. When I look back, it was a kind of bridge between pure fun and learning. Also, I primarily used the English Wikipedia, since I had realised quite early that it was better than the Czech one." The ambition to improve foreign language competence was also mentioned by Nick, who watched English videos with history and geography content, and Thea, who explains: "*I think that at one point I wanted to learn German and then Spanish with some apps. I didn't keep it up for long, though. But my English improved a great deal because I stopped watching my favourite TV shows with subtitles; that was a huge breakthrough when it came to my English.*"

During their secondary school years, two of our respondents reported their first **work experience**. Vicky had a chance to teach English to small children, while Holly's experience was directly related to OTs: "*I participated in a course called 'Computers for senior citizens', where we worked as tutors for seniors or adults who wanted to improve their command of computers. And then I was actually responsible for the course for two years. I think I was quite an advanced user of online technology.*"

Strategies developed during the secondary school years

As suggested above, our respondents' practices with OTs began to change as they started using various websites and applications more frequently to support their learning. Despite this, their time on the internet was still largely filled with the same leisure activities as during their basic school years and **relaxing online** remained the predominant strategy identified in the respondents' histories with OTs even in the course of their secondary school years. They watched films and TV shows even more frequently, some played games and all communicated via social networks. The overall time spent online increased. James even directly realised that his free time spent online exceeded his free time spent on other activities, which might have been a more general tendency.

To watch video content, most respondents visited the same platforms as before, mostly YouTube, but also Czech and Slovak platforms such as skouknito.cz and serialy.sk. New technologies had emerged, most importantly Netflix and Spotify, and illegal downloading became popular, as reported by Karen and Ida, respectively: "*Of course, then I watched some films and TV shows downloaded from various sites, well, that I was not supposed to use.*" "*In those days, I was still a 'pirate' and downloaded things illegally, but now at university I already pay for it.*"

Playing games remained a favourite pastime of at least three respondents even during their secondary school years. Holly remembers visiting several trendy Czech game portals, for instance herna.biz, and James recalls: *"I had my first smartphone, so I chatted a lot on Messenger. And there were these games, the very simple ones, which I played a lot. I enjoyed that even during my school lessons."*

Nicks reports another online activity he enjoyed: *"At the secondary school, I started shopping online a lot; I forgot to say that. Well, buying things, it was there, yes."*

As for **enhancing productivity** strategies our respondents did not recall using more than one online platform simultaneously during their time at secondary school. On the other hand, some mention being connected most of the time, so it could be speculated that they combined various online and offline activities, such as listening to music and watching videos when eating, or playing games when commuting to school.

Likewise, none of our respondents mentioned deliberately **limiting** their **time spent online**, which suggests that although parental control ceased, self-control mechanisms had not formed yet. Karen was the only one who at least recalled feeling somewhat guilty for wasting too much time watching TV shows. On the other hand, Thea explains that although she watched a lot of film content, that time was in no way wasted because it helped her learn English.

Even the strategies for **discovering new technologies** mostly remain the same as during the basic school years – all the respondents claim to have been influenced by their friends and, to a lesser extent, family members. Additionally, some of them report that they started discovering the potential of Google for finding interesting new websites through typing in relevant keywords.

Benefits and drawbacks of using OTs perceived during the secondary school years

The positives and negatives of using OTs, as reported by our respondents during their time at secondary school, are largely the same as those mentioned when talking about their previous basic school days. Again, a potential waste of time was related as the single **disadvantage**. Karen confessed: *"I really spent a lot of time there. Now when I think about it, it was in fact too much."*

The perceived **benefits**, mostly the potential to acquire new skills and to maintain lively communication with peers, again outweighed the downsides. Easy facilitation of contact and communication with friends were emphasised by the same respondents as was the case for the previous period. As Nick points out: *"The main benefit was meeting new friends. I definitely met many people from our town online, which was nice."* This suggests that social networks and messaging platforms began to be used more universally during our respondents' time at secondary school and their circles of online friends widened to include other people besides classmates. Furthermore, Vicky stressed that OTs helped her stay generally informed, to keep in touch with *"what's new in the world, what is fashionable at the moment"*.

One difference between this and the previous period is that fewer of the teacher trainees who were interviewed report learning basic computer skills (e.g. typing and working with text editors) and more of them appreciate acquiring more advanced skills related to using the internet. Thea deepened her interest in computer graphics: *"We worked with a Google app for designing interiors, which I think could be very useful in future. I'm ready to use it any time…"* Nancy, Ida and Rachel, respectively, describe how spending time online helped them become independent learners: *"It was more about independence. We had to prepare things on our own, look for information… and find our own way around all those websites." "We learned to study on our own, for instance to search for information via Google." "I realised that there were so many different sources and I was able to find things totally on my own."* Holly refers to the improved effectiveness of her work: *"I learned to use the websites and applications more effectively. I gradually became more skilful and that saved me time and effort."* Karen learned moderation, perhaps much earlier than her colleagues: *"This was a definite benefit – that I enjoyed OTs to the fullest and now I don't crave them."*

More respondents also appreciate the role of OTs in advancing their language skills during their time at secondary school. Thea claims her English improved so much that she was able to stop reading subtitles in English films. Rachel explains how OTs even helped her with German: *"The contact with the language grew. I remember taking a German course at secondary school, so I also watched some German TV shows, and that was a big step forward, with so much input. If I hadn't had access to those applications and websites, the contact with the foreign language would have been very limited. I am positive that this helped me a lot, although it was just watching some TV shows. But it inspired me and it has stayed with me, and now I cannot imagine watching a dubbed*

film." In Nick's case, improving his language skills was combined with acquiring new content knowledge: *"When I attended grammar school, I didn't like studying history in Czech, so I watched videos in English. I started using YouTube for this purpose, watching history and geography content. If I could learn something in a different language, I became more interested in it."*

3.4.4 Respondents' practices with online technologies at present

At the present, the respondents have spent three or four years studying at university and although a number of common preferences and practices with OTs can be identified, others are unique to them as individuals with diversified interests and inclinations. When compared to their secondary school days, most of the respondents seem to make more deliberate choices and try to exercise greater control over the time they spend on the internet. Furthermore, in this phase of their lives about half of them report that the time spent using OTs for learning and personal growth exceeds or equals the time spent on online entertainment.

