A Longitudinal Study on the Interaction between Secondary-school Students' Language Aptitude, Musical Aptitude and English Language Development

Doctoral (PhD) Dissertation

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Abstract

Cognitive and affective variables are key factors in foreign language learning. In this longitudinal research I aimed to explore how and to what extent language aptitude, music aptitude, motivation, and engaging tasks contributed to my secondary-school students' learning of English.

In the first part, I present a brief overview of the constructs examined in the dissertation: first, language learning motivation and empirical research on it. I focus on how it was defined, and what the main periods were in the conceptualization of motivation. Then, I focus on the constructs of music and language aptitude and the most important batteries of these two domains in detail to show how the two variables were conceptualized in a historical context. An overview on Computer Aided Language Learning closes the first part reporting some empirical results.

The second part of the dissertation comprises three empirical studies: a single case study and two multiple case studies. In each study I aimed to find the underlying factors impacting students' English language learning development over time. The first study is an exploratory single case study of a musically and linguistically gifted successful EFL learner. The uniqueness of this study was the retrospective approach: first, I noted the participant's excellent results on English proficiency tests and then I examined her language and music aptitude test results. In the second study I investigated how two groups of my high-school students (Group A grammar school, N=12 and Group B vocational school, N=12) benefited from playful and engaging tasks in a three-month treatment period. The third study is a longitudinal classroom-based research on the development of language aptitude and musical aptitude and English skills in two groups of my students from May 2017 to February 2021. Group A was the same group in the second study, whereas Group C included eight grammar-school students.

Findings of the three studies were in line with the previous research. Both language aptitude and music aptitude as well as motivation contributed to English language learning to a different extent in the two groups.

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I would like to express my gratitude to my supervisor Professor Marianne Nikolov for her guidance, thoughtful advice, and wisdom throughout my university studies. Without her support, I would not have started and completed this dissertation.

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I acknowledge the help I got from Bence Vass at Faculty of Music at the University of Pécs and I am grateful to Erika Turmezeyné Heller and István Ottó for allowing me to use their validated music and language aptitude test batteries in my research.

I thank my colleagues at my secondary school, especially headmistress Mónika Batta for granting my Fridays off during my doctoral studies. Special thanks go to all my students, especially those who participated in this dissertation.

Finally, I would like to thank my family for their patience and support over the years, my wife Karina and my children, Gergő and Csenge.

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List of abbreviations and acronyms

CEFR Common European Framework of Reference for Languages

CALL Computer Assisted Language Learning

EFL English as a Foreign Language

GPA Grade Point Average

GS Grammatical Sensitivity

ID Interval Discrimination

ILL Inductive Language Learning

HMAT Hungarian Music Aptitude Test

MD Meter Discrimination

MENYÉT Hungarian Language Aptitude Test (Magyar Egységes Nyelvérzékmérő Teszt)

PC Phonetic Coding

PD Pitch Discrimination

RL Rote Learning

Rationale for the study

'Music is a language.
It's a memory of the cosmic system, a
memory of past and future.
Above all it's science not entertainment.'
(Evangelos Odysseas Papathanassiou: Vangelis cited in Griffin, 1994, p. 65)

I still remember the afternoon when my mother took me to my first extracurricular English lesson in the late 70s, I was about seven. She believed learning English would be useful for me in the long term. There were about twelve students in a small classroom without traditional students' desks. We sat in a circle, and we were primarily engaged in activities we enjoyed, but what made these classes special was the teacher's enthusiasm and innovative approach to teaching. He taught us traditional English folk songs and accompanied his singing with an acoustic guitar. I remember we all loved his lessons not just because of the positive, relaxed atmosphere but because of the playful method he applied. We moved to a small village soon, so my first encounter with the English language was short-lived, but even after 40 years I still remember both the lyrics and the songs we learned, for example, "My Bonnie lies over the ocean". Melody and lyrics in English were always linked together. Later in my university studies I realized that many contributing factors to promote successful language learning were present in those early English language lessons (parent's role, teacher's personality, age of onset, engaging and meaningful activities, innovative approach to language teaching). Even though I could continue my English language studies many years later in secondary school, my first impression of English positively determined my later relationship with the English language as a learner and later as a teacher of English.

As an English as a foreign language (EFL) teacher, I have been trying to advocate for students to find English learning valuable and interesting. During the past 17 years, I have taught many students who have achieved good results in learning English. In addition to teaching English, I have played music with several students in school programs and at local events. I found that most of the students who played music were also good at English. This simple observation did not satisfy my curiosity, so I looked for evidence. I found studies on

this topic scarce, hence the decision to explore the realm of language and music aptitudes and their role in English language learning in a secondary school context.

The link between a good ear for languages and a good ear for music proposes a key role of the auditory system in these two domains. Both language and music aptitude are general constructs, consisting of several auditory skills (e.g., pitch discrimination, interval discrimination, meter discrimination, and phonetic discrimination) and cognitive skills (grammar sensitivity, inductive reasoning, and rote learning). This dissertation is meant to contribute to applied linguistics by exploring these relationships as well as among other individual differences and the learning of English in a secondary school context in Hungary. Many studies have examined the relationships between language aptitude, motivation, and other variables in language learning (Csapó & Nikolov, 2009; Csizér et al., 2006; Nikolov & Ottó, 2006; Hild, 2007; Sáfár & Kormos, 2008; Gardner, 2010). Researchers have investigated the connection between music aptitude and language proficiency (Marques et al., 2007; Posedel et al., 2012; Milovanov, 2008, 2010; Christiner & Reiterer, 2013, 2015; Slevc & Miyake, 2006; Patel, 2008). However, to my knowledge, no classroom study has so far used validated Hungarian language and music aptitude tests together in a Hungarian secondary school context. Findings are even more interesting in the light of longitudinal enquiries integrating students' extramural activities and classroom tasks.

As will be demonstrated, the results tended to meet my expectations and I have learnt a lot about my own work and my students' learning over the years of implementing the studies included in the dissertation. Even though the findings cannot be generalized, as they are related to the small groups I taught, now I understand the underlying language learning processes better and I hope my students have also benefited from being involved in my research project.

