

SECOND LANGUAGE LEARNING MOTIVATION, LIFE-LONG LEARNING AND 21ST CENTURY SKILLS IN TODAY'S GLOBALISED WORLD: A VALIDATION STUDY

doi.org/10.61425/wplp.2023.18.1.16

Balázs Fajt

Budapest Business University
fajt.balazs@uni-bge.hu

Mátyás Bánhegyi

Budapest Business University
banhegyi.matyas@uni-bge.hu

Abstract: Knowledge production in today's world presupposes skills necessary for successful knowledge construction and knowledge update. Such skills include English as a foreign language (EFL), life-long learning and 21st century skills. This study presents a quantitative pilot study (N=200) that examines the relationship between EFL learning motivation, communication in L1 and L2, some aspects of life-long learning and certain 21st century skills. The paper seeks to explore what this relationship is like and in what way these factors are connected and how they potentially impact one another. The study presents the validation of the instrument used for the research, and reports some of the preliminary findings. Based on the results, it is concluded that the ideal L2 self is a predictor of L2 learning motivation, willingness to use dictionaries and cooperation during EFL classes. The results also indicate that participants exhibit the necessary ICT and L1 skills for their studies of EFL, and positively relate to communicative situations with native and non-native speakers of English.

Keywords: 21st century skills, dictionary use, English as a lingua franca, life-long learning, second language learning motivation

1 Introduction

With faster than ever changes in the world surrounding us, knowledge – as we used to know it – has become relative and short-lived, and pure fact-based knowledge is becoming increasingly obsolete. As a consequence, the ability to use information and to construct knowledge has become more prominent. In a world of this kind, one can be a successful knowledge producer only if they possess those skills necessary for successful knowledge construction and for updating their knowledge. In our interconnected world, the English language typically functions as a medium of accessing new knowledge, and motivation seems indispensable for maintaining a desired level of urge to receive and seek education and training throughout one's lifetime. Based on this, this study examines the relationship between EFL learning motivation, 21st century skills and life-long learning in the scope of a pilot study. The present paper seeks to obtain insights into Hungarian higher-education students' 21st century skills and skills necessary for life-long learning, and into how these skills impact their English language learning motivation.

Concerning its content, this study, on the one hand, presents the validation of the instrument used for the research and, on the other hand, reports and discusses some preliminary findings. The first part of the paper presents the most important concepts and the theoretical background of the study discussing 21st century skills, English as a lingua franca, motivation, lifelong learning, ICT and lexicography. The second part of the paper describes the methodology behind this research project. Finally, some of the preliminary findings are presented and discussed.

2 Theoretical background

In our present age of knowledge-based economies (Vass, 2020), skills required for the construction of new knowledge are indispensable. In educational literature, these skills are called diverse names: 21st century skills and transversal skills, and most recently, global skills. There are numerous definitions of 21st century skills, and for the purposes of this paper, which connects the world of work and education, we have adopted Care et al.'s (2018) approach. According to Care et al. (2018), 21st century skills include “creativity, critical thinking and problem solving, collaborative skills, information technology skills, and new forms of literacy, and social, cultural, and metacognitive awareness” (p. ii). Other authors and institutions prefer to call such skills transversal skills, which are transferable from one field or occupation to another. The UNESCO defines transversal skills as “skills that are typically considered as not specifically related to a particular job, task, academic discipline or area of knowledge and that can be used in a wide variety of situations and work settings” (UNESCO, 2013, p. 58). Yet some other researchers use the term global skills to denote those skills essential to a globalised job market and for contacts with people from different cultures (Bourn, 2018). Whatever the term used as a collective umbrella, there seems to be agreement that in today's world, the most necessary skills are problem-solving, critical thinking, collaboration, information literacy, technology literacy and creativity (Scoular & Care, 2018). For the proper and appropriate use of these skills across a globalised world, successful communication is essential among communication partners.

Such communication predominantly happens in a foreign language given the global nature of work. The most extensively used language for such purpose is English as a lingua franca (ELF). As Seidlhofer (2009) describes, ELF, as a global means of communication, is nobody's native language but rather a variety of English used for the purpose of communication between speakers of different L1s. Therefore, rather than overfocusing on accuracy, speakers of EFL aim at successful communication through joint construction of meaning and collaborative dialogue (House, 2003). Interestingly enough, among speakers of ELF, language use and linguistic normativity tend to diverge, with somewhat flexible linguistic norms in place (Motschenbacher, 2013). And despite the fact that speakers do not wish to conform to native norms of language, they are able to successfully communicate thanks to joint meaning production and negotiation.

Researchers believe that speakers of ELF do not necessarily share any cultural background in common (Mauranen, 2017). It is also commonly accepted that ELF partly serves as a means of intercultural communication as interlocutors in an ELF situation typically come from different cultural backgrounds, and thus are not necessarily part of one single language community or a community of practice (e.g. a profession) engaged in the same or very similar activities (Baker, 2017). Very much like the situation characterising ELF language use, ELF communicative situations are characterised by the presence of participants' diverse cultures, their flexible and ever-changing cultural identities and their willingness to culturally manoeuvre among participants (Baker, 2017). Therefore, speakers' motivation of using ELF always lies in communicating successfully across cultures.

