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**DISSERTATION (PhD) THESIS BOOKLET**



**Metalinguistic awareness and cross-linguistic interaction in third language learning: English and German as L3 in the Hungarian classroom**

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## 1. Foreign language education in Hungary

Hungary is in the Carpathian Basin of Central Europe, bordered by Slovakia, Ukraine, Austria, Slovenia, Romania, Serbia and Croatia. The Hungarian language belongs to the Finno-Ugric language family. In 2002, 98.2% of the population spoke Hungarian; 1.8% spoke other languages. The two most popular foreign languages are known to be English and or German, in different order of language acquisition (namely, they can be taught as L2 or L3) (Bóócz-Barna, 2007; Horvath & Jessner, 2020, 2023; Tápainé Balla, 2008). The European Union set an ambitious goal in 2002, aiming for all its citizens to learn two foreign languages in addition to their mother tongue. Since then, several documents have supported the idea that European citizens should be competent in two foreign languages besides their mother tongue (Eurobarometer, 2006, 2012; Kommission Der Europäischen Gemeinschaften, 2005). The Hungarian Ministry for Human Resources published the *White Paper on the National Strategy for the Development of Foreign Language Teaching from Kindergarten to University* (EMMI, 2012), a guideline for raising awareness of the problems in foreign language education. One of the central recommendations of the White Paper is for language learners and their parents to prioritise German as the second language (L2) and English as the third language (L3). This suggestion is based on the premise that German's more intricate grammatical structure can serve as a solid foundation for subsequent language learning (Boócz-Barna et al., 2015; T. Balla, 2009).

Hungary has a single-structure education in the primary school context, which was introduced in 1945. It is called an eighth-grade primary school with a lower and upper stage (4 grades each). This system offers essential knowledge and skills to the 6-14 age groups. At this point, it must be highlighted that pupils volunteering to participate in this research attended primary schools with a standard curriculum. Standard curriculum refers to the single structure primary school, namely pupils visit lower stages (1-4) and upper stage of primary education. The Hungarian education system typically consists of 8 years of primary education. Therefore, completing grade 8 marks the end of primary education (Eurydice, 2023). Bi- and multilingualism research was a neglected area in the Hungarian context, however, a handful of studies have appeared from 2000 onwards (Horvath & Jessner, 2020; Navracsics, 2010, 2022a, 2022b; Navracsics & Molnár, 2017; T.Balla, 2009, 2012, 2013).

## **1.1 Statement of the problem**

Hungary is considered a multilingual state due to the 13 minorities living in the country (The National Assembly, 2010). 98% of the people speak Hungarian as their mother tongue which shows the predominant role of the L1 (Kenesei, 2017). Hungarian people acquire additional languages in educational settings like at schools, language schools, or universities, but Hungarians do not need to use foreign languages in public places like administration, banking, shops, and restaurants. As a consequence, the Hungarian language is extensively used in the classroom by teachers and students (Nagy, 2009) which makes foreign language learning more challenging for primary school pupils. Learning foreign languages and speaking more than one language can still be counted as a peculiarity in Hungary, as 58% of the population could not speak a foreign language based on the Eurobarometer survey 2006 (Eurobarometer, 2006). Despite the European Union's and Hungary's language policies that encourage multilingualism and the integration of multiple languages into the curriculum, the reality in most Hungarian schools is different. The dominant teaching approach remains monolingual, focusing heavily on the use of a single language —usually the target language — in instruction, even when teaching a third language (Horvath & Jessner, 2020; Szabó & Failasofah, 2022). This approach might not fully embrace the multilingual environment that language policies aim to promote, potentially limiting the opportunities for students to develop proficiency in multiple languages simultaneously. This recent phenomenon has sparked a growing interest in adapting the most adequate methods that enable pupils to leverage their previously learned languages and cognitive skills in the process of acquiring a new foreign language (L3) (Horvath & Jessner, 2023).

## **1.2 Relevance of the topic**

Research in third language acquisition (TLA) delves into the complex interplay of factors that contribute to the ability of learners to acquire an additional language beyond their second one. Scholars such as Cenoz (2001), Herdina & Jessner (2002), Jessner (2008), and De Angelis (2007) have explored how various elements influence this process. Notably, prior experience with foreign languages plays a significant role, as learners can leverage their existing linguistic skills and strategies developed from learning previous languages. This ability to transfer knowledge and skills from one language to another is a crucial component in the multilingual development process, as highlighted by Jessner (1998) and Hufeisen (2003). Many studies underscore the importance of understanding the multifaceted nature of language learning,