Vangelis was a successful Greek composer and multi-instrumentalist who devoted his life to his passion: composing music and painting. He did not receive any formal education in music; still, his atmospheric soundscapes made him one of the best contemporary film composers of our time. It is less known that Vangelis spoke English and French besides his mother tongue, Greek. He had good ears for music, and he was good at speaking languages. His words in the quotation reflect his philosophy: music is a language. This dissertation explored possible relationships between these two domains. I would like to dedicate my work to the memory of this extraordinary talent, whose music I listened to extensively while writing this dissertation.

An overview of the dissertation

Successful foreign language learning is impacted by multiple variables (Dörnyei, 2005; Deci & Ryan, 2002). Cognitive and affective variables greatly influence second language (L2) learners' language development. These individual differences contribute to learning a new language to a different level and these are what I examined with my students learning English at a secondary school. I aimed to look into how my students' cognitive abilities, their motivation and engagement with tasks they did in and outside their English classes, and other factors contribute to how their English proficiency developed over an extended period.

The dissertation consists of eight chapters in two parts. Part I (chapters 1 to 4) offers the theoretical basis for the empirical studies (chapters 5 to 8) in Part II. In the first part, I overview current knowledge on the most influential cognitive and affective variables interacting in language learning. I provide insights into how music aptitude and computer assisted language learning (CALL) have been related to the processes and results of language learning.

Chapter 1 explores how the construct of language aptitude was defined, measured, and how results of various studies have been used over the years. Chapter 2 presents a less frequently researched variable in connection with foreign language learning and second language acquisition (SLA), the potential role of music aptitude in learning an additional language. Chapter 3 focuses on the construct of motivation and how its multiple conceptualizations impacted various aspects of research into L2 learning. The use of technology is the focus of chapter 4, in which a concise overview of game design elements is given.

Part II comprises three empirical case studies involving my students I have worked with over the past years. Chapter 5 is an exploratory single case study; it focuses on a talented language and music learner. This retrospective analysis shows how her English proficiency was related to her language and music abilities in study 1. Study 2, in chapter 6, analyzes and discusses the interactions between innovative, playful, and engaging tasks on grammar school (N=12) and vocational school students' (N=11) listening and reading comprehension scores in English and their language aptitude. Chapter 7 comprises Study 3, a longitudinal classroom-based study on the development of my students' language aptitude, musical aptitude, and English skills in two grammar school groups (N=10 and N=8). It also presents which extramural activities and classroom tasks students found the most enjoyable and engaging during the period between June 2020 and February 2021 when we were forced to work in new ways due to COVID19.

To provide a picture of the studies I conducted, I compiled Figure 0.1. It describes the three empirical studies (Study 1 – Study 3 on the left), the data sources color coded for the same instruments consistently. The top of the figure indicates each point of measurement from May 2016 to February 2021. Participants of the three studies are marked as follows: Ⓢ=Single case study, Ⓐ= Group A (N=12 in study 2, N=10 in study 3), Ⓑ=Group B (N=12), Ⓒ= Group C (N=8), Ⓣ=teacher.

Figure 0.1

Details of participants, data collection instruments, and timeframe of three studies
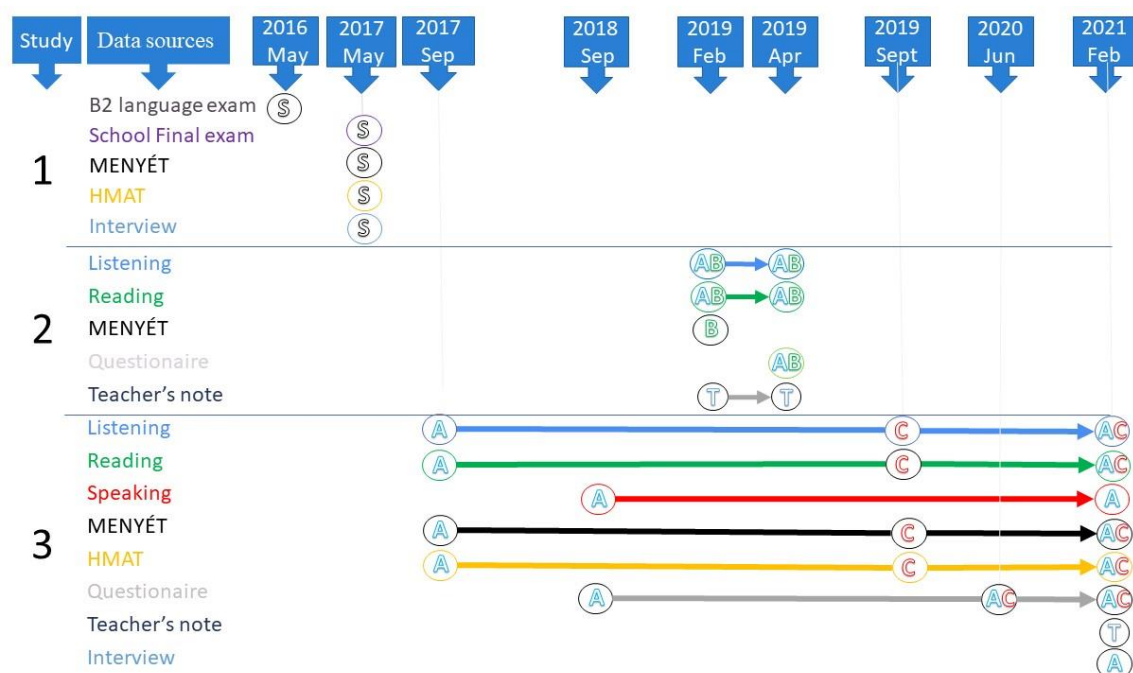
The Hungarian language aptitude test (MENYÉT) connects all studies in this dissertation, as each study investigates the relationship of language aptitude and English language proficiency. English language proficiency was measured by students' perceptive skills (in Study 1, Study 2 and Study 3), and as productive skills (in Study 1: speaking and writing, Study 3: speaking only). Besides MENYÉT, other data collection instruments were also used. The Hungarian Music Aptitude Test (HMAT) measured music aptitude in study 1 and study 3. For English proficiency different validated tests were used: in study 1, a B2 language exam and the school-leaving school exam (receptive and productive skills), in Study 2 only receptive skills of the Hungarian Authority tests at A2 and B1 level; whereas in Study 3, listening and reading comprehension tests of the Hungarian Authority tests at B1 and speaking abilities of the final school exam's oral test were used. For triangulation, each study was accompanied by an interview (Study 1) or the teacher's notes and a questionnaire in

Study 2 and Study 3. Figure 0.2 illustrates the empirical studies from the point of view of the participants. At first, I believed Figure 0.1 would be suffice for this purpose, but then I realized that another approach could be more helpful to visualize the points of measurement for each group. Coding is the same as in Figure 0.1. The relevant sections of the timeframe for each study are used for additional help.