Factors influencing the usage of OTs at present

Leaving aside formal university requirements concerning using OTs, which were not covered in the interviews, the most important factor influencing the respondents' regime with OTs at the present time is the **need to stay connected and remain informed** about what is going on among their social contacts and in society in general. Keeping in touch with people and events is so essential that all the respondents confess to spending regular time on certain social networks and messaging applications every day. Nick describes his daily routine: *"I get up each morning and briefly run through the news to see if there hasn't been a tornado, or so on, and then quickly look at what is new on Instagram and Facebook to see if something has not happened."*

When asked about the most important OTs in their present lives, almost all the respondents mention social networks and messaging applications in the first place. This seems typical for their generation, as Ida puts it: *"I switch on my phone right in the morning and usually spend some time on Facebook and Instagram, just like everybody. Well, if I am not at work, of course. One uses it more and more, it has become part of my daily life."* In fact, using social networks and messaging platforms appears to be so integrated into our respondents' lives that Karen even did not remember to mention

them when asked about what OTs she mainly used at present. It was only after she had listed websites and applications important for her personal and professional development that she added: *"And I use Messenger in the meantime, of course."*

Compared to the respondents' time at secondary school, however, the usage of social networks seems to be less about aimless extensive browsing. It tends to be more focused on staying connected to selected significant individuals or groups of people – friends from and outside school, family members, or various interest groups. Typically, our respondents use more than one social network and messaging application, sometimes for different purposes or to reach out to people from different spheres of their life. Rachel explains: *"To communicate, I mostly use Facebook, Messenger, and WhatsApp, and to share things with friends I use Instagram, where I have a smaller group of people, people like classmates from secondary school, so I can somehow keep in contact with what is going on where."* Perhaps the most diversified usage of social networks is described by James: *"At present I use social networks, but each for a slightly different purpose. Facebook is mostly for communication, most frequently via Messenger or Facebook groups; this is very important for me. Other than that, I almost never go there. Then I have Instagram, which I really like mainly because of the pictures; it's more artsy, kind of. And Twitter, that's good for keeping myself informed about what is going on in the world."*

Interestingly, staying in touch not just with important people but also the news of the world is mentioned by all our male respondents but only one female.

Another major factor influencing our respondents' practices with OTs is their internal motivation to follow their **personal and professional interests**. However, in this phase of their lives it is often no longer possible to draw a clear line between activities for pure entertainment and activities for personal growth. Compared to the previous period, using OTs mainly for fun becomes limited to times when they want to relax after working or when they seek some entertainment to accompany their mundane daily activities such as eating, commuting to school, or going shopping.

Clearly, the respondents' choice of OTs reflects the span and depth of their personal inclinations and interests. Most seem to believe that there are always many new interesting things to be explored and learned 'out there', as summed up by Rachel: *"There are so many interesting topics, some general, some related to my studies. I am really keen on psychology because I am also majoring in social sciences. There is a huge*

number of interesting topics and I find them greatly inspiring – the fact you have access to such interesting people and their opinions. You watch a 20-minute-long talk and you can do many other things in the meantime; this is what suits me perfectly."

Among specific interests that inspire them to use specific specialised websites and applications, our respondents mentioned politics, psychology, cooking, travelling, visual arts, playing logic games, solving puzzles, and working out. Only Sid, Nancy, and Ida do not mention any specific personal interests which influence their engagement with OTs. Generally, the more varied and serious the interests the respondent has are, the more varied and focused the online practices they report are. Nick talks about how his interests increase the time he spends online for personal growth: *"Of course I follow my interests, for instance on Facebook. I like watches, so we have a group there; we watch things together, we chat. I also like English and German and I follow many websites in English or German. I like politics, so I follow, for instance, Daily Wire, from the American spectrum. For me this is productively spent time. Nothing I follow is stupid or irrelevant.*"

At present, all but two of our respondents use OTs to advance their **professional development** even outside their formal school requirements. Apart from Ida, who claims she is still a little afraid of English and avoids OTs in English, all the other respondents specifically mention regularly visiting websites with English content, most typically YouTube, Netflix, and HBO, but also sites focused on English teaching and learning. Nancy likes to design games for English language teaching and uses a mobile application for practising vocabulary. She also switched FB to English in her phone. Vicky uses Duolingo, follows English YouTubers and vlogs in English and avoids watching English films dubbed into Czech. James also prefers downloading films in English and says he is disappointed whenever the original version is not available, claiming he watches English films with concentration, not just for fun. Karen uses Google to find pages to help her teach English and History. Holly lists several online sites and applications she uses for her professional development: *"I use Help for English and Učitelnice. These websites are directly focused on our future teaching profession. And we should also include Google Drive and all those apps such as PowerPoint, Excel, and Word, as well as Zoom and Teams.*"

Additionally, most of our respondents reported a current **job experience** which somehow influences their practices with OTs. Some of their part-time jobs are not

related to their future teaching career, for instance selling clothes, which involves using a special application for scanning prices, working for an insurance company, which involves using a specialised software, or babysitting, which requires them to seek new job offers on a specialised online platform. James reports an interesting influence of his job on his regime with OTs: *"I almost always use my mobile phone during our 15-minute breaks at work. I work manually, so I really need it… I always open that application about arts I mentioned before. I read for five minutes, then play a game for five minutes, then I read again. And the films I mentioned – these I watch primarily on the days when I don't work. So that I can really concentrate on them. Because this is not just relaxation."*

On the other hand, half of our respondents reported work experience directly related to their future teaching career. Two teach at a language school, one tutors children who have problems with their regular English lessons at school, and one even produces and sells English teaching materials. Another participates in a project focused on more effective education of primary school pupils. All these respondents say they regularly search the internet for information and inspiration and their work experience also involves using various online communication channels with their employer/colleagues. This is well illustrated by Karen, who claims to be extremely excited about becoming a real English teacher soon: *"I teach in a language school, so I use the ESL Collective website every week. This is a page with worksheets, which I keep open almost all the time. And then, of course, Google. It is absolutely essential. I always type in simple key words such as 'free time activities' or 'worksheets' and then I try to find as many pages as I can, as many ideas as possible. I use Facebook to communicate with friends, but at the same time I use it to search for various ideas on how to teach English and history. And I search for various videos on YouTube, too. And I use Gmail to communicate with the language school that employs me."*

As a certain regime with OTs is taken for granted when one is a university student, we only monitored how school influenced our respondents' practices with OTs besides its formal requirements. Most respondents observed that they were mostly influenced by their school timetables. On weekdays, when they have lessons, as well as during the examination periods, they report less time using OTs for entertainment. For instance, James says he only engages in online activities when commuting to school or in breaks between the lessons, but then confesses that he sometimes plays games even during lessons if he finds them useless. For most respondents, less time

spent online on weekdays means primarily watching less video content and spending less time on websites that relate to their personal interests.