particularly in multilingual contexts, where the interplay of cognitive, linguistic, and experiential factors can enhance the acquisition of a third language (Hofer, 2017; Hofer & Jessner, 2017, 2019). Researchers have shown an increased interest in TLA as pupils learn additional languages in the Hungarian context (Bacsa, 2012; Horvath & Jessner, 2020; Navracsecs, 2022b, 2022a; Navracsecs & Molnár, 2017; Perge, 2017; Szabó & Failasofah, 2021; T.Balla, 2009). Over the past decade, the question of acquisition order concerning English and German as a foreign language received particular attention in the educational context (Tápai-Balla, 2012; Perge, 2017; Bacsa, 2012; Boócz-Barna, 2007; Horvath & Jessner, 2020; Szabó & Failasofah, 2022). The motivation of the current thesis is to examine English versus German as L3 in the Hungarian primary school context. The current study focuses on the different factors that influence third language acquisition like prior language knowledge, L2 exposure, multilingual awareness, motivation, and order of language acquisition from a dynamic perspective (Cenoz et al., 2001; De Angelis, 2007; Jarvis & Pavlenko, 2008; Jessner et al., 2016) as there is lack of research in the Hungarian context. The role of motivation has been investigated in L2 and L3 learning (Cenoz et al., 2007; Csizér et al., 2004; Dörnyei, 1998, 2008, 2014). However, there is a lack of research concerning comparative studies, which examine the connection between the order of acquisition and motivation in TLA (Csizér & Lukács, 2010; Djigunović, 2008, 2012).

Research conducted in various international contexts has extensively documented the benefits of implementing multilingual methodologies and incorporating students' prior language knowledge in foreign language learning (Cenoz & Gorter, 2011; Cenoz, 2008, 2013; Jessner, 2006, 2014; Lindgren & Muñoz, 2013; Munoz, 2014). Little is known about TLA and it is not clear what factors can have an impact on L3 learning for the Hungarian pupils. Therefore, the research questions have been formulated based on tentative assumptions from international research. There is a large volume of published studies describing the role of multilingual awareness in the classroom context mostly from the Tyrolean context (Hofer, 2017; Hofer & Jessner, 2019; Jessner et al., 2016; Jessner & Allgäuer-Hackl, 2020). However, far too little attention has been paid to multilingual awareness, especially in the Hungarian educational context (Horvath & Jessner, 2022, 2023; Pilbauer-Horvath, 2023). Consequently, no research has been found that surveyed multilingual awareness from a dynamic point of view in the Hungarian primary school context.

## **2. The main theoretical framework: The Dynamic Model of Multilingualism**

Herdina and Jessner (2002) published their work entitled “The Dynamic Model of Multilingualism”(DMM), which is recognised as the core publication on multilingual development from a dynamic point of view. This model is one of the most appropriate frameworks for multilingual acquisition and development from a holistic perspective. Language systems are interdependent and cannot be viewed as autonomous within this psycholinguistic model (Jessner, 2023).

The DMM has various features: non-linearity, reversibility, stability, interdependence, and the change of quality, stability, and complexity. Multilingual systems can be seen as flexible and dynamic organisations so they can conform to the learners’ perceived communicative needs. The dynamic system is “a set of variables that mutually affect each other’s changes over time” (van Geert, 1991). This multilingual model is learner-oriented because the learner stands at the centre of language acquisition. A dynamic perspective of the multilingual speakers’ learning system combines the learner-oriented system and the changes within the language systems. The DMM is grounded in the Dynamic Systems Theory (DST) approach and claims that any language system in the learner’s mind is an open system interrelated with psychological and social factors like anxiety, motivation, metalinguistic abilities, language acquisition progress, perceived language competence and self-esteem (Herdina & Jessner, 2002). Multilingual proficiency is identified by the dynamic correlation between the different psycholinguistic systems (LS<sub>1</sub>, LS<sub>2</sub>, and LS<sub>3</sub>) in which the individual languages are embedded (Jessner, 2008). One of the most essential features of multilingual proficiency (henceforth MP) is that MP can be regarded as a fluctuating and unstable construction. The M-factor is central to developing multilingual proficiency, defined as the effective and dynamic use of multiple languages. Herdina & Jessner (2002) define the M-factor as skills “developed in the multilingual speakers. These skills clearly distinguish the monolingual from the multilingual speaker and are taken to include skills in language learning, language management, and language maintenance” (p.131).