Figure 0.2

Overview of groups, data collection instruments, English language skills and timeframe of studies
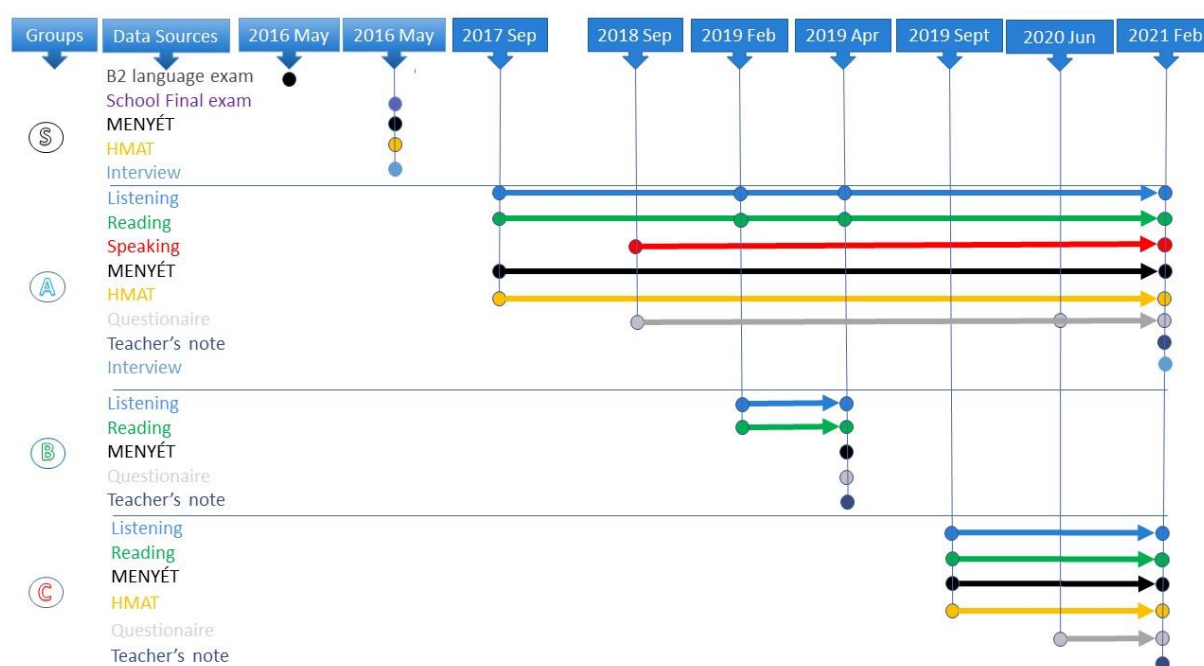
While Figure 0.1 and Figure 0.2 graphically represented the structure of Study 1 – Study 3, Table 0.1 to Table 0.3 present the research questions and the method of analysis. The first column shows the focal points of Studies 1-3, the second one indicates the numbers of participants (Group A = Grammar school students in cohort 1 September 2017-Feb 2021, Group B = vocational school students in cohort 1 between September 2017-May 2021, Group C = grammar school students in cohort 2 September 2019-Feb 2021). The third column comprises the research questions, and the fourth one the time of the data collection. Data sources can be found in the fifth column and the last column presents the methods of analysis.

Table 0.1

The structure and contents of Study 1

Study 1	N	Research questions	Time of data collection	Data sources	Methods of analysis
An exploratory single case study of a musically and linguistically gifted successful EFL learner Maggie.	N=1	Q1 How do music aptitude and language learning aptitude interact in a student's life?	May-2016 May 2017	♪ Language aptitude test (Ottó, 2002) ♪ Music aptitude test (Turmezeyné Heller, 2007)	♪ Descriptive statistics
		Q2 How does the participant evaluate her strengths in language and music learning?		♪ EFL proficiency tests ♪ End of semester school grades in EFL ♪ Semi-structured interview	♪ Content analysis

Table 0.2

The structure and contents of Study 2

Study 2	N	Research questions	Time of data collection	Data sources	Methods of analysis
How two groups of high-school students benefited from playful and engaging tasks	N=12 (Group A) N=11 (Group B)	Q3 How did students Groups A and B benefit from doing innovative tasks?	Sept-2017-April 2019	♪ Observation notes ♪ EFL proficiency tests ♪ Language aptitude test (Ottó, 2002)	♪ Content analysis ♪ Descriptive statistics ♪ Correlational analysis
		Q4 How did students perceive their progress in English after the treatment period?		♪ Questionnaire on how students self-assessed their progress in English	♪ Content analysis

Table 0.3

The structure and contents of study 3

Study 3	N	Research questions	Time of data collection	Data sources	Methods of analysis
A longitudinal classroom-based study on the development of language aptitude and musical aptitude and English skills in two groups	N=10 (Group A) N=8 (Group C)	Q5 How did students' scores change over the years on the components of the language and music aptitude and language proficiency tests? Q6 What is the relationship between participants' music aptitude, language aptitude, and their level of English language proficiency over the years?	September 2017-Feb 2021 for Group A	♪ Language aptitude test (Ottó, 2002) ♪ Music aptitude test (Turmezeyné Heller, 2007) ♪ EFL proficiency tests	♪ Descriptive statistical analysis ♪ Correlational analysis
		Q7 What is the relationship between participants' extramural activities and their level of English language proficiency over the years? Q8 How did students assess classroom and online tasks?	September 2019-Feb 2021 for Group C	♪ Questionnaires on participants' extramural activities, in class and online tasks how they coped challenges during COVID 19 filled in by the students ♪ Semester school grades in EFL ♪ Language aptitude test (Ottó, 2002) ♪ Music aptitude test (Turmezeyné Heller, 2007) ♪ EFL proficiency tests ♪ Interview	♪ Descriptive statistical analysis ♪ Correlational analysis ♪ Qualitative content analysis