Nancy and Thea report using YouTube and Pinterest to find educational content related to what they study at school. Thea explains: *"When we learn something at school that I don't understand or if I want to hear a summary of a book we talked about, I look for it on YouTube. If there's a grammar issue that I didn't get fully, then I like to hear it explained from another perspective, by someone else."*

On the other hand, the time our respondents spend on social networks and messaging platforms may even increase on weekdays, as most of our respondents talk about using these OTs to communicate with their schoolmates about school issues, typically organisation of classes and discussing various projects and assignments. For this purpose, they usually set up special Facebook groups. Additionally, Vicky mentions sharing learning materials with her classmates via Google Drive and Ida and Holly report meeting with their classmates on the Zoom platform.

Strategies in the present use of OTs

Considering the present practices of the teacher trainees who were interviewed, more diverse strategies for using OTs can be identified than in the previous periods. While their habit of spending time online for relaxation continues, many have also developed ways of limiting the time and/or have been trying to increase their productivity by using more online platforms simultaneously. When the respondents were asked about how many websites and applications they used on an average day, their estimates ranged from three to 20. The number of platforms given by some respondents may, however, be unrealistic because they seem to have counted Google or Facebook searches as using one platform, disregarding the fact that they had visited a number of other websites in the process.

When it comes to **relaxing online**, all the respondents talk about consuming some audio and video content on YouTube, Spotify, or Netflix, which seems to be a habit that most of them have gradually developed from when they were at basic school. They report habitually watching films and TV shows in the evenings and at weekends; Nancy and Holly even mention using three different film platforms. While Karen explains that she never mixes work and entertainment, which means she relaxes by using OTs only after her work is done, others seem to intersperse their daily

regimes with moments spent online for fun. Listening to music is usually reported as a passive activity accompanying, for instance, browsing social networks, going shopping, driving a car, etc. The same is true for listening to podcasts, which seems to be a favourite online activity for many, including Nancy, who says: *"Yes, I listen to music on Spotify and also to podcasts on Apple Podcasts. When I am walking to work, for example, I use earplugs and listen to podcasts, to some stories. So this actually rather increases the time I spend online."*

Only three respondents mentioned that they still played online games regularly. James is somewhat ashamed of it, saying: *"Yes, at my age I still play games, but mostly when the lessons are boring."* Vicky is keen on logic games, which she plays both online and offline with her boyfriend, who shares her hobby. Nick talks about playing online games with friends during the lockdown caused by COVID-19, because there was not much else to do.

Currently, most of the respondents state that they are trying to **limit the time** they spend **online**, but this effort does not seem to be systematic as no one specifies to what extent they have been successful. Too much time spent online is typically mentioned in relation to using social networks. Karen, Thea, Rachel and Holly talk about consciously trying to spend more time outdoors and meet their friends in real life rather than online, especially on non-working days. Karen also specifically mentions not having an account on Instagram. Nick, Nancy, and Holly reported that they were currently using an application that tracks their time spent on different platforms. It is interesting that only Holly actually implies setting some definite limits: *"I am trying to limit my time online. You can set a limit to how much time you want to spent on, let's say, Instagram and once you have used your time, let's say, five minutes, an icon pops up to inform you."*

The sense of usefulness seems to play an important role when assessing the length of time spent online. If the respondents consider the activity to be productive, they do not regret the time it takes, but if they feel they are not doing anything useful, regret does appear. For instance, James is not able to say how much time he spends on various online platforms because for him it almost always means entertainment closely combined with personal growth. Nick does not regret his time spent online for a different reason: *"If I didn't use OTs, I would have more time, but during that time I would not be extra-productive anyway. So I guess I will keep using online platforms*

in the same way; I am happy with it and don't want to change it." On the other hand, Sid expresses strong regret: *"It really is unpleasant to realise how much time I spend like this."*

As suggested above, our respondents' testimonies about their current strategies for using OTs clearly show a common trend of listening to audio or video content in combination with another online or offline activity. On the evidence of the interviews, it is not possible to decide to what extent these practices can be interpreted as attempts to **increase productivity** and to what extent they are simply motivated by the need to avoid periods of unpleasant silence. Such a combination of activities often rapidly increases the amount of time our respondents spend on OTs, as documented, for instance, by Thea, who habitually listens to music and podcasts when doing a number of her daily activities and is therefore unable to say how much time she spends online. Nancy even talks about a habit of playing TV shows in the background when doing household chores. Karen seems to be an exception – she believes she can achieve better productivity by only concentrating on one activity at a time.

Some differences can be seen in the activities each individual respondent prefers to combine. Rachel focuses on a single online platform when working because she believes this improves her concentration. Otherwise she tends to listen to music, various podcasts and TED Talks as a background activity when eating her meals or walking. Sid confesses to being online all the time and listening to music even when working. James mentions sometimes using more devices at the same time: *"I normally listen to music on YouTube and simultaneously I may be doing something on my phone. So I usually use two devices – a computer for YouTube and a mobile phone for another application."* Nick likes to play games while listening to music but claims that he never listens to music when working. Holly considers some technical issues regarding the simultaneous use of online platforms: *"Most often I play music when looking for a cooking recipe or reading some websites, or when I am on social networks. This is impossible with YouTube, unless you buy Premium, but Spotify is OK; it can run simultaneously."*

On the other hand, Nancy, Vicky, and Ida only mention listening to online audio content in combination with physical activities, for instance cleaning the house and walking somewhere, but never talk about using more platforms simultaneously.

When asked about their approach to **discovering new technologies**, six of our respondents characterised themselves as active and the rest considered themselves passive or rather passive. This does not always agree with the practices they described in the interviews; for instance, Thea believes she is more passive but reports constantly searching for new sources of inspiration for her creative pursuits. On the other hand, Sid considers himself active while he describes using the same limited choice of platforms as part of his daily routine.

Most of the respondents actively seek new platforms when they need them for a certain purpose, but it seems that only a few have a system in their search. Rachel explains that this could be a time-consuming process: *"I guess I search for things because sometimes, for instance, I need an application for practising vocabulary and so on. It's much easier now; you type in what sort of application you need and it comes up. Then I go through the results and it often takes a lot of time before you find something that suits you."* Karen has managed to make her way of searching even more systematic: *"Well, I start on Google, where I always enter those simple keywords. And then I open a lot of pages one by one, and gradually I either close them or save them as tabs. This is the first phase. After that, I go through the saved websites again and compare them to decide which is better. Then I take what I need, copy and paste it into Word, and give it a final form. It's a lot of clicking."* Like when they were at secondary school, most of the respondents rely on entering keywords into Google. In addition, some choose more visually tuned search engines such as Google Pictures or Pinterest, which seem to be important especially for Karen, Nancy, and Vicky.

To date, most of the respondents are influenced to some extent by the recommendations of their friends before connecting to new platforms, as Rachel suggests: *"Occasionally I start using a platform based on a recommendation, when someone tells me this or that app is just great. One of my friends and so on."* James explains that when he looks for something that is not so important, for instance a new game, he tends to search on his own, but *"when it comes to applications where I am more concerned about the quality, I tend to rely on recommendations."* It is interesting that only Ida and Nancy also mention their school lessons as a source of inspiration.