In order to maintain and develop one's language knowledge, one must feel the urge, or the motivation, to do so. Motivation is considered one of the most important predictors of success in the foreign language learning process. The more motivated a learner is, the more effort they will invest in learning a given foreign language. Among other theories, Dörnyei's (2005) motivational self-system framework is used to describe EFL learners' L2 learning

motivation both internationally and in the Hungarian context. This theoretical framework describes L2 learning motivation along three dimensions. The first dimension is the ideal L2 self, which includes the learner's ideal vision of themselves as well as all the desires and goals they wish to achieve in the future. This may include becoming a competent speaker of a given L2 or being able to work in a L2. Among all three components, the ideal L2 self is the most internalised, i.e. it is the most powerful in the long run. The second dimension is the ought-to L2 self, which involves all the qualities and attributes a learner believes others expect them to possess. This includes the expectations held by the learner's environment, such as peers, parents or teachers. This self is much less internalised than the ideal L2 self, which means that in the long run it is a less powerful predictor of L2 learning motivation. The third dimension, called attitudes to language learning, is not located on the self-level: it rather focuses on external factors. This dimension entails all language learning experiences and the consequences thereof and focuses on the EFL lessons and the learner's attitudes towards, and opinions about, their EFL lessons.

With reference to different contexts, research on the L2 learning motivation of EFL learners (Csizér & Kormos, 2009; Kormos & Csizér, 2008; Papi, 2010) has established that Dörnyei's (2005) motivational self-system adequately describes the motivation of EFL learners. These studies also revealed that the language learning experience and the ideal L2 self are the most significant predictors of motivated language learning behaviour, and that the ought-to L2 self does not play as important a role in describing EFL learners' L2 learning motivation (Csizér & Lukács, 2010; Kormos et al., 2011).

If motivation to learn persists, lifelong learning, which is the ability and motivation to learn throughout one's lifetime, is easier to realise. Lifelong learning is necessitated by constant changes in work conditions due to accelerated technological changes requiring labour force equipped with up-to-date knowledge. The role and importance of knowledge as a resource in economic development and the production of new knowledge are undeniable (Óhidy, 2006). In addition, researchers also see lifelong learning as a means of accomplishing personal development and fulfilment (Aspin & Chapman, 2000). As for competences necessary for lifelong learning, the European Council (2018) has put forward the following list: literacy; multilingualism; numerical, scientific and engineering skills; digital and technology-based competences (including ICT); interpersonal skills (including cooperation) and the ability to adopt new competences; active citizenship; entrepreneurship; cultural awareness and expression. In the case of language learning, lifelong learning cannot be imagined without suitable ICT skills and autonomous learning aided by resource use (European Commission, 2018; European Council, 2018), for which dictionaries offer a reliable foundation (Jalaluddin et al., 2014; P. Márkus et al., 2023).

According to P. Márkus and Pödör (2021), lexicography and the practice of using dictionaries contribute to the development of dictionary skills, which may function as a means of lifelong L2 learning. Within dictionary skills, reference skills (Hartmann & James, 1998) denote the dictionary user's ability to find the desired information in the dictionary, which can be considered one of the essential abilities of autonomous and successful dictionary use. Printed and online dictionaries are different in their structure, applied media, search potentials and expandability (Dringó-Horváth, 2011, 2017). For this reason, dictionary users have to be proficient in navigating their way through their search. As these days the majority of dictionaries are available in online formats, ICT skills necessary for dictionary use are also vital.

3 Methods

This study aimed to investigate Hungarian university students' L2 learning motivation as influenced by the following factors: students' L2 selves, language learning experiences, dictionary use necessitated by life-long learning, level of proficiency in the 21st century skills of cooperation and ICT, L1 communication skills, as well as previous communication experiences with native and non-native speakers of English. For this purpose, the quantitative research paradigm was selected and a self-constructed questionnaire was used. The other aim of the study was to validate this newly developed research instrument used in the scope of the present research project. With respect to the specific aims of this paper, the following research questions (RQ) were formulated:

RQ1 To what extent do the scales used in this study measure reliably?

RQ2 What characterizes Hungarian university students' L2 learning motivation, and in what way do the other scales examined in the scope of this research impact L2 motivation?

RQ3 What characterizes Hungarian university students' self-perceived ICT skills and L1 communications skills?

RQ4 What characterizes Hungarian university students' dictionary use habits and L1 communications skills, and in what way do the other scales examined in the scope of this research impact dictionary use habits and willingness to buy a dictionary?

RQ5 What are Hungarian university students' attitudes towards cooperation with peers in the EFL classroom like, and in what way do the other scales examined in the scope of this research impact cooperation in the EFL classroom?

RQ6 What characterizes Hungarian university students' previous experiences with native and non-native speakers of English?

RQ7 Is there a relationship between Hungarian university students' different dimensions of L2 learning motivation, their ICT skills and their dictionary use? If so, what is this relationship like?

3.1 Participants

In this study, Hungarian finance, accountancy and management major students studying EFL in the spring term of the 2021-2022 academic year were examined with respect to their motivation to learn English. Participants were recruited through convenience and snowball sampling, which meant that any student at Budapest Business School University of Applied Sciences' Faculty of Finance and Accountancy studying EFL during the above term was eligible to complete the questionnaire. The final sample consisted of altogether 200 students (n=200). As for gender, 62% (n=124) were female and 38% (n=76) were male. The average age of respondents was 20.6 (SD=.83). All participants had two times 90 minutes of EFL lessons a week as part of their full-time compulsory university studies.

3.2 Research instrument

For the collection of data, a self-constructed questionnaire was created. As the mother tongue of the participants was Hungarian, the language of the questionnaire was also Hungarian. Besides some basic demographic background questions eliciting information about participants (e.g. age, length of learning EFL, etc.), this research project was measured along 12 scales. The first set of four scales (scales 1-4) was to measure participants' L2

learning motivation and was adopted from Csizér and Dörnyei (2005) as well as Dörnyei and Taguchi (2010). The second set, consisting of three scales (scales 5-7) related to dictionaries and dictionary use, was modified and adopted from Dringó-Horváth et al. (2020) and P. Márkus et al. (2021). Lastly, the set of 21st century skills scales (scales 8-9) was adopted from a previous paper by the authors (Bánhegyi & Fajt, 2021), and the last set of three scales (10-12) was created specifically for the purpose of the current research by the authors themselves. The final version of the questionnaire used in this study will be provided by the authors upon request.