Chapter 1 -   Language aptitude

1.1 Introduction

While the general definition of aptitude is consistent, the more specific language aptitude construct has been reconceptualized over the decades thanks to developments in neuroscience, psychology, and SLA. Language aptitude is a complex construct. It consists of several cognitive factors and abilities contributing to language learning (Carroll & Sapon, 1959, as cited in Dörnyei, 2005 p.38). Since the so-called classic Carrollian period, many scholars have questioned its definition, relevance, components, predictability, role, and stability. During the history of language aptitude, the construct once considered monolithic and static has been transformed into a more flexible and dynamic one. I go through the most essential phases of language aptitude in this part. First, I present the definition and the construct of language aptitude, its components, and changes in the original concept. Then, I describe the most crucial language aptitude tests, including their strengths and weaknesses.

1.2 Definitions of language aptitude

In this section, I present different interpretations of language aptitude, and I also clarify two similar terms: ability and aptitude. The term language aptitude has been defined in various ways: "natural ability or skill " (Oxford Advanced Learner's Dictionary, 1991 p.49) and "basic abilities that are essential to facilitate foreign language learning" (Carroll & Sapon, 1959, p.14). John B Carroll (1993, p. 8) identified ability as "the possible variations over individuals in the liminal levels of task difficulty at which, on any given occasion in which all conditions appear favorable, individuals perform successfully on a defined class of task" and he regarded ability as 'a trait to an extent that it exhibits some degree of stability or performance even over relatively long periods of time" (Carroll, 1993, p.7). According to Carroll, aptitude is "an individual's initial state of readiness and capacity for learning a foreign language, and probable facility in doing so [given the presence of motivation and opportunity]" (1981, p. 86). He believed that "cognitive abilities are at least relatively stable and relatively resistant to attempts to change them through education or training, and at the same time are possibly predictive of future success, they are often regarded as aptitudes" (Carroll, 1993, p.16). Thus, in his view, aptitude is a kind of ability, which is stable, latent, it shows resistance to training, and is capable of predicting the rate of learning. He also stated that "I regard the term ability as entirely neutral and even uninformative as to whether any given ability is an aptitude or an

achievement" (Carroll 1993, p.16). In contrast to Carroll, Reber (1985) interpreted ability as follows: "tests of aptitude are, in reality, tests of performance (ability) and interest. The distinction in usage comes from the notion of making prediction about future achievements" (1985 p. 50). Gardner and Lambert (1972, p. 2) believed that language aptitude is an exceptional talent, 'a knack' for learning a foreign language. Cronbach and Snow (1977) argued that aptitude depends on environmental factors, conditions, and tasks. Oxford (1990) proposed to use the dictionary definition of language aptitude according to which it is: "a natural tendency or inclination; an ability, capacity, or talent; a quickness to learn or understand." (p.68).

Gardner and McIntyre (1992) described aptitude similarly and compared it to a "cognitive sponge" as it integrates new knowledge and skills with those acquired previously. Robinson (2005), in line with Cronbach and Snow (1977), also defined aptitude as a process-oriented but dynamic construct including "cognitive abilities information processing draws on during L2 learning and performance in various contexts and at different stages" (p. 46). Ellis stated that language aptitude is a "special propensity for learning an L2" (Ellis, 1994, p. 494).

Dörnyei concluded that ability and aptitude are the same: "Although some scholars distinguish between ability and aptitude, in typical practice the two are used synonymously" (2005, p. 32). Additionally, he pointed out that "language aptitude is what language aptitude tests measure" (Dörnyei, 2005 p. 35) hinting at the variety of definitions and tests. Therefore, as was outlined, the definition of language aptitude has been the subject of change from its inception. As straightforward as might have been seen in the 50s, it has been defined as complex and ambiguous in the 21st century. Dörnyei (2015, p. 38) gave a comprehensive picture of the current state of the concept of aptitude:

> Strictly speaking, there is no such thing as 'language aptitude'. Instead, several cognitive factors make up a composite measure that can be referred to as the learners' overall capacity to master a foreign language. In other words, foreign language aptitude is not a unitary factor but rather a "complex of basic abilities that are essential to facilitate foreign language learning" (Carroll & Sapon, 1959, p.14); thus, the concept concerns a variety of cognitively based learner differences.

In this text, I use a modern working definition for language aptitude, which emphasizes that the construct is dynamic, it interacts with the environment, and language aptitude is not stable, as previously thought, but it can be developed (Sternberg & Grigorenko, 2002).

1.3 Giftedness

Giftedness and talent have been in the focus of psychologists for a long time and have been related to several factors. Renzulli & Delcourt (1986) found three requirements for someone to be talented: above-average ability, high levels of task commitment, and high level of creativity. He claimed that under educators' guidance, these three components' interactions result in giftedness.

Czeizel (1992), Hungarian genetics, based his talent model on Renzulli's three-factor model. Czeizel kept motivation and creativity, but instead of Renzulli's above-average ability, he proposed distinguishing two more specific abilities: the general intellectual abilities and specific cognitive abilities. In his interpretation, language aptitude, inductive thinking, the rate of learning new words, memory, and spatial orientation are all crucial elements of the specific cognitive capacity (p. 67). The overlap of the four abilities may manifest in an extraordinary result. Czeizel (1997) expanded his four-factor genetical model with four +1 external factors: family, peers, education, society, and fate. Fate represents mental health and luck, all requirements for a talent. The overlap of the four abilities and the interaction of external factors all contribute to the manifestation of an extraordinary result. In his interpretation, a gifted person means the potential of talent, the established gifted person is a talent, and the exceptional talented person is the genius.