As previously mentioned, the multilingual system is a nonlinear and constantly changing system, which is why the multilingual learner improves specific skills and abilities. This model offers new proficiency skills, either language-specific or general cognitive skills. Multilingual learners use these skills in language learning and apply them in case of language management or maintenance. One can distinguish the monolingual learner from the multilingual one due to increased language contact (Jessner, 2008). Furthermore, metalinguistic awareness is the main

cornerstone element of the M-factor. Another critical component is the awareness of establishing contact between various language systems, which refers to cross-linguistic interaction (henceforth CLIN) based on the model. Metalinguistic awareness (henceforth MLA) includes the set of skills /abilities that develop owing to prior linguistic and metacognitive knowledge. The influence of MLA can be a beneficial factor regarding further language learning from a long-term perspective. MLA is often researched with cross-linguistic awareness (henceforth XLA), the interaction between the languages in the multilingual repertoire. MLA and XLA can form multilingual awareness, that is, the awareness of multilingual individuals in acquiring different languages (Hofer & Jessner, 2019). The proficiency of multilingual learners, according to the Dynamic Model of Multilingualism (DMM), results from the interaction between different psycholinguistic systems ( $LS_1, LS_2, LS_3, LS_n$ ), cross-linguistic interaction (CLIN), and the M-factor. This can be expressed by the following formula:  $LS_1, LS_2, LS_3 + CLIN + M\text{-factor} = MP$  (Herdina & Jessner, 2002).

### **3. Methodology**

The current PhD dissertation combines cross-sectional design with an exploratory nature using a quantitative approach (Creswell & Creswell, 2018; Dörnyei, 2007; Kothari, 2006). The research was conducted in the context of Hungarian primary schools between March and June 2022. Pupils attend primary school between grades 1 and 8 and go to primary school until age 14. Six primary schools participated in the data collection, but the researcher could not name the institutions in her research. To ensure the comparative nature of the findings, the research focused on primary school students in the 7<sup>th</sup> and 8<sup>th</sup> grades. The testing population comprised 152 learners. The students were divided into four groups based on age and language acquisition order: 7EG, 7GE, 8EG, and 8GE. Prior to the research year, the pilot study was conducted between March and June 2021. The aim of the pilot was to ensure the quality of the research instruments.

After having reviewed the relevant literature, a considerable amount of research has been published on the influencing factors in TLA. Factors like L2 exposure, prior language knowledge, L3 proficiency, order of acquisition, and motivation are recognised as variables in TLA at the international level (Cenoz et al., 2001; De Angelis, 2007; Dörnyei, 2008; Henry, 2014, 2015; Jarvis & Pavlenko, 2008). The question of acquisition order concerning English or German as a foreign language is becoming more and more popular in the Hungarian educational context however most of the studies have dealt with one type of acquisition order. (Bóocz-

Barna, 2007; Horvath & Jessner, 2022, 2023; T. Balla, 2012; T.Balla, 2013). The investigation of the components of multilingual awareness - which include metalinguistic- and cross-linguistic awareness - deserves more attention in Hungarian education from a DMM perspective as it is considered to be an under-researched area (Horvath & Jessner, 2022, 2023; Pilbauer-Horvath, 2023; Szabó & Jessner, 2024). Four research questions have been addressed in the PhD dissertation:

RQ1: What are the effects of prior language (L2 exposure and L2 knowledge) on L3 proficiency?

RQ2: To what extent does L2 exposure contribute to multilingual awareness?

RQ3: How does the order of language acquisition influence both L3 proficiency and components of multilingual awareness?

RQ4: What are the effects of the order of language acquisition on L3 motivation?

The primary data collected and analysed in this research involved first-hand data obtained directly from the school context. This approach ensured that the data was specific, relevant, and directly applicable to the research objectives. The research data in this thesis is drawn from four primary sources: a Language History Questionnaire (LHQ) (Li et al, 2020), a C-test in L2 and L3 (Dörnyei&Katona, 1992), a Multilingual Competence Test (MCT) (Hofer&Jessner, 2019) and a motivational questionnaire (Nikolov, 2003).

Data was collected in the spring semester of the school year in 2022. The research had to be implemented between March and June as 7th graders had been learning their L3 for one school year at the time of the testing. The researcher adapted all of the research instruments to the age group of the primary school pupils and the Hungarian context. The study was carried out at six primary schools but the researcher could visit these schools only once. The researcher guided the testing period and she gave instructions to the participants after having distributed the two questionnaires and the four tests. Students could fill in the tests with the assistance of the researcher. Different data collection methods were used to carry out the current investigation. Two questionnaires and four tests were distributed to the participants at one point in time. Altogether five lessons (testing period) were devoted in order to complete the instruments but these five lessons were distributed throughout the week. One lesson was devoted to one of the C-tests. The second lesson was dedicated to the other C-test. Pupils could complete the two questionnaires in the third lesson. The Multilingual Competence test requires focus, attention and an extended time so the last two lessons were dedicated to the test.