Below are listed the scales used in this study. Additionally, the number of items in each scale, a short description and a sample item are provided.

1. Ideal L2 self (5 items): attributes and qualities that learners would like to possess as competent EFL speakers in the future. Sample item: “I can imagine that in the future I will be studying at a university where all subjects are taught in English.”
2. Ought-to L2 self (6 items): attributes and qualities that learners think their environment may expect from them in terms of their EFL language use. Sample item: “It is important for me to learn English, because people around me expect me to learn English.”
3. Language learning experience (5 items): motives to engage in EFL studies connected to the immediate learning environment and experience, such as the EFL lessons. Sample item: “I like things we usually do in English lessons.”
4. Motivated language learning behaviour (4 items): participants’ invested effort and time to learn English in EFL lessons. Sample item: “I spend more time preparing for English lessons at school than for any other subject.”
5. Willingness to pay for dictionaries (4 items): to what extent participants are ready to purchase a dictionary to aid their studies of EFL. Sample item: “I will gladly buy a dictionary.”
6. Willingness to use dictionaries (4 items): to what extent participants are ready to use dictionaries when encountering unknown words or phrases to help their studies of EFL. Sample item: “If I don’t know a word or phrase in English, I look it up in a dictionary.”
7. Willingness to read through sections of the guide on use in a dictionary (3 items): participants’ willingness to read through the introduction and other information pages in a dictionary to aid their studies of EFL. Sample item: “In dictionaries, I only look up words and their meanings and how to use them.”
8. Willingness to cooperate with peers in class (4 items): to what extent participants are prepared to cooperate with other students in EFL lessons. Sample item: “When it comes to a project or task in English, I like working in a team.”
9. ICT skills (5 items): to what extent participants think they possess ICT skills necessary for EFL learning. Sample item: “I have no problem using a computer and a smartphone.”

10. L1 communication skills (5 items): participants' self-perceived difficulties, or the absence thereof, when communicating in their mother tongue. Sample item: "I can make myself understood effectively in Hungarian."
11. Previous communication experiences with native speakers (5 items): participants' former experiences of communicating with native speakers. Sample item: "I am happy when I can communicate in English with native English speakers."
12. Previous communication experiences with non-native speakers of English (4 items): participants' former experiences of communicating with non-native speakers. Sample item: "I consider it a success when I can speak English with non-native English speakers."

3.3 Data collection and data analysis

The data were collected through an online questionnaire survey administered in April 2022. The collected data were coded and then entered into the SPSS (Statistical Package for Social Sciences) 28.0 software. The validation process of the questionnaire was based on processes detailed in previous validation studies (Divéki, 2018; Fajt, 2021; Illés & Csizér, 2010; Pereszlényi, 2020; Zólyomi, 2021). As a first step, the questionnaire was compiled, then an initial scrutiny of the structure of the questionnaire in terms of language and alignment with our research objectives followed. Subsequently, just before the pilot testing, two other researchers were asked to comment on our questionnaire (expert judgement), then two potential participants were asked to fill in the questionnaire in a think-aloud session. During the think-aloud session, participants were asked to verbalize their thoughts, feelings, and decision-making processes as they responded to each question (or statement) of the questionnaire. The aim here was to discover any misunderstandings, confusion, or misleading wording that participants may encounter while completing the survey. Based on the feedback, the instrument underwent fine-tuning and only after that did the pilot testing phase begin. After the data collection process, the reliability of the scales was checked by computing the Cronbach's alpha internal consistency coefficients. In a next step, as the Cronbach's alpha coefficient in itself does not imply unidimensionality (Hoekstra et al., 2018), principal component analysis (maximum likelihood, varimax rotation) was used to investigate whether the scales are unidimensional or not. Then the mean scores (M) and standard deviations (SD) were calculated for each scale. Finally, correlational and regression analyses (at the $p < .05$ level of statistical significance) were run in order to investigate the potential relationships among scales.

4 Preliminary results and discussion

First, for the purpose of validation, the reliability of the scales was checked by using principal component analysis and by calculating the Cronbach's alpha coefficient for each scale. Then the averages of scales were calculated along with their standard deviations. Finally, in order to identify relationships among scales, correlation and regression analyses were run.

4.1 Reliability of scales

The Cronbach's alpha coefficients were calculated in order to check the reliability of the scales. However, as the Cronbach's alpha coefficient does not necessarily imply unidimensionality (Hoekstra et al., 2018), principal component analysis (PCA) was also used to check the unidimensionality of scales and for the purpose of answering RQ1. The results of these statistical procedures are presented in Table 1.

Scales	PCA ¹	Cronbach's alpha
1. Ideal L2 self	1	.844
2. Ought-to L2 self	1	.789
3. Language learning experience	1	.764
4. Motivated language learning behaviour	1	.731
5. Willingness to pay for dictionaries	1	.778
6. Willingness to use dictionaries	1	.865
7. Willingness to read through sections of the guide on use in a dictionary	1	.689
8. Willingness to cooperate with peers in class	1	.862
9. ICT skills	1	.842
10. L1 communication skills	1	.859
11. Previous communication experiences with native speakers of English	1	.873
12. Previous communication experiences with non-native speakers of English	1	.798

¹PCA = number of dimensions yielded by Principal Component Analysis

Table 1. Reliability of scales used in the study

Table 1 shows that the Cronbach's alpha coefficient for each scale reaches the minimum threshold (.60) indicated in the literature (Dörnyei & Csizér, 2012). Furthermore, principal component analysis revealed that all scales load onto only one dimension, therefore there was no need to divide scales into any further subscales. With a view to these results, further statistical analyses were performed, as described below.