The students who consider themselves passive in discovering new online platforms seem to rely almost totally on various recommendations. One of them is Nancy, who says: *"When it comes to new technologies, I definitely mostly rely on somebody´s*

recommendation, or sometimes an advertisement pops out at me… But usually it's based on a recommendation, for instance when I follow someone on social networks and they promote some platform, or I follow my friend's advice. So I would say that it is 95% based on recommendations." Ida even remarks: *"I have realised that I am, in fact, a completely passive receiver. I use whatever someone pushes my way."* Among the passive respondents, Nick has taken an exceptional stance with regard to discovering new OTs, claiming that he is not interested at all: *"Well, it's very difficult for me now to start using a new platform. I stick to my old beaten track. When something new comes along, I look down on it, I'm not really attracted to it. It's sort of a closed circle; there is nothing extra out there anymore. I'm passive, I don't look for anything else, I'm a conservative guy."*

Benefits and drawbacks of using OTs seen at present

Between the completion of their secondary school studies and the present time, the respondents' mainly positive approach to OTs has become more realistic as they all began to realise not only their benefits but also their **disadvantages**. The main downside of engaging with OTs repeatedly mentioned in the interviews was the fact that they can easily turn into a dangerous time-eater that can pull one completely in, leads to procrastination, and can even result in losing control. Vicky and James, respectively, described the danger almost identically: *"I just want to look at something for a little while and then I realise I've been there for almost an hour."* *"You think that you are going to relax for ten minutes or so, and instead of that you end up relaxing for 45 minutes."* James and Nancy even use the word 'addictive' in relation to OTs. Despite that, both downplay the danger by saying that an addiction to a certain application does not tend to last long, or that we must not take it so seriously because it is such a commonplace thing among OT users today.

Related disadvantages, neglecting real social contact and offline activities, are suggested by half of our respondents. Thea speculates: *"Well, one disadvantage is perhaps that we do not physically meet the people that we could. That we spend more time on social networks and watching films, instead of going out or reading a book or learning something new. Doing something productive."* For Sid the danger feels even more acute: *"The disadvantage is that I don't live a real life."*

Rachel adds another disadvantage: *"It affects my mental disposition, sitting there for so long... and my attention gets totally distracted."* This, she claims, got even worse during the lockdown imposed because of the COVID-19 pandemic: *"I feel that my habit of being organised has left me, because now it's all dissipating, somehow. I used to have everything neatly organised in my computer, but then it got too much and it is no longer possible."*

The COVID-19 pandemic, which meant a rapid increase in the time spent online for all students and teachers, revealed other potential downsides of OTs to our respondents. Some complained of physical fatigue, sore eyes, or a stiff body, while others fought with the quality of the available devices and their internet connection. Three additional disadvantages were stated: James mentioned the consequences of anonymity on social networks, which leads to inappropriate behaviours, Karen warned about the danger of personal data being misused and Nancy seems to be frustrated by the ubiquitous online advertisements: *"I observe that there are more and more advertisements. When you want to watch a video, loads of ads pop out, so if you want to fast-forward and see, for example, the second half of the video, you must go through three or four of them. Grrr... And also, you click on something once, some ad, and then that thing keeps popping out everywhere."*

As for the **benefits** that the OTs bring to the respondents' lives at present, easy contact and communication with family, friends, and various interest groups were cited most frequently. For many, OTs also serve as a constantly available source of information about what is happening in society, nationally and internationally.

It is interesting that except for Sid and Nancy, none of our respondents reported the benefit of learning skills related to working on the internet. These seem to have been acquired during the previous periods, and what our respondents appreciate now is the instant availability of information and inspiration. Holly describes: *"I often look for recipes or for manuals, how to assemble something, for instance. And I look for inspiration when I am doing something."* OTs simply make life easier, as Sid explains: *"It is because I have instant access to things, for instance in my phone, which I use a lot, so this means simplifying things for me."*

Karen appreciates how OTs have influenced her way of studying: *"Before I needed to memorise everything, I needed to know everything. I spent a lot time learning things by heart. But then I learned to use the internet, where things can be found really fast,*

so I realised that it is more important to spend time learning other things than just memorising facts."

Some respondents consciously use OTs to improve their now advanced language skills in a focused way, as suggested by Rachel: *"I like to express myself in writing, so this is something that enriches me, that one has access to various sources of information, to various styles of writing. So the biggest benefit is the improvement in foreign languages, because without the online platforms, it would be much harder to come into contact with various dialects and accents, it would not be possible to cover them all."*

For James, OTs mean a great chance to combine fun with learning, as he explains: *"Well, I have really seen a lot of those films and learned to watch them a little more analytically, for instance to observe how they try to influence and impress me, which I believe is very useful for your life. For instance, when it comes to advertisements or election spots and such things. So this is what this entertaining form of self-development taught me: that if I do something and remain fully conscious while doing it, I can learn a great deal."*

All our respondents seem to see the great potential of OTs as a source of inspiration for teaching, and almost all of them are able to name specific online platforms and online application that they plan to use when preparing and teaching their future English lessons. James and Nick even advocate using mobile devices directly in the classroom. Karen and Thea, respectively, stress the necessity of teaching children how to use OTs effectively: *"It is one of the best things, to teach children how to use OTs, they need to learn this." "It is good for children to know what to do with OTs, where to find information, and that they can learn a lot there, too."*

On the other hand, for some respondents the potential of OTs to be used as time-fillers remains a major benefit. Ida explains: *"OTs give me an option for how to spend my free time."* Nick takes it even further: *"For me, the time spent online is about filling the time when I have nothing else to do. OTs are an escape from reality, they are kind of a constant in my life."*

3.4.5 Respondents' current relationship to online technologies

Considering and comparing our respondents' individual histories with OTs, including their current practices with various online platforms and opinions they hold about OTs, we observed that they can be divided into two broad categories of 'users' and 'consumers'.

3.4.5.1 Categorisation of the respondents

The respondents we describe as **users** tend to approach OTs primarily as a useful tool that serves their needs and supports their personal and professional growth. They spend most of their time using OTs in a meaningful way, trying to use OTs to their fullest potential, while keeping their practices under control. When online, they exactly know why, and their activity tends to have a specific goal. Other characteristic features of this group include:

- a clearly set and consciously observed routine for the use of OTs,
- seeing a number of advantages as well as disadvantages of OTs,
- a family environment supportive of education since childhood,
- certain personal features (e.g. aptitude and a love of learning new things, self-discipline),
- following specific hobbies,
- definite and rather detailed ideas about using OTs in their future career.