## 4. Results and discussion

### 4.1 Results

The reliability and validity of the research instruments were also investigated in the pilot, - and in the test phase. A comparison was drawn between the two results due to the novelty of instruments in the Hungarian primary school context. Investigating the reliability of the LHQ showed an improvement from the pilot to the research phase. The reliability of the LHQ indicated that the internal consistency was higher in the test phase compared to the pilot phase. The questionnaire's items showed a more consistent combination of the scales as they showed also a high-reliability coefficient. The reliability of the C-tests showed a positive shift from the pilot study to the research year. In the pilot phase, the 8GE group produced low reliability based on the internal consistency in German (L2) and English (L3). In the research year, all 8 C-tests had a high level of reliability. The criterion-related validity of the C-tests showed that significant correlations were detected between students' end-of-term grades and the achievement of the C-tests for 3 groups (7GE, 8EG, 8GE). However, no significant correlation was found for the 7EG group. The reliability of the MCT was calculated in the pilot, - and the test phase. One of the most surprising aspects of the data is the reliability index of the test components. In the pilot phase, the MCT had an acceptable level of reliability in the case of one subgroup (7EG), and the overall reliability of the test reached a moderate level of reliability. Referring to the test phase, all four subgroups (7GE, 8GE, 8EG) had a minimum of moderate level of reliability. The overall reliability of the MCT showed an acceptable level of reliability. The current study demonstrated that 94% of the pupils reached or exceeded the 60% threshold on the MCT. A new research tool was introduced during the research year, prompting an investigation into the reliability of the motivation questionnaire, adapted from Nikolov (2003), using Cronbach's alpha. The German section demonstrated a high level of reliability, while the English section showed an acceptable level. When considering the combined major scales for both languages, the questionnaire is deemed reliable, with the test demonstrating a high level of overall reliability.

The first research question is aimed at exploring the effects of L2 exposure and L2 knowledge on L3 proficiency. To answer the first research question, the Mann-Whitney tests were used. 7EG ( $MR=38.97$  and  $MR=40.05$ ) outperformed 8EG ( $MR=38.03$  and  $MR=36.95$ ) both in their English (L2) and in their German (L3). The results showed that the 8GE ( $MR=43.50$ ) achieved better results than the 7GE ( $MR=33.50$ ). Only the English results showed a significant difference between the 7GE and the 8GE groups ( $p=0.048$ ). The second part of the

first research question examined whether there was a connection between prior linguistic knowledge (L2) and L3 proficiency. Pearson correlation showed that a significant positive correlation could be detected in the groups of 7GE ( $p>0.05$ ), and 7EG ( $p>0.05$ ). As far as the 8<sup>th</sup> graders are concerned, a positive correlation could be seen between German (L2) and English (L3) proficiency test results for the 8GE group ( $p<0.05$ ). However, a lack of association was found between English (L2) and German (L3) C-tests for the 8EG group ( $p>0.05$ ).

Mann-Whitney tests were used to investigate the second research question as to what extent L2 exposure contributed to multilingual awareness. A similar level of achievement in MLA was found to correspond with the first research question. 7<sup>th</sup> graders outperformed the 8<sup>th</sup> graders in the case of the EG group however no significant differences were found between the 7EG and the 8EG groups ( $p=0.79$ ). As far as the GE groups are concerned, 8<sup>th</sup> graders ( $MR=44.46$ ) outperformed the 7<sup>th</sup> graders ( $MR=32.54$ ). A significant difference was found amongst the scores of the GE groups ( $p=0.02$ ). The second component of multilingual awareness is cross-linguistic awareness. The mean ranks of the 7EG and 8EG groups were compared to investigate whether greater L2 experience leads to a higher level of cross-linguistic awareness. As shown in Table 46, no increase in cross-linguistic awareness was detected within the EG groups; in fact, the 7EG group ( $MR = 38.91$ ) outperformed the 8EG group ( $MR = 38.09$ ). Conversely, the 8GE group ( $MR = 43.36$ ) achieved better results than the 7GE group ( $MR = 33.64$ ). These findings confirmed that more L2 experience could lead to a heightened level of cross-linguistic awareness, but only in the case of the GE groups. However, there were no significant differences for either the EG group ( $p = 0.87$ ) or for the GE groups ( $p = 0.55$ ). The EG groups' achievement showed surprising results in the first two RQ-s so descriptive statistics was used to explore students' motivation, especially for the EG groups. The findings of the motivational questionnaire showed that motivation of the 7EG group was higher towards the questions of the ought to,- and ideal self in the L3 classroom. Moreover, 7<sup>th</sup> graders showed a higher level of motivation towards the German L3 lesson.