4.2 Descriptive statistics of scales

As a second step, the mean scores (M) and standard deviations (SD) of the scales were calculated so that RQ2, RQ3, RQ4, RQ5 and RQ6 could be answered. Table 2 presents these figures in descending order of the mean values.

Scales	Mean	Standard Deviation
1. ICT skills	4.59	.50
2. Previous communication experiences with non-native speakers of English	4.28	.60
3. Previous communication experiences with native speakers of English	4.26	.72
4. L1 communication skills	4.15	.79
5. Ideal L2 self	4.03	.86
6. Willingness to use dictionaries	3.95	.96
7. Language learning experience	3.63	.81
8. Willingness to cooperate with peers in class	3.45	.97
9. Ought-to L2 self	3.28	.91
10. Motivated language learning behaviour	3.18	.78
11. Willingness to pay for dictionaries	2.61	.95
12. Willingness to read through sections of the guide on use in a dictionary	2.17	.86

Table 2. Mean scores and standard deviations of scales

The ICT skills scale has the highest mean score ($M=4.59$), which is not surprising: previous research both internationally and in Hungary shows (Bennett & Maton, 2010; Bullen et al., 2011; Hargittai, 2010; Margaryan et al., 2011; Papp-Danka, 2013) that almost all university students have access to smart devices and the Internet, and can use such devices for a wide range of communication and social purposes. Nevertheless, the above studies have also found that only a small proportion of students use these tools for learning purposes. This may suggest that, although the vast majority of students are technically prepared for life-long learning through ICT tools, they may face difficulties when trying to use ICT tools for learning purposes independently (Asztalos et al. 2020).

As for the two scales measuring the experience of engaging in communication with native ($M=4.26$) and non-native English speakers ($M=4.28$), participants demonstrated positive experiences. This means that participants are open to use and, therefore, will practise English with other speakers. Bialystok (1981) calls this the functional practice of a L2, and emphasizes that learners can learn an L2 through the active use of the language, which constitutes an important aspect of the language learning process.

Participants also assessed their L1 skills and competence as relatively high ($M=4.15$). This may also be considered positive as previous research (Sparks et al., 2006, 2008) has found that even though a L2 is typically acquired at a later age by learners than their L1, certain skills, including word decoding, spelling, and reading comprehension in the L2, are related to students' proficiency in L1 skills. Therefore, L1 skills and competence may, to some extent, be perceived as predictors of L2 skills, too.

Among the components of L2 learning motivation, the ideal L2 self has the highest mean score ($M=4.03$), language learning experience has a lower mean score ($M=3.63$) and the ought-to L2 self has the lowest mean score ($M=3.28$) of the three components of Dörnyei's (2005) motivational self-system framework. The last three scales are related to dictionaries and dictionary use. Participants had a relatively high mean score ($M=3.95$) for the 'willingness to use dictionaries' scale. This signals that, in line with the findings of previous research (Atkins & Varantola, 1997, Dringó-Horváth et al., 2021; Hartmann, 1999; Lew, 2004, Kosem et al., 2018), participants do consult dictionaries when encountering new words and phrases. As for willingness to pay for dictionaries ($M=2.61$) and willingness to read through the different information pages in a dictionary ($M=2.17$), the scales had a low mean score. This figure is in line with the findings of previous research (Dringó-Horváth et al., 2021; P. Márkus et al., 2023): namely, learners do not read these dictionary pages and do not like to pay for dictionaries (Dringó-Horváth, 2017; Gaál, 2016); instead, they prefer dictionaries they have free access to.

4.3 Relationships among scales

As the next step, and for the purpose of answering RQ7, the relationships among the scales and the strength of these relationships were investigated through correlation analysis at the $p<.05$ level of significance: these relationships are reported in Table 3. As Table 3 shows, the constructs related to L2 learning motivation correlate with one another. As for the three dictionary-related scales, willingness to use dictionaries is connected to L2 learning motivation. This means the more motivated one is, the more likely it is that they will consult a dictionary when encountering new words and phrases. Furthermore, willingness to use a dictionary is related to willingness to read through information pages in a dictionary. This is

not a surprising finding: if one wishes to purchase a dictionary, they may well want to make sure that they are familiar with the dictionary.

Scales	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Ideal L2 self	1											
2. Ought-to L2 self	.19	1										
3. Language learning experience	.33		1									
4. Motivated language learning behaviour			.44	1								
5. Willingness to pay for dictionaries				.15	1							
6. Willingness to read through sections of the guide on use in a dictionary					.22	1						
7. Willingness to use dictionaries			.33	.24	.34		1					
8. ICT skills	.24	.17	.25				.44	1				
9. Willingness to cooperate with peers in class		-.15					-.14		1			
10. L1 communication skills	.15	-.26					-.18	.20	.29	1		
11. Previous communication experiences with native speakers of English	.63		.36		.20		.24	.40	-.17	.33	1	
12. Previous communication experiences with non-native speakers of English	.60		.35	.15	.28		.20	.37	.18	.25	.86	1