The respondents that we refer to as **consumers** do not necessarily spend more time online than those we refer to as users. The main disadvantage is that rather than considering OTs as an effective tool to achieve their pre-set goals, the consumers primarily see them as a constantly accessible source of entertainment. They also tend to share the following characteristics:

- they do not always have a clear reason for being online and they are not able to describe their practices with OTs in such detail as the users,
- their usage of OTs is less controlled/more self-indulgent, especially when it comes to social networks or filling silent moments in their lives with audio and video content,

- they seem to be less growth-oriented and foster fewer specific interests in their lives,
- on average, they are aware of fewer benefits and disadvantages of using OTs,
- they are not as active in looking for and testing new OTs,
- they mostly have less definite plans for using OTs in their future teaching careers.

3.4.5.2 Respondents characterised as users

Out of the ten respondents, six could be classified as users. Four of them are future lower secondary school teachers, two are future primary school teachers. They can be further divided into highly structured, semi-structured, and restricted.

Three of our respondents could be characterised as **highly structured**. They all display a high level of self-awareness and self-reflection and tend to use OTs mostly for personal growth. Their interaction with OTs seems to be systematic and methodical, and they seem to be less active on social networks in proportion to the rest of their time spent online.

Karen was able to regulate the time she spent on the computer even as a child. Now, unlike the others, she does not use Instagram. As a result of early family influence, she is aware of and practises computer safety. She used to spend a lot of time online at secondary school but quickly found moderation which suits her now. She actively looks for new OTs on the basis of her current needs. She is excited about becoming a fully qualified English teacher and believes that her professional life would be impossible without OTs. She readily lists nine websites and applications she definitely wants to use in her lessons and for lesson preparation. These are Google, YouTube, Oxford Online English, Kahoot, Quizzes, Padlet, Bamboozle, and Wordwall.

James could be described as a 'self-made man'. He has developed a very practical and effective system for using OTs that almost always combines learning and entertainment. Although he claims to be always ready to answer a message on his phone, he is not so active on social networks himself. He has been pursuing a number of specific interests since his pre-teen years, which he was able to follow online while practising English at the same time. He claims that since his parents never limited him, the internet became a great tool *"that can help you in everything, if you don't cross*

a certain line." He firmly believes that OTs should be used as much as possible not only in English lessons, but in other subjects as well. He suggests that mobile phones should not be banned from lessons since they have great potential for learning, e.g. students should be allowed to look for information and message each other. In his future career, James plans to use several specific online platforms he has already tested during his teaching practice, including History Lab, which combines teaching history with learning English.

Holly considers herself an advanced user of OTs. She is methodical by nature, always open to learning new things, and approaches OTs as a useful, inspiring tool to achieve her aims. Her online activities follow a stable daily pattern, her usage of OTs is controlled and systematic, and she can even explain how her favourite online platforms work from the technical point of view. She started acquiring effective computer and internet skills earlier than most of our other respondents. Since childhood, she has enjoyed educational activities and followed specific personal interests. She did not use to be very confident in English, but that has improved greatly during her university studies. She believes teachers should not approach OTs with fear or resentment because it is absolutely necessary to keep up with students, who have grown up as digital natives. She names five specific online platforms and applications she plans to use in her future English lessons to sustain her students' motivation, inspire healthy competition, and allow extra language practice.

Two respondents can be characterised as **semi-structured** users. Although they share most of the characteristics introduced above, their usage of OTs seems to be slightly less organised and controlled. They report a stronger tendency to use OTs to fill silent moments in their lives, both stressing their habit of playing audio or video content when engaged in something mundane. They may also spend more time on social networks because they both expressed the opinion that time on social networks leads to a loss of real social contact and activities, which could suggest feelings of guilt. Interestingly, these two respondents also managed to name the highest number of benefits that OTs have brought into their lives.

Rachel grew up in contact with her relatives living in an English-speaking country and her parents arranged extra English classes for her during her time at basic and secondary school. She is very keen on languages, travelling, and psychology, and claims to be *"always looking for something online"*. She adores learning new things

and prefers to do so in an organised way, but concedes that as she wants to know everything, she sometimes becomes overexcited and less organised. Professionally, she believes that since nowadays everything can be found online, children must be taught effective ways of using the internet. She has already worked as a part-time English teacher for some time and has used a number of online platforms in her lessons, for instance the Cambridge Online Dictionary, Help for English, YouTube, and TED Talks. She also plans to use Content and Language Integrated Learning in her future lessons of civics.

Thea has been following a creative hobby that requires the use of OTs since she was a pre-teen. In the absence of any computer time limitations, this allowed her to acquire useful computer and internet skills quite early in her life. Although she has always liked to relax online a lot, she also used that time to greatly improve her English language skills. Her rather advanced knowledge of computer graphics and the English language now allows her to produce and sell English teaching materials. She is an open-minded person who actively seeks inspirational input. However, her OT regime seems somewhat less fixed and controlled, and often features playing audio and video content as a background to another activity. She says she cannot wait to start teaching English officially and believes that OTs must be integrated into lessons because children encounter them daily. They must be taught that OTs do not simply exist for fun but can also become a major gateway to learning. She suggests that the online activities offered to children should preferably be interactive. She lists a number of specific tips for using various websites and applications in English lessons, for instance Wordwall, Bamboozle, ESL English, and Pinterest.

Finally, **Vicky** can be considered a **restricted** user. Although she cannot imagine her life without OTs and relies on them heavily in many common everyday matters (e.g. train and bus timetables), her practices with OTs seem to be moderate and somewhat limited in scope, perhaps because she does not have any specific hobbies that she would follow on the internet and prefers going out with friends or reading a book in her free time. She considers OTs a possible time-eater but claims only to spend one hour per day online. Following social networks and current online trends has been important to her since secondary school, but she is not keen on discovering new OTs on her own. She is quite confident about her English and had a positive English learning experience at her secondary school. She plans to use Google, YouTube and Pinterest to search for teaching ideas, and mentions Kahoot, YouTube,

and Alfík (a Czech website focused on teaching English to children) as sources that could potentially be used during her English lessons.

3.4.5.3 Respondents characterised as consumers

Four of our respondents match the characteristics of this category, all but one of them future primary school teachers. While three of them could be described as rather passive consumers, one of them seems to have become a consumer by deliberate choice.

For Nancy, OTs constitute the structure of her day and she is actively connected most of the time. She often uses OTs as a kind of filler or background noise, habitually combining for instance cleaning the house with watching films or playing online games with listening to music. She is a very active person who always likes to know *"what's going on"*. Her interests, playing strategic online and board games, watching films and working out, seem to be less linked to her future teaching career. She is satisfied with her familiar online platforms and hardly ever searches for new ones. Although she believes OTs are addictive, she does not consider this a threat. She has a few definite plans to include OTs into her future English lessons, namely Duolingo and some interesting tips she saw on YouTube, but she is afraid she might not be able to teach the language appropriately because of a lack of teaching practice.