The third research question asks how the sequence in which students learn their second (L2) and third languages (L3) affects their proficiency in the L3 and their multilingual awareness. The Mann-Whitney test suggests that learning German as L2 followed by English can contribute to a higher level of L3 ( $MR=40.13$ ) for the 7GE group. The 7GE group also achieved a higher level of metalinguistic awareness ( $MR=41.66$ ). The 8GE group indicated higher performance in L3 proficiency ( $MR=47.59$ ) compared to the 8EG group ( $MR=29.41$ ). The 8GE group also achieved a higher mean rank ( $MR=47.5$ ) in the metalinguistic part of the multicompetence test, which indicated superior multilingual awareness over the 8EG group ( $MR=29.5$ ). The Mann-Whitney test revealed that the differences between the two groups are

statistically significant for both L3 proficiency and MLA scores ( $p=0.000$ ). As for the results of multilingual operations in the cross-linguistic awareness (MLX) suggested that the 7EG (MR=41.22) group outperformed the 7GE (MR=35.78). The findings of the 8<sup>th</sup> graders showed that the 8GE group (MR=42.21) outperformed the 8EG group (MR=34.79). No significant difference was found either for the 7<sup>th</sup> grader ( $p<0.05$ ) or for the 8<sup>th</sup> grader pupils ( $p<0.05$ ).

The fourth research question investigates how the order of language acquisition influences motivation. Descriptive statistics showed that a higher level of motivation and attitude could be found for the 7GE group [mot\_1, M=3.38; mot\_2, M=3.08; mot\_5, M=3.17] than for the 7EG group [mot1\_M:2.56; mot\_2, M: 2.99 and mot5\_ M:3. 14]. The results were only significant in the first part of the questionnaire (mot\_1,  $p=0.000$ ), which measured pupils' motivation on the acquired language (L3). The next two subsections referred to pupils' motivation and attitude towards the lesson (mot\_2) and the attitude to their L3 self (ought and ideal selves) (mot\_5). The GE group outperformed the EG group even though there was only a slight difference between the achievements of the two groups. Therefore, no significant differences were found in 2 out of the 3 sections ( $p=0.46$  and  $0.73$ ). Independent sample T-tests were used to analyse the relationship between the 8GE and 8EG in terms of their attitude and motivation towards the L3. Three sections of the motivational questionnaire were compared, i.e. the motivation towards the level of the acquired language (mot\_3), the motivation towards the level of the lesson (mot\_4), and pupils' attitude towards their L3 self (mot\_6). A comparison of the two results reveals that students learning English as L3 are more motivated to learn (M: 3.55, M: 3.23, and M: 3.15) than those who acquire German as L3. Significant differences were found concerning their motivation towards the acquired language (L3), the lesson, and the L2 self for the 8<sup>th</sup> grader participants [mot2\_ ( $p=0.002$ ), mot\_4 ( $p=0.022$ ) and mot\_6 ( $p=0.001$ )]. However, significant differences could be found for the level of the acquired language in the case of the 7<sup>th</sup> graders and differences were statistically significant for the 8GE group in each of the three factors. Overall, these results suggest that 7<sup>th</sup> and 8<sup>th</sup> graders learning German as L2 and afterward English L3 were more motivated than their EG peers. The next section moves on to the discussion of the main findings of the PhD study.

## 4.2 Discussion

This study aimed to address four research questions based on relevant literature. The first research question examined the effects of L2 exposure and prior linguistic knowledge on L3 proficiency were examined. Referring to the EG groups, the 7EG outperformed 8EG in the

English (L2) proficiency and the German (L3) proficiency tests. Consequently, students with the least L2 exposure (English) achieved better L2 and L3 (German) results for the EG group. However, no significant difference was found both for L2 and L3 between the EG groups. These findings are in agreement with Tremblay's (2006) study focused on the effect of L2 proficiency and L2 exposure concerning L1 English, L2 French, and L3 German in Canada. Students were required to complete a language history questionnaire and a French proficiency test in order to classify the participants into different groups based on their L2 exposure and proficiency. Tremblay's (2006) study suggested that exposure to the L2 might amplify L2 activation during L3 production to a greater degree than mere proficiency in the L2. This implies that the frequency and amount of exposure to the L2 could be crucial in shaping how L3 learners access and utilise their L2 knowledge during L3 language tasks. As for the GE groups in terms of the first part of the RQ1, the 8GE group performed better than the 7GE group in German as L2. Moreover, the 8<sup>th</sup> graders achieved better results than the 7<sup>th</sup> graders in their English as L3. A significant difference could be found in English as L3. The current study's findings are consistent with those of Cenoz and Valencia (1994), who examined the influence of bilingualism on learning English as an L3. The results of the regression tests showed that language exposure is a good predictor of third-language achievement. Age was not examined as a variable in this study although/but 7<sup>th</sup> graders were compared to the 8<sup>th</sup> graders concerning most of the research questions. Some research has been conducted on the age factor in L3 acquisition (Cenoz, 2001; Hien&Spring, 2018; Lipinska, 2017; Munoz, 2006). Muñoz (2006) emphasised the role of age factor in learning English as L3. The results showed that older learners had an advantage over younger learners, which could provide evidence for this PhD study because the 8<sup>th</sup> grader pupils' performance was better when they learnt English as L3. De Angelis (2012) found that exposure to a second language environment (German) was considered a potentially strong predictor of L2 proficiency development in German and, consequently, of L3 proficiency development in English. This is due to the additional exposure to German, a language typologically close to the target language, English. Hofer and Jessner's (2019) study examines the impact of early multilingual education on linguistic knowledge and metalinguistic awareness in primary-level students. The study also highlighted that early and extensive contact with a German L2 positively affects English as L3. The study of Cenoz et al. (2001) examined age as an influencing factor in English as an L3. They found that older learners achieved better results than youngsters.