Table 3. Relationships among scales

The ICT skills scale also correlates with motivation. However, the correlational coefficients are rather low, which means the relationship between ICT skills and motivation is weak. The L1 communication skills scale has a positive relationship with the ideal L2 self and a negative relationship with the ought-to L2 self. This means that a strong L1 competence – even though this is only slightly true – correlates with the internalized ideal L2 self, and the better one’s L1 skills are, the less developed their ought-to L2 self is. As to an explanation to this, it may happen that if one experiences that they can successfully communicate in their L1, they will be less likely to take other person’s expectations concerning communication in another language into account as they believe they have a solid linguistic foundation to rely on even if this foundation is available in their L1. Previous communication experiences with both native and non-native speakers correlate with most other scales, especially with the ideal L2 self and ICT skills. This may be explained by the supposition that the more motivated one is, the more opportunities they seek to use the English language and this way practise it (cf. Bialystok, 1981). These days such practice often happens in an online environment as most Hungarians typically have only indirect contact with English-speaking cultures through cultural and media products (Csizér & Dörnyei, 2005; Csizér & Kormos, 2009). Also, willingness to cooperate with peers negatively correlates with the ought-to L2 self. Concerning the ought-to L2 self, Dörnyei and Chan (2013) claim that it “lacks the energizing force to make a difference in actual motivated learner behaviors” (p. 454), which means that the ought-to self will not necessarily motivate learners’ to cooperate with one another.

Since correlation does not imply cause-effect relationships, regression analyses were run at the $p < .05$ level of significance in order to investigate the relationships between the scales. Some of these results are presented in Tables 4, 5, 6 and 7. First, the scales determining motivated language learning behaviour were investigated. The results thus obtained and shown in Table 4 demonstrate that, similarly to the results of previous research (Csizér & Kormos, 2009, Kormos & Csizér, 2008, Papi, 2010), it is language learning experience and the ideal L2 self that are predictors of motivated language learning behaviour with an explanatory power of 27%.

Scales	B	SE B	β	t
1. Language learning experience	.52	.06	.54*	8.39
2. Ideal L2 self	.28	.06	.31*	4.78
R ²	.27			
F for change in R ²	37.47			

Note. B stands for regression coefficient. * $p < .05$

SE B – standard error associated with the coefficient

R² – stands for the proportion of variance in the dependent variable explained by the independent variables

β – standardized coefficient

Table 4. Results of regression analysis regarding motivated language learning behaviour

Based on the data obtained in the scope of this research, and in line with the results of previous research, the ought-to L2 self is not a predictor of motivated language learning behaviour (cf. Csizér & Lukács, 2010; Kormos et al., 2011), and language learning experience is the strongest predictor, with the ideal L2 self being the second strongest predictor of motivated L2 learning behaviour (Csizér & Kormos, 2009, Kormos & Csizér, 2008, Papi, 2010).

The next dependent variable we wished to furnish an explanation to was willingness to use dictionaries. Results of the regression analysis (Table 5) revealed that altogether three independent variables (willingness to pay for dictionaries, language learning experience and the ideal L2 self) explain willingness to use dictionaries with an explanatory power of 20%.

Scales	B	SE B	β	t
1. Willingness to pay for dictionaries	.30	.06	.30*	4.76
2. Language learning experience	.40	.08	.34*	5.06
3. Ideal L2 self	.15	.07	.14*	2.03
R ²	.20			
F for change in R ²	18.01			

Note. B stands for regression coefficient. * $p < .05$

SE B – standard error associated with the coefficient

R² – stands for the proportion of variance in the dependent variable explained by the independent variables

β – standardized coefficient

Table 5. Results of regression analysis regarding willingness to use dictionaries

Based on the above results, and in line with the results of previous research (Fajt et al., 2023), it may be concluded that L2 learning motivation is a precondition to willingness to use dictionaries, and those who are willing to purchase dictionaries are more likely to consult them. These findings are important for EFL teachers, too, as it seems that besides explicit

practice of using dictionaries in EFL classes, it is additionally the ideal L2 self that is to be nurtured when raising learners' awareness of the importance of consulting a dictionary. Furthermore, as previous research suggests, teachers' role in encouraging learners to purchase dictionaries is fundamental (P. Márkus & Fajt, 2021; Ryu, 2006).

Willingness to pay for dictionaries was also investigated as a dependent variable and its predictors (independent variables) were sought. The results of regression analysis reported in Table 6 revealed that three variables predict willingness to pay for dictionaries with an explanatory power of 16%.

Scales	B	SE B	β	t
1. Willingness to use dictionaries	.35	.06	.35*	5.38
2. Willingness to read through sections of the guide on use in a dictionary	.26	.07	.24*	3.63
3. Ought-to L2 self	.14	.07	.13*	1.98
R ²	.16			
F for change in R ²	14.16			

Note. B stands for regression coefficient. *p<.05

SE B – standard error associated with the coefficient

R² – stands for the proportion of variance in the dependent variable explained by the independent variables

β – standardized coefficient

Table 6. Results of regression analysis regarding willingness to pay for dictionaries

Willingness to use dictionaries naturally accounts for willingness to pay for them: if learners wish to use a dictionary on a regular basis, they may be more likely to pay for them. Similarly, if learners wish to use a dictionary, they will read through the different information pages, too, as this could also contribute to more informed dictionary use. An interesting result is that the ought-to L2 self is also a predictor of willingness to pay for dictionaries. This may stem from learners involving their teachers as authorities in their language learning and their reliance on teachers' advice concerning the purchase of dictionaries (cf. P. Márkus & Fajt, 2021; Ryu, 2006).

Last but not least, willingness to cooperate with peers in class and the predictors thereof were also investigated. The results of regression analysis reported in Table 7 revealed that two variables have an impact on participants' willingness to cooperate with an explanatory power of 10%: these two variables are L1 communication skills and the ideal L2 self.