Ida realises that when OTs were still a rare novelty during her basic school years, she got much more pleasure from using them. Nowadays, OTs are an indispensable part of everyday life, especially as a means for maintaining contact. Spending time on social networks feels so commonplace to her that she forgets to mention it when talking about using OTs in her free time. Later, she claims to be always connected and active when not at work. Besides social networks, she spends most of her time online watching films and listening to music, even more so at weekends. She is a member of an association of special needs students and participates in online meetings. She considers herself totally passive in discovering new online platforms and relies on *"what comes her way"*, perhaps because she seems to have no significant special interests that she would follow online. She does not feel very comfortable with the level of her English, but hopes for more progress in the future. She is the only one who could not name any applications or websites she would like to use in her lessons, but says she has noted down some recommendations she heard from her university teachers.

Sid considers OTs to be something that helps him pass the time, perhaps because he does not seem to have any significant active hobbies or interests. His practices with OTs do not follow a set routine and mostly include being connected to social networks, watching films and listening to music, both on weekdays and at weekends. While he repeatedly states that he spends too much time on OTs and that it could be seriously affecting his real life, he is rather proud of not playing computer games, which is something his parents were opposed to when he was a child. As a future teacher, he accepts OTs reluctantly as a necessity because we need *"to move with the times"* and respond to what our students need so that we can get closer to them. On the other hand, he cherishes a pleasant English language learning experience from his secondary school. In his future teaching career, he plans to use the platforms he has got to know in this way, primarily YouTube, which he highlights as a versatile quality source for teaching.

Unlike the others, Nick seems to have become a consumer by choice. While he is aware of spending quite a lot of time online, he does so deliberately and cannot think of a more productive way of spending that time. For him, OTs are *"a nice constant"* that gives a sense of order to his life. He seems to be surrounded by modern technology, always likes to know what is going on, and often browses the internet while listening to music. He realises that one can easily end up browsing through a hundred pages even without noticing it. At weekends, he spends even more time on social networks and watching films, but claims to be able to detach himself from OTs if necessary, e.g. while at a summer camp. He considers himself conservative and does not like to test new online platforms, perhaps because his history with OTs started rather early in his life and he has come to the conclusion that *"there is nothing new under the sun"*. As a teacher, he would like to promote media education and use his favourite tried-and-tested platforms and applications, for instance ESL Collective, YouTube, Daily Wire, Learn English with Movies, and Kahoot.

3.5 Conclusion of Chapter 3

Several interesting facts have emerged from the analysis of the personal histories. First, it is important to note that there are traces of similarities that can perhaps be attributed to the fact that the respondents are all representatives of the same generation. On the other hand, thanks to their family background and partially their personality traits some of the attitudes and strategies they adopt for working with online technologies differ.

There is a distinct difference between the future lower secondary and the future primary school teachers. The future lower secondary school teachers tend to be focused more on English and display more confidence in the use of this language. That leads to their more confident usage of online technologies, as for quite a substantial proportion of these English is the essential communication tool. It also seems that these respondents belong more often to the category of users; their attitudes are often more thoroughly thought through, and they seem to be more effective in their use of the online technologies.

Generally, all the respondents agree with the necessity of mastering online technologies for the sake of their future learners, so that once they become teachers, they can fully exploit the potential of online technologies in their lessons. They appear to be ready to start utilising the online technologies they have experienced using themselves and therefore feel comfortable with. Some complain that their university studies have not brought enough recommendations or tips for them in this respect.

Conclusion

The main findings derived from both the quantitative and qualitative stages of the research not only lead to partial conclusions (see the conclusions of Chapters 2 and 3) but also allow us to formulate answers to the research questions and address the research objectives (see the Introduction).

Types of online technologies future English teachers use and time spent on them outside the classroom

To begin with, the research findings indicate that the most commonly used online technologies among future English teachers in their time outside class are Google, YouTube, and social networks (Facebook, Messenger). These findings are consistent with the results of previous similar studies (Czerkawski 2012, Swanson & Walker 2015, Kashou 2016, Kross, Hargittai & Redmiles 2021).

In general, our future English teachers devote from five to approximately 110 minutes a day on average to individual online technologies for study-related or unrelated purposes outside their university classes. It is difficult to ascertain the total amount of time spent using online technologies since both the use and the purposes they use them for may overlap. However, it may be concluded that the future English teachers' free time is significantly occupied by online technologies as all the respondents spent at least some time using them every day.

Ways of using online technologies by future English teachers

Some differences in the use of online technologies by future English teachers that depend on the type of technology were identified. Google, as a search engine, seems to be used rather to support students' formal education, while social networks are more likely to be utilised for free-time activities, such as contact with friends. Google is more likely to be used for study-related purposes by the female and full-time students. As for YouTube, our future English teachers tend to use it mainly in their leisure time, which is in accordance with Swanson and Walker (2015), whose research indicated that students prefer to use YouTube for non-academic purposes. Contrary to this, our respondents also frequently use it in relation to their studies and to develop their teaching skills and competences. They also view it as a useful resource for their future lessons.

Both the quantitative and qualitative data indicates that the male students perceive their time spent using online technologies as a form of entertainment, while the female students are more likely to qualify it as connected to a specific purpose, either study- or profession-related.

Online technologies and future English teaching profession

The data further suggests that a large majority of the future English teachers are highly motivated to become English teachers, mostly being motivated by a desire to work with children. This is connected with their plans for using online technologies in their future teaching practice, which seem to be positively affected by their own experience with the particular platforms, and also how active as users they are themselves. YouTube and Google appear to be popular for prospective classroom use, as do game and quiz applications such as Kahoot, Wordwall, and Quizlet.

Future English teachers' views on using online technologies for informal learning

It appears that online technologies form an inseparable part of our future English teachers' lives outside university, which can be qualified as informal learning. Judging from the quantitative data as well as the selected students' personal histories, these future English teachers tend to use more online technologies at the same time and mix study- or profession-related use with relaxation and fun. Similar tendencies have been identified by other scholars (Warrell 2016, Lai, Hu & Lyu 2018, Trinder 2017). This leads to the conclusion that the position of informal learning might be gaining an edge over formal education with the development and availability of online tools in combination with the young generation's increasing willingness to integrate online technologies into their daily routine.