The second part of RQ1 focused on the relationship between L2 knowledge on L3 proficiency. Language proficiency was measured using C-tests in L2 and L3. The results of the correlational analysis presented that L2 knowledge had a significant positive correlation with L3 proficiency in 3 out of 4 groups, namely, the 7EG, 7GE, and 8GE groups. For the researcher, it was not surprising that strong correlations were found for the GE groups. It was interesting to note that a significant correlation was found for the 7EG group while the Pearson correlation did not show significance for the 8<sup>th</sup> grader participants. In accordance with the present results, previous studies (Boócz-Barna, 2007,2010; Tápai Balla, 2013; Pilbauer-Horváth,2024) have demonstrated that prior language knowledge decisively influences the acquisition of an L3. The findings of the 7EG and 7GE groups are further support by some authors (De Angelis, 2005; Bardel & Lindqvist, 2007) in TLA. De Angelis (2005) and Bardel&Lindqvist (2007) indicate that even when a person is learning a third language (L3) at a lower proficiency level, their previous knowledge of a second language (L2) can influence their L3 learning process. One unanticipated finding was that no significant correlation was found between L2 and L3 proficiency in the case of the 8EG group. A possible explanation for this might be that the starting language (English) was less syntactically complex than their L3 (German). Another possible explanation for this is that the lack of correlation is closely related to the lack of motivation of the 8<sup>th</sup> graders. The findings of the 7GE and 8GE groups will now be compared to the findings of previous work.

As for the second research question, the study aimed to assess the influence of prior language (L2) on multilingual awareness. The first part of the RQ2 dealt with the L2 experience and multilingual awareness. The lack of motivation among 8th graders could have significantly impacted their performance on the tests. The results of the EG groups align with the research of Nagy and Anderson (1995) and Yelland et al. (1993). Nagy and Anderson's (1995) argument aligns with the broader body of research that suggests exposure to second languages can enhance certain aspects of metalinguistic awareness, even with limited contact or proficiency. Yelland et al. (1993) support this idea by demonstrating that learners with limited exposure to second languages still exhibit improvements in metalinguistic awareness.

As for cross-linguistic awareness, results showed that 7EG outperformed the 8EG group. The superior performance of the 7th graders (7EG) in cross-linguistic awareness compared to the 8th graders (8EG) further supports these findings, suggesting that motivation and engagement may significantly influence linguistic and metalinguistic outcomes.

The level of proficiency did not always correlate with a high level of meta- and cross-linguistic awareness as beginners also made connections between languages, not only advanced learners.

This result may be explained by de Angelis (2007) that learners' knowledge of the target language is still weak at the beginners' level so they need to fill in the gaps with the source language.

The third question in this research was whether the order of language acquisition influences L3 proficiency and multilingual awareness. The first part of the RQ3 deals with the effect of the order of acquisition on L3 proficiency. In the research year, descriptive statistics and independent samples T-test showed that the 7GE group outperformed the 7EG group in the L3 test. The 8GE group achieved better results than the 8EG group in the C-tests in L3. Our findings are in line with three studies that concentrated on the order of acquisition and the L3 acquisition. Both Tápai Balla's (2008) study and Cedden's (2007) found that learners of German as L2 could learn L3 more quickly than the control group, which consisted of respondents who had English as L2. Penner's (2007) qualitative study shed light on the prior linguistic knowledge in the learning process of an L3 in the Hungarian context. She compared a group of participants who learnt either English as L3 or German (L3). The second subpart of the RQ3 refers to the connection between multilingual awareness and order of acquisition. The metalinguistic part of the test showed that the GE groups outperformed the EG groups in 7<sup>th</sup> and 8<sup>th</sup> graders. As for the MLX part of the MCT, the 7EG group outperformed the 7GE group. This finding is in line with Pilbauer-Horvath (2023) although her investigations were not based on comparative study. In the centre of her investigations stood English as L2 and German as L3 in the Hungarian secondary school context. Pilbauer-Horvath's (2023) dissertation showed a positive research outcome for the acquisition order of English as L2 and German as L3 due to multilingual awareness training.