Gagne (2000) placed giftedness in the top 15 percent of peers and differentiated five aptitude-related elements: intellectual, creative, social-affective, sensorimotor, and other factors. In his view, language learning is a natural ability that may evolve into talent through hard work and practice. According to Gagne, giftedness and aptitude are the same concepts. Giftedness was closely tied to IQ; Sattler (2001) claimed that children over IQ 130 are gifted. Some scholars consider giftedness an innate and biologically set characteristic. In their terms, giftedness and aptitude are interchangeable (Biedron & Pavlak, 2016). In contrast, Herdina and Jessner (2002) found that giftedness is dynamic and can be developed in their Dynamic Model of Multilingualism. Gagné (2005) and Seither et al. (2017) also found that high aptitude is not static and can develop further with training. Mercer (2012) distinguished potential of giftedness from achieved giftedness of a child.

1.3.1 Language giftedness

Calling someone talented or gifted can be subjective, although objective measures like academic achievements and test results can help define the terms better. A component of talent common in all definitions is a remarkable achievement in a specific field. One manifestation of language giftedness is learners' ultimate attainment. Native-like competence was investigated by Skehan (1998) focusing on gifted language learners who, even after the critical period, can learn a language at a native-like level at a quicker rate than others. Dörnyei and Skehan suggested that aptitude is "a specific talent for learning foreign languages which exhibits considerable variation between individual learners" (Dörnyei & Skehan, 2003, p. 590).

1.3.2 Memory-related research in talented learners

Memory plays an essential part in language learning, and studies examining talented language learners focus on this crucial ability. Geschwind and Galaburda (1985) studied the lateralization of the brain and claimed that participants in their study performed better on verbal than non-verbal tasks and possessed phenomenal memory. Schneiderman and Desmarais (1988) used MLAT's number learning (measuring memory and auditory capacity), phonetic script (the ability to associate sounds and symbols), and paired associates (measuring rote memory) tests. He found that participants had an exceptional memory.

Obler and Fein (1988) also used MLAT in a case study and found that the participant had extraordinary long-term memory; however, his music ability was just average. The study also pointed out that the talented man had a peculiar ability to pick up foreign accents. They concluded that his exceptional talent relies on his superior verbal memory, high motivation, and short-term phonological memory.

1.3.3 Auditory system-related research in talented learners

Other studies focused on the phonological abilities of talented language learners. When investigating ultimate attainment in pronunciation, scholars are divided. Moyer (2004) researched the phonological aspect of giftedness. Lenneberg's (1967) Critical Period Hypothesis claimed at around the age of thirteen, the brain lateralization is completed, and reaching that ultimate attainment in native-like pronunciation is extremely difficult. It is problematic to define the term native-likeness objectively. Hill (1972) claimed that productive

skills like pronunciation, stress on syllables, prosody, timing, and articulations are the characteristics of native-like competence.

1.4 Carroll's constructs of language aptitude

Language learning aptitude research was founded on the pioneering work of Carroll and Sapon in 1959. They followed the traditional psychometric approach to find components that affect language aptitude. First, they designed tests they believed could predict language learning success. Based on the results of 5,000 participants with factor analysis, they selected those tests which did not show relationship with each other and successfully predicted language outcomes (Carroll & Sapon, 1959). The analysis identified the following four abilities: (Carroll, 1981, p. 105):

- Phonetic Coding: The first ability is responsible for coding phonetic material: "the ability to identify distinct sounds, to form association between those sounds and symbols representing them, and to retain these associations".
- Inductive language learning is a pattern-based cognitive ability allowing learners "to infer or induce the rules governing a set of language materials, given sample language materials that permit such inferences".
- Grammatical Sensitivity is the ability responsible for learning grammar, "to recognize the grammatical functions of words (or other linguistic entities) in sentence structures".
- Rote learning is "the ability to learn associations between sounds and meanings rapidly and efficiently, and to retain these associations".

Based on these abilities, Carroll (1981, pp. 83-86) pointed out the following five characteristics of language aptitude:

(1) it is a separate entity and has no relation to other ID variables such as motivation, anxiety, and intelligence

(2) resistant to external influence

(3) predicts the rate of foreign language learning

(4) relies on formal instruction where learners make "a deliberate effort to learn a foreign language"

(5) it is the "initial state of readiness" for learning a foreign language.

It is important to remember that the construct was conceived in the era of behaviourism, when the audio-lingual method was dominant, based on dialogues, repetitions, and drills. Some of

the criticism touched upon the relevance of aptitude in different learning conditions than the audio-lingual method.

1.4.1 Reflections on Carroll's conceptualization of aptitude

Carroll's conceptualization of aptitude created ground for debates for many years. Here I present how researchers reflected on Carroll's five points of language aptitude.

1.4.1.1 Language aptitude vs other IDs. Carroll's first characteristic point of aptitude (1) was another point of debate among researchers. Carroll's claim that aptitude is independent from intelligence and other factors were in line with other scholars' proposal (Sparks & Ganschow, 2001); however, earlier studies suggested a relationship between aptitude and intelligence (Gardner & Lambert, 1972; Skehan, 1981). In a synthesis, Li (2016), after conducting a meta-analysis examining the distinctiveness of language aptitude, came to the following conclusion: "aptitude was independent of other cognitive and affective factors: it was distinct from motivation, had a negative correlation with anxiety, and overlapped with, but was distinguishable from, intelligence" (p.1).