The prospective English teachers view online technologies rather as beneficial because of their availability, accessibility, and the fact that they are a source of materials and inspiration for teaching. The perceived drawbacks are slightly less common and mostly concern the loss of personal contact and shorter attention span or detrimental health effects. The future English teachers' experience seems to have evolved over the years from using online technologies for communication with friends and entertainment during their primary and secondary school years to a more focused and aim-driven attitude during their current university studies.

Future English teachers' previous experience with and attitudes to using online technologies

The way the students use online technologies also appears to be influenced by family background and their personality and character, thus adding to the complex process of informal learning and developing learner autonomy (see e.g. Godwin-Jones 2019 or Marsick & Watkins 2001). The distinction suggested here is between users and consumers, with users making use of online technologies more directly for their professional and self-development. The consumers' use of online technologies, in contrast, tends to be less focused, less definite, and more entertainment-oriented.

Admittedly, the data gathered in this research is not sufficient to clearly ascertain if either of the two mentioned types prevails among future English teachers in general, but the qualitative part of the research suggests that users might be the slightly more common type of the two.

Research limitations and further suggestions

It can be stated that the research objectives have been reached. The research attempted to give a comprehensive overview of the ways online technologies are utilised by future English teachers for their informal learning, i.e. outside their university studies. There are some limitations to the present research, though. The study- and non-study-related purposes presented in the questionnaire survey and the time future English teachers spend using online technologies might overlap. It may be difficult to draw a clear line between the purposes and the respondents may have interpreted them differently. It may also be problematic to pinpoint what aspects of using online technologies they consider and to what extent they are aware of, and are willing to confess, how they use online technologies in their free time.

As for the research sample, more reliable and valid results might be obtained if respondents from a larger number of universities were included, with the use of random sampling. The qualitative part of the research would also benefit from a larger number of respondents. Another factor might be that people generally might find it difficult to recall things in detail. The interviews were conducted by two different interviewers and their acquaintance with the respondents varied, which may have affected the respondents' willingness to open up and share certain personal details. Some of these limitations were caused by the limited time span

of the student project that the research was part of and that had to be completed within one year.

Despite the above-mentioned drawbacks of the research, it offers a useful insight into this generation of future English teachers. The authors hope the research findings presented in this book will contribute to the current discussion on the issue of online and informal learning and will be useful to researchers, teachers and students investigating this and similar topics.

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Appendix 1

Questionnaire for future English teachers

Dear students, we would like to ask you to participate in research aimed at using online technologies by future teachers of English. Please take a few moments to complete the following questionnaire. Thank you.

In the following questions, estimate the AVERAGE time in MINUTES A DAY you spend using each of the platforms, applications, websites, and social networks. Round the time to TENS OF MINUTES.

Search engines

1.

GOOGLE

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

2.

What other search engine do you use? _____

OTHER SEARCH ENGINE

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Online tools to create and manage documents

3.

GOOGLE DRIVE

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

4.

What other tool to create and manage documents do you use?

_____

OTHER TOOL TO CREATE AND MANAGE DOCUMENTS

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Social networks

5.

FACEBOOK

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

6.

What other social network do you use? _____

OTHER SOCIAL NETWORK

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Chat and messaging tools

7.

MESSENGER

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

8.

What other chat and messaging tool do you use? _____

OTHER CHAT TOOL

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Video content

9.

NETFLIX, HBO

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

10.

YOUTUBE

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Audio content

11.

PODCASTS

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

12.

What other video and audio content tool do you use? _____

OTHER VIDEO AND AUDIO CONTENT

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Games and simulations

13.

MINECRAFT

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

14.

What other games and simulations do you use? _____

OTHER GAME AND SIMULATION

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Music content

15.

YOUTUBE (music)

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher_____

16.

SPOTIFY (music)

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher_____

17.

What other music content platform do you use? _____

OTHER MUSIC PLATFORM

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Platforms and webpages to learn English while having fun

18.

LYRICS TRAINING

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher_____

19.

BRITISH COUNCIL (Learn English Online)

– time spent to SUPPORT your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES at university _____

– time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher_____

20.

What other platform or webpage to learn English do you use?

_____

OTHER PLATFORM to learn English

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Online courses

21.

YOUTUBE Tutorials

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher_____

22.

What other online course do you use? _____

OTHER ONLINE COURSE

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Online tools for learning languages

23.

DUOLINGO

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher_____

24.

What other online tool for learning languages do you use?

_____

OTHER ONLINE TOOL for learning languages

- time spent to SUPPORT your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES at university _____
- time spent OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future PROFESSION of an ENGLISH teacher _____

Advantages and disadvantages of using online platforms, applications, websites, and social networks

25.

What do you consider as the greatest ADVANTAGE of using online platforms, applications websites, and social networks for ONLINE LEARNING?

- They are motivating and interesting.
- They help me improve my ability to find solutions to problems.
- They make me more active and I participate more.
- They make cooperation easier.
- They make communication easier.
- They are cheap or free.

- They nurture my creativity.
- They help me remember information.
- Other:

26.

What do you consider as the greatest ADVANTAGE of using online platforms, applications, websites, and social networks to EXPLORE YOUR INTERESTS AND HOBBIES?

27.

What do you consider as the greatest ADVANTAGE of using online platforms, applications, websites, and social networks OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future teaching PROFESSION?

28.

What do you consider as the greatest DISADVANTAGE of using online platforms, applications, websites, and social networks for ONLINE LEARNING?

- Growth of plagiarism.
- It is time-consuming.
- Troubles with the organisation of classes.
- Loss of students' attention.
- It is not possible to explain the subject matter adequately.
- Higher demands on the user's technical skills.
- Higher demands on technical support.
- The necessity to own certain hardware and software.
- Cheating in tests.
- Other:

29.

What do you consider as the greatest DISADVANTAGE of using online platforms, applications, websites, and social networks to EXPLORE YOUR INTERESTS AND HOBBIES?

30.

What do you consider as the greatest DISADVANTAGE of using online platforms, applications, websites, and social networks OUTSIDE your current STUDIES to develop your knowledge and skills needed FOR your future teaching PROFESSION?

Motivation for the teaching profession

31.

What motivated you the most to potentially become a teacher? (List the most significant reasons. If you currently do not plan to become a teacher, write 'nothing'.)

_____

32.

Which of the online technologies do you DEFINITELY plan to use in YOUR own LESSONS?