The cross-linguistic awareness tasks revealed that 8GE performed better than the 8EG group in the multilingual competence test's meta- and cross-linguistic awareness tasks. Significance was found for both L3 and MLA in the 8GE group as the influence is most probably mutual in the sense that MLA benefits from proficiency in additional languages and the languages benefit from MLA. Consequently, the findings suggested that a strong relationship was found only between students acquiring English L3 and metalinguistic awareness among 7<sup>th</sup> graders. What is more, the 8GE group outperformed in meta.- and cross-linguistic awareness of the 8EG participants. Our results are in line with those of Jessner (2006), Troha et al. (2020), Hofer & Jessner (2019), and Wrembel (2015).

The fourth research question refers to the relationship between motivation and the order of language acquisition. The 7GE group showed a higher level of motivation, and their attitudes towards L3 were more positive than the 7EG group. A significant difference was found for the

7GE group in terms of pupils' motivation towards the acquired L3. Contrary to expectations, no significant differences were found in 2 out of the three sections namely their motivation towards the lesson (mot\_2) and their attitude to the L3 self. This idea is in line with the study of Csizér & Kormos(2009). Csizér & Kormos (2009) suggest that learners' interactions with the L2/n community can significantly shape their attitudes toward the target language, its speakers, and the associated culture. Such intercultural contact is also likely to influence L2 learners' motivated behaviour, meaning the energy and effort they are willing to invest in learning the language (p. 63). A comparison of the 8th-grader groups reveals that students learning English as L3 are more motivated to learn than those who acquire German as L3 in the classroom context. The most striking result from the data is that significant differences were found in the motivational level of the two groups of 8th-grader participants in favour of the 8GE. Those students learning English as L3 had a higher motivation concerning the L3 language, the L3 lesson, and the L3 self than pupils acquiring German as L3. The overall findings connected to the fourth hypothesis suggested that learning English as an L3 motivated the pupils in both age groups (7<sup>th</sup> and 8<sup>th</sup> graders). The results suggested that positive attitudes were attached to English as L3—concerning pupils' motivation towards the foreign language lesson and their attitude towards their ideal and ought to selves in the L3.

Our findings do not align with the investigations of Csizér & Lukács (2010) because the overall findings of RQ4 clearly showed positive attitudes in favour of German as L2 and English as L3 amongst 7<sup>th</sup> and 8<sup>th</sup> grader participants. In their study, Csizér & Lukács (2010) investigated the motivational and attitudinal differences among students learning English and German simultaneously. They discovered that the ideal selves of students learning English as a second language (L2) were seemingly unaffected by negative influences from the other language (presumably German), in contrast to those learning English as a third language (L3) or learning German as a second or third language (L2 and L3 German). Given that students' L2 and L3 motivational systems are interconnected as components of an overarching multilingual system (Jessner, 2008), and considering that cross-referencing between these systems is likely to occur (Henry, 2010, 2011, 2014), it is reasonable to expect changes in both motivational systems.

### **4.3 Limitations**

Although the study has successfully demonstrated that German as L2 should be learnt before English as L3, the generalisability of these results is subject to certain limitations.

Firstly, the reader should bear in mind that the study is based on a cross-sectional design and the study has an exploratory nature. The general exploratory nature of quantitative design is

somewhat limited as it does not allow in-depth investigation of the individual variables which is also one of the limitations of the current dissertation (Dörnyei, 2007). The current investigation was limited by using quantitative data analysis and the majority of the results did not show statistical significance. Possible explanations may be the lack of normality in the distribution and the one-year difference between the age groups. Secondly, the sample size used in this study was not as big as expected formerly. 152 participants volunteered to take part in the study, but only 38 participants took part in each of the subgroups. The sample size was strongly related to one of the most important limitations of the study. Both the pilot-, and the test phase needed to be delayed one year due to the COVID-19 pandemic. The researcher was not allowed to enter the schools until March 2021. As the pilot and the test phase needed to be done in separate years in the spring-summer period, the research had a huge delay in terms of timing. Thirdly, the national context influenced the choice of age groups in relation to age of onset in L3 learning. In the Hungarian educational system, primary schools with standard curricula support their pupils to learn an L3 from the 7<sup>th</sup> grade. Only those participants were eligible to participate in the study who acquired a second foreign language (L3) and attended primary school. Therefore, a further limitation of the study is that 7<sup>th</sup> graders differ from 8<sup>th</sup> grader participants in only one year because the starting age of the L3 was the 7<sup>th</sup> grade in Hungarian primary schools while 8<sup>th</sup> graders learnt the L3 for 2 years at the time of testing.

## **5. Conclusion**

The present doctoral thesis was designed to investigate the effect of certain factors in learning English vs. German as an L3. In this investigation, the aim was to assess pupils' L3 proficiency and multilingual awareness in relation to their order of acquisition, motivation, and prior linguistic knowledge. This study was based on the data obtained from 152 participants of Hungarian primary schools: half of the pupils (N=76) learnt German as L3 meanwhile half of the students acquired English as L3 (N=76). The relevance of the order of acquisition, prior linguistic knowledge, and motivation in TLA is clearly supported by the current findings.