1.4.1.2 Resistant to external influence. One of the central debates among aptitude scholars is the stability of L2 aptitude. Carroll (1981) was positive that language learning aptitude does not fundamentally change during one's lifetime. As early as 1969, Politzer investigated if training on cognitive tasks could influence language aptitude results. His and many other scholars' (Pinker, 1994; Skehan, 1991, 1998) findings aligned with Carroll's original concept: language aptitude was insensitive to external influence, and previous language learning experience did not significantly affect language aptitude. Skehan and Ducroquet (1988) deducted language aptitude stability from the findings of the Bristol Language Project. They compared the original findings of the Bristol Language Project with their results ten years later, which indicated significant correlations between first language test scores and aptitude scores. According to these results, if first language development showed significant correlations with foreign language learning aptitude, the latter must be relatively stable. However, other experts claimed that aptitude is not stable. Eisenstein (1980), in her research, found that bilingualism in 92 college students had a positive impact on their language learning aptitude. McLaughlin (1990, p. 173) found that "aptitude should not be viewed as a static personality trait; novices can become experts with experience." Grigorenko

(2002) was of the same opinion; she also claimed that language aptitude is not innate, and learners' experience can influence their language aptitude. In the Hungarian context, Sáfár and Kormos (2008) investigated the stability of language aptitude in two groups of Hungarian students: an intensive language training group and a control group. They found that language aptitude changed significantly between the two measurement points in both groups. In the case of intensive language learners, the hidden sounds subtest and the total language aptitude score differences were significant between the two measurement points. Their results indicated that language aptitude is not stable, and intensive language learning can significantly modify language aptitude scores in Hungarian language learners.

1.4.1.3 The role of language aptitude. There are two main research paths in language aptitude studies. One examines the relationships between aptitude and learning outcomes; other studies investigate relationships among ID variables and language aptitude (Li, 2019). It is essential to state that language aptitude's predictive power cannot measure if a learner can or cannot master a language, but it is "predictive of how well, relative to other individuals, an individual can learn a foreign language in a given amount of time and under given conditions" (Carroll & Sapon, 2002, p. 23). The traditional concept belongs to Li's first category to predict the length of time required for individuals to learn a foreign language. Positive and significant relations were found between language aptitude and language proficiency in many studies (e.g., Grigorenko et al, 2000; Ehrman & Oxford, 1995: Nikolov & Ottó, 2006).

Other scholars investigated language aptitude as a predictor of ultimate language attainment. DeKeyser (2000) stipulated that a high degree of language aptitude is required for adults to reach a high level of ultimate attainment in L2. Abrahamsson and Hyltenstam (2009) tested DeKeyser's hypothesis by selecting 42 near-native speakers of Swedish: 31 were considered late learners, as they started learning Swedish after age twelve. The other group consisted of eleven participants who started to learn the language before age twelve. An additional 15 native speakers were selected as a control group. His results were in line with those of DeKeyser's; late Swedish language learners' mean scores were 64.9, whereas early learners reached 57.6. Abrahamsson and Hyltenstam reported that the difference between the two groups was significant.

1.4.1.4 Formal vs informal learning. Krashen (1981) pointed out that language aptitude is only relevant in classroom learning in formal learning contexts, and it does not apply to natural language acquisition. He explicitly stated that "what is considered second, or

foreign language aptitude may be directly related to conscious learning' (Krashen, 1981, p.158). Many scholars challenged Krashen's view: a study by Reves (1982, as cited in Skehan, 1998, p. 196) investigated two groups in Israel, in one group Arabic learners studied English in formal classroom settings, while the other group studied Hebrew in naturalistic contexts. He found that aptitude predicted language learning success in both groups.

Other scholars (Ellis, 1994; Ehrman, et al., 2000; Skehan, 1991) also refuted Krashen's criticism and found aptitude predictiveness equal in naturalistic and formal settings. Oxford & Ehrman (1995) research focused on older-age learners who participated in communicative teaching. Her results also indicated a significant relationship between language aptitude and language proficiency. Robinson (1995) also stated that aptitude is applicable in a naturalistic language context, but he found it was more sensitive in formal language learning. Harley and Hart (2002) went even further when they proposed that language aptitude predictive power is manifested more in naturalistic language learning than in instructed context.

1.4.1.5 The common characteristics of language aptitude. Rysiewicz (2003) claimed that most scholars agree on the following characteristics of language aptitude (based on Skehan, 1998, as cited in Rysiewicz, 2003, p. 3):

1. it is regarded as something of an exceptional capability in a given domain.

2. it is regarded as a potential, e.g., something capable of development.

3. it is an autonomous dimension independent of both affective (anxiety, motivation, attitudes) as well as of general cognitive factors.

4. it is independent of academic ability or intelligence, although it partially overlaps with these domains.

5. it is relatively stable over longer periods of time, not dependent on prior learning experience, not easily modifiable through training.

6. it is not a single, unitary capacity but a composite of several relatively independent cognitive abilities (componential/multi-factor structure).

7. it is always a better prognostic of L2 learning success than any other ID taken singly or in combination.

Except for points 3 and 5, all other characteristics are in line with the findings of studies presented in this literature review.

1.5 Language aptitude tests

In this section I give an overview of language aptitude tests used in the studies cited earlier.

1.5.1 The Modern Language Aptitude Test (MLAT)

The Modern Language Aptitude Test (MLAT) is the work of Carroll and Sapon (1959) and was based on Carroll's language aptitude concept. Carroll was asked to help the American army to develop a tool to select the best candidates who could progress the fastest in a one-week course in Chinese or Japanese. "The army and air forces were interested in getting more people who could attain mastery of one or more foreign languages. I mention this because in a sense that's the real origin of the MLAT, and the primary reason for funding my research in foreign language aptitude." (Stansfield & Reed, 2004, p. 49). His first battery could predict the results of Chinese language training with a correlation of between .80-.90. This success led to the development of MLAT. Carroll's MLAT is based on his four components of his aptitude model, and he constructed a battery consisting of five subtests.

   (1) Number learning
   (2) Phonetic script
   (3) Spelling clues
   (4) Words in sentences
   (5) Paired associates

(1) Number learning
Number learning, using a made-up language number from 1 to 4, includes the "tens" and "hundreds". Test-takers learn the new numbers and listen (phonetic coding ability) to the combination of numbers. Their task is to remember the numbers (rote learning ability) and combine them (inductive learning ability) according to the underlying rule.

(2) Phonetic script
This test taps into the construct's Phonetic Coding ability. Students compare the written and the audible form of symbols and choose the appropriate match from four options.