_____

Gender: a man – a woman

Your age:

University:

Type of studies: full-time – part-time

Your study specialization:

Year of study:

Appendix 2

Inter-factor relationships (relationships between individual factors)

Categories – part 1	Gender		Form of studies		University		
	Mann-Whitney U	P-value	Mann-Whitney U	P-value	Chi-Square	Degrees of freedom	P-value
GOOGLE – time related to university studies	6904.5	0.001	6155.0	0.015	0.140	2	0.933
GOOGLE – time unrelated to university studies	8472.0	0.371	7519.5	0.813	0.525	2	0.769
GOOGLE – time for professional development	7019.0	0.437	5513.5	0.282	2.084	2	0.353
GOOGLE DRIVE – time related to university studies	2609.0	0.120	3092.5	0.900	8.223	2	0.016
GOOGLE DRIVE – time unrelated to university studies	1516.0	0.259	1272.5	0.036	2.392	2	0.302
GOOGLE DRIVE – time for professional development	635.0	0.058	902.5	0.304	0.014	2	0.993
FACEBOOK – time for professional development	2714.0	0.095	2823.0	0.611	0.338	2	0.845
MESSENGER – time related to university studies	6497.5	0.202	4568.5	0.268	1.531	2	0.465
MESSENGER – time unrelated to university studies	8132.0	0.376	5353.5	0.008	3.221	2	0.200
MESSENGER – time for professional development	1408.0	0.305	889.5	0.557	3.350	2	0.187
NETFLIX, HBO – time related to university studies	354.5	0.352	283.5	0.388	4.235	2	0.120
NETFLIX, HBO – time unrelated to university studies	2668.5	0.386	1971.0	0.197	0.031	2	0.985
NETFLIX, HBO – time for professional development	1270.5	0.463	717.0	0.087	1.702	2	0.427
YOUTUBE – time related to university studies	5402.5	0.669	3772.0	0.073	3.381	2	0.184
YOUTUBE – time unrelated to university studies	5198.5	0.000	3709.0	0.000	0.674	2	0.714
YOUTUBE – time for professional development	4305.5	0.025	4194.5	0.252	0.786	2	0.675

PODCASTS – time related to university studies	248.5	0.587	222.0	0.456	3.586	2	0.166
PODCASTS – time unrelated to university studies	1778.0	0.660	1122.5	0.739	1.158	2	0.560
PODCASTS – time for professional development	375.0	0.093	351.0	0.152	0.446	2	0.800
MINECRAFT – time unrelated to university studies	3.0	0.687	x	x	2.327	2	0.312
MINECRAFT – time for professional development	1.5	0.546	1.5	0.546	1.455	1	0.228
YOUTUBE (music) – time related to university studies	975.0	0.074	839.5	0.135	1.556	2	0.459
YOUTUBE (music) – time unrelated to university studies	3293.0	0.001	3069.5	0.017	0.043	2	0.979
YOUTUBE (music) – time for professional development	886.5	0.004	1339.0	0.172	0.446	2	0.800

Table 12: Relationships between the genders, forms of studies and universities (Part 1)

Categories – part 2	Gender		Form of studies		University		
	Mann-Whitney U	P-value	Mann-Whitney U	P-value	Chi-Square	Degrees of freedom	P-value
SPOTIFY – time related to university studies	199.0	0.070	62.0	0.178	2.144	2	0.342
SPOTIFY – time unrelated to university studies	1702.5	0.006	661.0	0.040	2.049	2	0.359
SPOTIFY – time for professional development	295.5	0.212	90.0	0.379	8.504	2	0.014
LYRICS TRAINING – time related to university studies	27.5	0.564	x	x	3.634	2	0.163
LYRICS TRAINING – time unrelated to university studies	5.0	0.067	x	x	0.315	1	0.575
LYRICS TRAINING – time for professional development	37.0	0.391	26.0	0.368	0.371	2	0.830
BRITISH COUNCIL – time related to university studies	329.5	0.856	536.5	0.642	1.224	2	0.542
BRITISH COUNCIL – time unrelated to university studies	33.0	0.021	91.0	0.479	7.974	2	0.019
BRITISH COUNCIL – time for professional development	378.0	0.343	776.5	0.350	1.201	2	0.548
YOUTUBE TUTORIALS – time related to university studies	431.0	0.350	318.5	0.125	5.183	2	0.075
YOUTUBE TUTORIALS – time unrelated to university studies	434.0	0.151	348.5	0.824	0.939	2	0.625
YOUTUBE TUTORIALS – time for professional development	362.5	0.818	256.0	0.210	3.490	2	0.175
DUOLINGO – time related to university studies	96.5	0.820	136.0	0.987	0.004	1	0.950
DUOLINGO – time unrelated to university studies	70.5	0.059	116.5	0.523	1.714	2	0.424
DUOLINGO – time for professional development	62.0	0.191	144.5	0.160	2.359	1	0.125

Table 13: Relationships between the genders, forms of studies and universities (Part 2)

Appendix 3

Interview form

We would like to ask you several questions concerning your personal experience with using various online applications and web pages at different stages of your life. Your answers will be recorded to allow for further analysis of the data, but will remain fully anonymous.

The term *online technologies* (OTs) includes any online applications on your phone or computer, search engines, social networks, web pages with video and audio content, learning platforms, databases and online games; in short, all online technologies which people can use for school and fun.

Area	Main questions	Additional questions
Present	What OTs are at present the most important for you besides compulsory school requirements?	• Name of the platform + fun/professional development + specific purpose for use • Do you rather use mobile equipment or a computer to work with OTs? • In general, do you use OTs more for fun or professional development?
	Describe your regular working day in terms of using OTs.	• Name of the platform + fun/professional development + specific purpose for use • How many in a day? • Do you use any OTs simultaneously?
	Describe your regular free day in terms of using OTs.	• Any differences from a working day? • Differences concerning the number, time spent, purposes.
	Do you personally see any disadvantages of using OTs?	• In general? • Any specific disadvantages during the COVID-19 pandemic?
Past	Do you remember how old you were when you started using OTs?	• For fun? Which ones? Purpose? • For school? Which ones? Purpose?

	Describe your experience with using OTs when you were at primary and lower secondary school.	• Which OTs + purpose + time spent? • School – fun (music, films, social networks, games, hobbies) • Were you limited by your parents in any way? • Were your attitudes to and experience with OTs different in any way at primary school and at lower secondary school? • Do you remember the main benefit of using OTs at this stage of your life? What did you learn?
	Describe your experience with using OTs when you were at upper secondary school.	• Which OTs + purpose + time spent? • Were your attitudes to and experience with OTs different in any way when you were at upper secondary school from primary and lower secondary school? (Types of OTs – time spent – school/fun proportion) • Do you remember the main benefit of using OTs at this stage of your life? What did you learn?
	Do you remember when you started to use OTs in English?	• Which ones?
Future	How do you learn about new OTs?	• Concerning searching for new OTs, do you consider yourself rather active or passive?
	Which OTs do you certainly intend to use as a teacher in your English lessons?	• To support your professional development? • To prepare your lessons? • In the lessons?

Final question: Is there anything else you would like to say about your experience with and attitudes to OTs?

Thank you for your time.

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