Scales	B	SE B	β	t
1. L1 communication skills	.39	.08	.32*	4.70
2. Ideal L2 self	.18	.07	.16*	2.33
R ²	.10			
F for change in R ²	12.39			

Note. B stands for regression coefficient. *p<.05

SE B – standard error associated with the coefficient

R² – stands for the proportion of variance in the dependent variable explained by the independent variables

β – standardized coefficient

Table 7. Results of regression analysis regarding willingness to cooperate with peers in class

The data show that L1 communication skills, which may be considered a prerequisite for effective L2 communication skills (Sparks et al., 2006, 2008), are important in predicting willingness to cooperate with peers in the EFL classroom. It follows from this that an internalized aspect of motivation, the ideal L2 self has to be nurtured and developed so that participants will eventually wish to engage more eagerly in groupwork or pairwork in the EFL classroom. These findings are not surprising since effective cooperation heavily relies on communication and the willingness to develop one's L2 self certainly involves extensive communication in today's communication-oriented educational settings.

5 Conclusion

This study aimed to explore in what ways the university students surveyed relate to certain 21st century skills and skills necessary for life-long learning, and how these skills impact these students' English language learning motivation. In addition, the paper validated the referent research instrument and also reported on some of the preliminary findings of this pilot study. The first research question (RQ1) concerned the reliability of the scales and, based on the results, it can be concluded that all scales are reliable and unidimensional. This suggests that the scales may be used for data collection in the future when carrying out large-scale investigations.

As for the second research question (RQ2), it may be concluded that similarly to the findings of previous research (Csizér & Kormos, 2009, Kormos & Csizér, 2008, Papi, 2010), it is language learning experience and the ideal L2 self that determine the L2 learning motivation of the Hungarian university students examined. The third research question (RQ3) examined the self-perceived ICT and communication skills of participants. Based on the results, participants seem to possess both the necessary ICT as well as L1 skills for learning English in current university-level educational settings. Furthermore, regarding participants' dictionary use habits (RQ4), participants do not seem to extensively use dictionaries and do not appear willing to purchase dictionaries; rather, they demonstrate a preference for dictionaries with free access. It is also apparent from the results that the ideal L2 self plays an important role in willingness to use dictionaries. Furthermore, willingness to pay for dictionaries is determined by the ought-to L2 self. Regarding participants' willingness to cooperate with peers in the EFL classroom (RQ5), L1 communication skills and the ideal L2 self predict to what extent participants are willing to cooperate with one another. As for the next research question concerning previous experiences with native and non-native speakers of English (RQ6), participants demonstrate a positive attitude towards such communicative situations. Finally, as for the last research question (RQ7), it is the ideal L2 self that may contribute to a more positive attitude towards L2 learning motivation, dictionary use, willingness to pay for dictionaries and cooperation with peers.

Generally speaking, based on these results, it becomes apparent that external factors, including peers (cf. ought-to L2 self) and the EFL teacher, play a minor role in developing different 21st century skills. Nevertheless, it seems that the ideal L2 self is a fundamentally important determiner of L2 learning motivation, willingness to use dictionaries and cooperation during EFL classes. Additionally, participants seem to exhibit the necessary ICT and L1 skills for their studies of EFL, and positively relate to communicative situations with native and non-native speakers of English. Based on the examined sample, these findings

seem to reflect an ideal scenario for Hungarian university students' studies of EFL, and their development concerning some aspects of life-long learning and certain 21st century skills.

The results of the present pilot study may, by no means, be considered representative as the sample size does not allow for generalisable findings. However, the tendencies revealed by the paper often reinforce the findings of previous research. Given this, the scales used in the present paper have been identified reliable and worthwhile to be used in future research involving much bigger sample sizes and different educational contexts.

Proofread for the use of English by: Denise J. Martens, Toronto, Canada

References

- Aspin, D. N., & Chapman, J. D. (2000). Lifelong learning: Concepts and conceptions. *International Journal of Lifelong Education*, 19(1), 2–19. <https://doi.org/10.1080/026013700293421>
- Asztalos, R., Bánhegyi, M., Fajt, B., Pál, Á., & Szénich, A. (2021). Hallgatói visszajelzések a kényszertávoktatásra való átállásról és a digitális módszertani megújulásról az egyetemi szaknyelvoktatásban: Egy kérdőíves felmérés tanulságai [Student feedback on the transition to emergency distance learning and digital methodological innovation in university language teaching: Results a questionnaire survey]. *Iskolakultúra*, 31(6), 84–100.
- Atkins, B. T. S., & Varantola, K. (1997). Monitoring dictionary use. *International Journal of Lexicography*, 10(1), 1–45. <https://doi.org/10.1093/ijl/10.1.1>
- Baker, W. (2017). English as a lingua franca and intercultural communication. In Jenkins, J., Baker, W., & Dewey, M. J. (Eds.), *The Routledge handbook of English as a Lingua Franca* (pp. 25–36). Routledge. <https://doi.org/10.4324/9781315717173-3>
- Bánhegyi, M., & Fajt, B. (2021). A kooperáció fejlesztése a felsőoktatásban a portfóliómódszer segítségével: Hallgatói attitűdváltozás egy kérdőíves vizsgálat eredményeinek tükrében [Improving cooperation in higher education through a portfolio method: A questionnaire survey of changes in students' attitudes]. *Iskolakultúra*, 31(5), 72–91.
- Bennett, S. J., & Maton, K. (2010). Beyond the 'digital natives' debate: Towards a more nuanced understanding of students' technology experiences. *Journal of Computer Assisted Learning*, 26(5), 321–331. <https://doi.org/10.1111/j.1365-2729.2010.00360.x>
- Bialystok, E. (1981). The role of conscious strategies in second language proficiency. *The Modern Language Journal*, 65(1), 24–35. <https://doi.org/10.1111/j.15404781.1981.tb00949.x>
- Bourn, D. (2018). *Understanding global skills for 21st century professions*. Palgrave Macmillan. <https://doi.org/10.1007/978-3-319-97655-6>
- Bullen, M., Morgan, T., & Qayyum, A. (2011). Digital learners in higher education: Generation is not the issue. *Canadian Journal of Learning Technology*, 37(1), 1–24. <https://doi.org/10.21432/t2nc7b>
- Care, E., Griffin, P., & Wilson, M. (Eds.). (2018). *Assessment and teaching of 21st century skills: Research and applications*. Springer.