This chapter presents major findings in reference to the variables that influence multiple language acquisition. Statistical analyses proved that all of the research instruments (C-tests, MCT, LHQ, and motivational questionnaires) turned out to be reliable and valid tools in the test phase.

The first research question investigated the role of prior language on L3 proficiency, Length of exposure to L2 had a positive influence on L3 proficiency in the case of students learning

German (L2) and afterward English (L3). A strong correlation was found between L2 knowledge and L3 proficiency except for the 8EG group. Therefore, the proficiency of the German and the English L2 tests were good predictors for L3 proficiency.

As for the second research question, L2 exposure had a positive impact on multilingual awareness for the GE group. Lower L2 experience did not contribute to a lower level of multilingual awareness for the EG participants. In the EG group, 7th graders outperformed 8th graders both in MLX and in MLA. However, the results obtained for the GE group suggest that more L2 experience could decisively lead to a heightened level of multilingual awareness as the 8GE group outperformed the 7GE group.

The third research question examined the role of order of acquisition in L3 acquisition and multilingual awareness. The compared groups started to learn the language at the same time (7<sup>th</sup> graders and 8<sup>th</sup> graders) and both the 7<sup>th</sup> and 8<sup>th</sup> graders were compared based on the acquisition order (7EG with 7GE and 8EG with 8GE). 7GE and 8GE groups had better results than students starting with English L2 both in their multilingual awareness and in L3 proficiency than the 7EG and 8EG groups. One exception was that 7EG learners performed better in the MLX tasks than the students learning English as L2. Hence, it is confirmed that German L2 learners outperformed English L2 learners both in L3 proficiency and multilingual awareness.

The last research question dealt with the impact of the order of acquisition and motivation. The results suggested that both the 7GE and 8GE groups showed a higher level of motivation than the 7EG and 8EG groups. Students starting with German (L2) are more motivated to learn English L3. The order of language acquisition played a distinctive role in each of the research questions.

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## Publications

### Journal articles in foreign journals:

1. Szabó, N. & Jessner, U. (2024). Multilingual Assessment of Primary School Pupils in the Hungarian Context. Vol. 3 No. 1 (2024): Acta Academiae Beregsasiensis, Philologica. <https://doi.org/10.58423/2786-6726/2024-1-101-12>
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1. Szabó, N. (2021). Philip Herdina, Elisabeth Allgäuer-Hackl & Emese Malzer-Papp: Mehrsprachensensibel? Multilingual sensibility? Bulletin of The Transilvania University Of Brasov Series Iv Philology Cultural Studies, 4, 187–190.
2. Noémi, S. (2018). Danuta Gabryś-Barker (ed.): Third Age Learners of Foreign Languages. Alkalmazott Nyelvtudomány, 1, 1–5.
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### **Conference presentations with only abstract:**

1. **Szabó, Noémi (2018).** Cross-linguistic interaction in third language learning”. International Conference “Multiculturalism and Diversity in the 21st century” in Beregovo, Ukraine, 27-28, March 2018.
2. **Szabó, Noémi (2018).** The impact of cross-linguistic awareness on third language acquisition. Annual Spring Wind Conference (DOSz) in Győr, 4-6 May, 2018.
3. **Szabó, Noémi (2020).** Assessment of Hungarian Pupils’ Foreign Language Knowledge in the Primary School Context. 1<sup>st</sup> ICMIAR.2020.12 December 2020. Candelaria, Quezon, Philippines (online)
4. **Szabó, Noémi (2020).** Teachers’ reflections on teaching foreign languages in the Hungarian primary school context. Kaposvár, 3<sup>rd</sup> October, 2020. 13. Képzés és Gyakorlat Konferencia, Neveléstudomány- Új válaszlehetőségek az új évezred kihívásaira. (online)
5. **Szabó, Noémi (2020).** Teachers’ Language Awareness and Students’ Proficiency in the Hungarian Foreign Language Classroom. 9<sup>th</sup> Interdisciplinary Doctoral Conference. 27-28<sup>th</sup> November, 2020. (online)
6. **Szabó, Noémi (2021).** Multilingual Language Assessment in a Hungarian Primary School. The 4th International Conference on the Future of Education “Educational Innovations: The Future of Education” 2021. 12 – 13 August 2021
7. **Szabó, Noémi (2022).** Multilingual awareness in third language acquisition. Celebrating Hungarian Science (MTÜ): The Road to Understanding the World, 2022.11.14-15. University of Pannonia.
8. **Szabó, Noémi (2023).** Multilingual Assessment of Hungarian Pupils in the Primary School Context. Celebrating Hungarian Science (MTÜ): “Humanities: Responses to global challenges”. 2023.11.27-28. University of Pannonia.