(3) Spelling clues
This test is based on phonetic coding abilities and first language vocabulary. Learners' task is to recognize the meaning of words with distorted or incomplete spellings; then, to choose the meaning of the closest to the distorted one from four options.

(4) Words in sentences

The words in sentences subtest measures learners' grammatical sensitivity; it is the third pillar of Carroll's language aptitude construct. In this subtest, test-takers are required to choose one word (or more words) from the test sentences containing five underlined words and find the match of the words' grammatical function (words).

(5) Paired associates

The fifth subtest is based on the fourth component of the Carrollian aptitude concept, as it measures rote learning. This part consists of three steps. First, learners memorize 24 words; then, there is a follow-up task allowing them to practice them; finally, they solve a recall task in which they recall the original words.

These five subtests measure five independent language learning abilities, and there is a time limit for the completion of each test. Over the years, scholars found MLAT to be a tool which is still the most reliable and most frequently used battery with a high predictive value of .40–.65 (Oxford & Ehrman, 1992), although several weaknesses of the battery have also been pointed out. For example, Rysiewicz (2008) found that Carroll's four-part construct components do not emerge equally in MLAT's five subtests.

Figure 1.1

My visualization of Rysiewicz's (2008) critique of the uneven distribution of Carroll's four-part components and MLAT's subtests
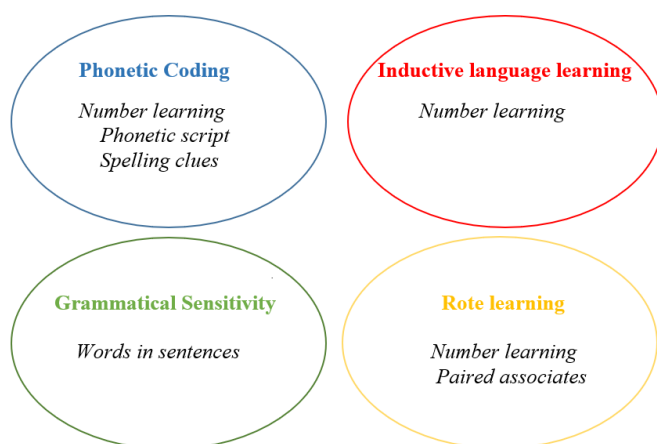
Note: While phonetic coding, grammar sensitivity, and rote learning are represented well in the phonetic script, words in sentences, and paired associates, respectively, inductive language learning only appears partially in the number learning tasks.

Skehan (1991) found that MLAT cannot discriminate well average successful test-takers, but it can do so only among the most and least successful ones. Additionally, Oxford and Ehrman (1992) claimed that MLAT is less valid for naturalistic language learning abilities. Even though MLAT was introduced in 1959, Li (2015), in his metanalysis review, sampled 33 FL aptitude studies (N=3,239) conducted between (1963 and 2013) and reported a statistically significant positive correlation (r = .34) between MLAT scores and ultimate L2 learning. These findings give strong support to the predictive validity of MLAT test scores in a range of contexts.

1.5.2 Polish MLAT (Test Uzdolnień do Nauki Języków Obcych – TUNJO)

Aptitude batteries are only valid and reliable if they are piloted and standardized on the native language of the test takers, and as MLAT was developed for native English speakers, each non-English-speaking nation must construct a test in their native language. One such test was developed for Polish speakers. Rysiewicz (2008) decided to keep the four original components of Carroll's construct of aptitude. Thus, the test of Aptitude for the Learning of Foreign Languages (Test Uzdolnień do Nauki Języków Obcych – TUNJO) adapted four tasks from MLAT: phonetic script, spelling clues, words in sentences and paired associates. Rysiewicz added a new artificial language task to compensate for the underrepresented MLAT's inductive language learning component. The adaptation process started in 2006 and was completed in 2007. In the adaptation, he transcribed MLAT's phonetic script and paired associates task to Polish, paraphrased spelling clues and words in sentences task, and the artificial language task was new and written in Polish. The test duration was shortened from MLAT's 60 to 45 minutes. Rysiewicz shortened the time required to complete his timed test by using fewer items: spelling clues included 30 instead of 50, words in sentences 23 instead of 45. TUNJO's predictive validity is .31, which is lower than the reported MLAT's value, which was seldom below .40 in studies measuring aptitude (Dörnyei, 2005). The author explains the relatively low predictive power of TUNJO by the sample population (the inadequate range of L2 proficiency abilities) and the design of his study (the new task had reliability issues, and the assessment of L2 proficiency was not uniformly reliable). Despite the low predictive validity of the Polish adaptation of MLAT Rysiewicz (2008) was hopeful of remedying flaws in later version of TUNJO.

1.5.3 Pimsleur's Language Aptitude Battery (PLAB)

Pimsleur's (1966), an American linguist's, approach to identifying abilities that could measure language aptitude was similar to Carroll's concept. He also constructed a psychometric test using factor analysis to identify components of his battery. PLAB is also a paper-and-pencil battery and is also a timed test (50 minutes). In his view, unlike MLAT, language aptitude is based on three factors: verbal intelligence, motivation, and listening ability. His test was administered to 6,000 students. This battery consists of six parts:

1. Grade Point Average
2. Interest
3. Vocabulary
4. Language Analysis
5. Sound Discrimination
6. Sound-symbol correspondence

(1) Pimsleur (1968) suggested that academic achievements in English, Mathematics, History and Science contribute to language aptitude; therefore, in his battery, he used the grade point average of four school subjects. (2) Introducing interest in his test also broke with the traditional Carroll's concept of language aptitude. Pimsleur considered that besides cognitive factors, affective variables could also shape language aptitude. In this part of the battery, students rate their interest in learning a foreign language on a 0 to 4 Likert scale, indicating options between rather uninterested to strongly interested. (3) The Vocabulary test measured test-takers vocabulary knowledge of their first language, based on Pimsleur's claim that first language vocabulary could predict vocabulary learning ability in a foreign language. (4) Inductive language learning is measured by the language analysis test. This is the equivalent of Carroll's grammatical sensitivity subtest, but Pimsleur used a language of the former Soviet Union, Kabardian. Test-takers have 12 minutes to study Kabardian sentences and words with their English equivalents. They learn how to construct 15 new sentences in Kabardian using these models. (5) Sound discrimination is tested on an unfamiliar language Ewe, from two West African countries, Ghana and Togo. Learners listen to audio material that teaches three words in Ewe. Their task is to identify three very similar sounding words from the 30 sentences they hear. Only level of the pitch (tone) and nasalization are different in Ewe words. (6) Finally, the auditory ability test is similar to Carroll's phonetic coding ability test. Examinees hear two or three-syllable non-existing words based on English sounds; then, they

mark the one they hear from four options on the answer sheet. This associative task measures the ability how well they can match the words they hear with the words they see in a written form.