- Csizér, K., & Dörnyei, Z. (2005). The internal structure of language learning motivation and its relationship with language choice and language effort. *Modern Language Journal*, 89(1), 19–36. <https://doi.org/10.1111/j.0026-7902.2005.00263.x>
- Csizér, K., & Kormos, J. (2009). Learning experiences, selves and motivated learning behavior: A comparative analysis of structural models for Hungarian secondary and university learners of English. In Z. Dörnyei, & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 98–119). Multilingual Matters. <https://doi.org/10.21832/9781847691293-006>
- Csizér, K., & Lukács, G. (2010). The comparative analysis of motivation, attitudes and selves: The case of English and German in Hungary. *System*, 38(1), 1–13. <https://doi.org/10.1016/j.system.2009.12.001>
- Divéki, R. (2018). Teachers' attitudes towards dealing with controversial issues in the EFL classroom: A pilot study. *Working Papers in Language Pedagogy*, 12, 27–54.
- Dörnyei, Z., & Csizér, K. (2012). How to design and analyze surveys in SLA research? In A. Mackey, & S. Gass (Eds.), *Research methods in second language acquisition: A practical guide* (pp. 74–94). Wiley-Blackwell. <https://doi.org/10.1002/9781444347340.ch5>
- Dörnyei, Z., & Taguchi, T. (2010). *Questionnaires in second language research: Construction, administration and processing* (2nd ed.). Routledge. <https://doi.org/10.4324/9780203864739>
- Dörnyei, Z., & Chan, L. (2013). Motivation and vision: an analysis of future L2 self images, sensory styles, and imagery capacity across two target languages. *Language Learning*, 63(3), 437–462. <https://doi.org/10.1111/lang.12005>
- Dringó-Horváth, I. (2011). Hogyan válasszunk elektronikus szótárat a nyelvtanuláshoz? [How to choose an electronic dictionary for language learning?] *Iskolakultúra*, 11(6-7), 141–156.
- Dringó-Horváth, I. (2017). Digitális szótárak – szótárdidaktika és szótárhasználati szokások [Digital dictionaries - dictionary didactics and dictionary use habits]. *Alkalmazott Nyelvtudomány, Különkiadás 2017*, 1–27. <http://dx.doi.org/10.18460/ANY.K.2017.005>
- Dringó-Horváth, I., P. Márkus, K., & Fajt, B. (2020). Szótárhasználati ismeretek vizsgálata német és angol szakot végzettek körében [Dictionary skills in teaching English and German as a foreign language in Hungary]. *Modern Nyelvoktatás*, 26(4), 16–38.
- European Commission (2018). *Proposal for a council recommendation on key competences for life-long learning*. European Commission.
- European Council. (2018). Council recommendation of 22 May 2018 on key competences for lifelong learning. *Official Journal of the European Union*, 189(1), 1–13.
- Fajt, B. (2021). Hungarian secondary school students' extramural English interests: The development and validation of a questionnaire. *Working Papers in Language Pedagogy*, 16, 36–53.
- Fajt, B., Bánhegyi, M., & P. Márkus, K. (2023). The interrelationship between EFL learning motivation and dictionary use. *International Journal of Lexicography*, ecad028, <https://doi.org/10.1093/ijl/ecad028>
- Gaál, P. (2016). *Online szótárak és használói: Onlineszótár-használati kutatások, online szótárak értékelési és minősítési szempontjai* [Online dictionaries and their users: Research on online dictionary use, evaluation and rating criteria for online dictionaries] [Doctoral dissertation, University of Pécs]. Pécs. <https://pea.lib.pte.hu/handle/pea/15901>
- Hargittai, E. (2010). Digital na(t)ives' variation in Internet skills and uses among members of the “net generation”. *Sociological Inquiry*, 80(1), 92–113. <https://doi.org/10.1111/j.1475-682x.2009.00317.x>

- Hartmann, R. R. K. (Ed.). (1999). *Dictionaries in language learning*. Free University/FLC/TNP. <https://doi.org/10.4324/9780203159040>
- Hartmann, R. R. K., & James, G. (1998). *Dictionary of lexicography*. Routledge.
- Hoekstra, R., Vugteveen, J., Warrens, M. J., & Kruijen, P. M. (2018). An empirical analysis of alleged misunderstandings of coefficient alpha. *International Journal of Social Research Methodology*, 22(4), 351–364. <https://doi.org/10.1080/13645579.2018.154752>
- House, J. (2003). English as a lingua franca: A threat to multilingualism? *Journal of Sociolinguistics*, 7(4), 556–578.
- Illés, É., & Csizér, K. (2010). Secondary school students' contact experiences and dispositions towards English as an international language – A pilot study. *Working Papers in Language Pedagogy*, 4, 1–22.
- Jalaluddin, N. H., Zainudin, I. S., Ahmad, Z., Sultan, F. M. M., & Radzi, H. M. (2014). The Dictionary as a source of a lifelong learning, *Procedia – Social and Behavioral Sciences*, 116, 1362–1366. <https://doi.org/10.1016/j.sbspro.2014.01.398>
- Kormos, J., & Csizér, K. (2008). Age-related differences in the motivation of learning English as a foreign language: Attitudes, selves, and motivated learning behaviour. *Language Learning*, 58(2), 327–355. <https://doi.org/10.1111/j.1467-9922.2008.00443.x>
- Kormos, J., Kiddle, T., & Csizér, K. (2011). Systems of goals, attitudes, and self-related beliefs in second-language-learning motivation. *Applied Linguistics*, 32(5), 495–516. <https://doi.org/10.1093/applin/amr019>
- Kosem, I., Lew, R., Müller-Spitzer, C., Ribeiro Silveira, M., & Wolfer, S. (2019). The image of the monolingual dictionary across Europe: Results of the European survey of dictionary use and culture. *International Journal of Lexicography*, 32(1), 92–114. <https://doi.org/10.1093/ijl/ecy022>
- Lew, R. (2004). *Which dictionary for whom? Receptive use of bilingual, monolingual and semi-bilingual dictionaries by Polish learners of English*. Motivex.
- Margaryan, A., Littlejohn, A., & Vojt, G. (2011). Are digital natives a myth or reality? University students' use of digital technologies. *Computers & Education*, 56(2), 429–440. <https://doi.org/10.1016/j.compedu.2010.09.004>
- Mauranen, A. (2017). Conceptualising ELF. In Jenkins, J., Baker, W., & Dewey, M. J. (Eds.), *The Routledge handbook of English as a Lingua Franca* (pp. 7–24). Routledge.
- Motschenbacher, H. (2013). *New perspectives on English as a European lingua franca*. John Benjamins Publishing Company. <https://doi.org/10.1075/z.182>
- Óhidy, A. (2006). Lifelong learning: Egy oktatáspolitikai koncepció értelmezési lehetőségei Európában [Lifelong learning: An education policy concept in Europe]. *Új Pedagógia Szemle*, 2006(6), 65–71.
- P. Márkus, K., & Fajt, B. (2021). Anglisztika szakos hallgatók szótárhasználati szokásai: Egy interjúkutatás eredményei [EFL students' dictionary use habits: Findings of an interview study]. *Új Pedagógiai Szemle*, 71(9-10), 24–41.
- P. Márkus, K., & Pödör, D. (2021). Lexikográfia és szótárdidaktika a Károli Gáspár Református Egyetem Angol Nyelvészeti Tanszékén [Lexicography and dictionary didactics at the English Language Department of the Károli Gáspár University of the Reformed Church in Hungary]. *Iskolakultúra*, 31(5), 92–107.
- P. Márkus, K., Fajt, B., & Dringó-Horváth, I. (2021). A célnyelv hatása a szótárhasználati szokásokra [The impact of the target language on dictionary usage patterns]. *Alkalmazott Nyelvtudomány*, 21(1), 157–172. <https://doi.org/10.18460/ANY.2021.1.010>
- P. Márkus, K., Fajt, B., & Dringó-Horváth, I. (2023). Dictionary skills in teaching English and German as a foreign language in Hungary: A questionnaire study. *International Journal of Lexicography*, 36(2), 173–194. <http://doi.org/10.1093/ijl/ecad004>

- Papi, M. (2010). The L2 motivational self-system, L2 anxiety, and motivated behavior: A structural equation modeling approach. *System*, 38(3), 467–479. <https://doi.org/10.1016/j.system.2010.06.011>
- Papp-Danka, A. (2013). Digitális bennszülött vagy digitális állampolgár? – Tanulók a digitális világban [Digital native or digital citizen? - Learners in the digital world]. In J. Ollé et al. (Eds.), *Digitális állampolgárság az információs társadalomban* (pp. 33–42). ELTE Eötvös Kiadó.
- Pereszlényi, A. (2020). Using literary texts in the EFL classroom: A pilot study on first-year English majors' reading preferences and perceptions. *Working Papers in Language Pedagogy*, 14, 80–125.
- Ryu, J. S. (2006). Dictionary use by Korean EFL college students. *Language and Information Society*, 7, 83–114.
- Scoular, C., & Care, E. (2018). Teaching twenty-first century skills: Implications at system levels in Australia. In Care, E., Griffin, P., & Wilson, M. (Eds.), *Assessment and teaching of 21st century skills: Research and applications* (pp. 145–162). Springer. https://doi.org/10.1007/978-3-319-65368-6_9
- Seidlhofer, B. (2009). Common ground and different realities: World Englishes and English as a lingua franca. *World Englishes*, 28(2), 236–245. <https://doi.org/10.1111/j.1467-971X.2009.01592.x>
- Sparks, R., Patton, J., Ganschow, L., Humbach, N., & Javorsky, J. (2006). Native language predictors of foreign language proficiency and foreign language aptitude. *Annals of Dyslexia*, 56, 129–160. <https://doi.org/10.1007/s11881-006-0006-2>
- Sparks, R., Patton, J., Ganschow, L., Humbach, N., & Javorsky, J. (2008). Early first-language reading and spelling skills predict later second-language reading and spelling skills. *Journal of Educational Psychology*, 100, 162–174. <https://doi.org/10.1037/0022-0663.100.1.162>
- UNESCO (2013). *IBE glossary of curriculum terminology*. UNESCO.
- Vass, V. (2020). A tudásgazdaság és a 21. századi kompetenciák összefüggései [The knowledge economy and 21st century competences]. *Új Munkaügyi Szemle*, 2020(1), 30–37.
- Zólyomi, A. (2021). Focusing on the explicit and implicit language learning-related beliefs and the habits of Hungarian adult English as a Foreign Language learners. *Working Papers in Language Pedagogy*, 16, 82–108.