Pimsleur (1966) reported that PLAB correlated moderately with Grade Point Average, listening comprehension (.54) and found a little weaker correlation with a reading comprehension part of the Pimsleur French Proficiency Test (.40). However, Curtin et al. (1983) found a weaker relationship between PLAB and English proficiency in their study examining 563 secondary school students (beginners N=311, advanced level students, N=252). The strongest correlation from among the six subtests was GPA with PLAB (.34) Stansfield (1988 p. 443).

Dörnyei and Ryan (2015) compared how Carroll and Sapon and Pimsleur conceptualized foreign language aptitude. They found that verbal intelligence in Pimsleur's test was similar to inductive language learning ability and grammatical sensitivity in the aptitude concept of Carroll and Sapon. Pimsleur's auditory ability was like Carroll and Sapon's phonetic coding ability. The novelty of Pimsleur's conceptualization was to add two new components into the construct of language aptitude: GPA and interest (motivation).

Even though MLAT and the PLAB are the two oldest batteries, Wesche (1981) found them practical tools for predicting students' achievement in language learning. Rysiewicz (2008, p. 576), after many decades the tests were first used, concluded that their "predictive power expressed in multiple correlations with achievement measures under intensive training conditions with homogenous groups has stabilized between 0.40 and 0.65." These correlations are impressive indeed and underpin the claim that aptitude tests are helpful for predicting the rate of learning a new language. However, new tests have also been developed since MLAT and PLAB entered the aptitude testing scene.

1.5.4 Cognitive Ability for the Novelty in Acquisition of Language – Foreign (CANAL-F)

Breaking with the traditional approach in aptitude research, Ehrman et al. (2000) based their new theory, called CANAL-F, on new grounds. Instead of using outcomes of cognitive factors, they integrated additional cognitive abilities predicting success in learning a foreign language. Grigorenko (2000) claimed that two new factors play a key role in language aptitude: "one of the central abilities required for FL acquisition is the ability to cope with novelty and ambiguity" (p. 392). Additionally, Sternberg's (1985) triarchic theory of intelligence is represented in CANAL-FT. According to him, intelligence consists of three

parts. The first is the individual's internal world, the second is their external world, and the third one concerns how the individual's internal world adapts to the needs of the external world. Grigorenko, Sternberg and Ehrman (2000) based their theory on four pillars:

(1) Knowledge Acquisition Processes
(2) Levels of Processing
(3) Modes of Input
(4) Memory Processes.

They stipulated that learners are required to follow specific processes for the learning of a foreign language. Five different points were distinguished (Grigorenko, 2000, p. 382):

- Selective encoding
- Accidental encoding
- Selective comparison
- Selective transfer
- Selective combination.

In the first process of selective encoding, learners need to differentiate between useful and useless information so that they find and exclude the less relevant information. As a second step, learners decide if the old information is relevant for the new task, as a third step they use their analytic and inductive skills to use the coded rules to the current task; as a final step, learners synthesize new information with the old one.

The CANAL-F test simulates how learners acquire a new language (Ursulu), focusing on a dynamic naturalistic language learning environment in its continuum. Ursulu is constructed from different world languages based on American linguists' and artificial intelligence engineers' grammatical, syntactic, semantic and lexical rules, but it does not resemble natural languages. Test-takers gradually get familiar with Ursulu, first vocabulary, then complex structures, and while they learn it, they are required to answer questions. Their ability is measured continuously based on their answers to the question.

The test consists of five parts, according to Grigorenko (2000, p.394):

- learning the meanings of neologisms from context (immediate and delayed recall), 24 items
- understanding the meaning of passages (immediate and delayed recall), 14 items
- continuous paired-associate learning (immediate and delayed recall), 60 items
- sentential interference (immediate and delayed recall), 20 items
- language learning rules (only immediate recall questions), 12 items

The test does not contain any audio material; test-takers only work with written and visual input. All items are in multiple-choice format, and the total points of the five parts is 130. Test administration is lengthy, as it taps into the dynamic language learning process. Each part lasts between 60-120 minutes, according to Derakhsan and Malmir (2021).

The CANAL-F test's validity and reliability were verified by comparing them to MLAT's results. Even though the two tests are very different, Grigorenko et al. (2000) reported high correlations between CANAL-F five parts and the corresponding parts of MLAT: they range between .53 and .56. As Grigorenko proposed, "the CANAL-F is a valid measure of FL aptitude, which, as expected, is related but not equivalent to both crystallized and fluid abilities" (Grigorenko et al., 2000, p.399).

1.5.5 LLAMA

A more recent test, LLAMA, (Meara, 2005) is partially based on MLAT (Carroll & Sapon, 1959), in a modern, computerized, and user-friendly version. It was developed at Swansea University in Wales and consisted of four subtests: LLAMA_B, LLAMA_D, LLAMA_E and LLAMA_F. They measure:

- vocabulary learning, 20 items
- sound recognition, 50 items
- sound-symbol associations, 20 items
- grammatical inferencing, 20 items.

It runs on mobile phones (iOS or Android) and computers. The graphical interface is straightforward to use, and a short manual is accessible in the top left corner, indicated by a book icon. Here I briefly describe the four parts of LLAMA version 3.0, released on 01.04.2020 at this website: https://www.lognostics.co.uk/tools/LLAMA_3/index.htm.

In the first part (LLAMA_B) test-takers are presented with 20 unfamiliar objects which can be easily described in any language. Moving the mouse over the images reveals the name of the objects. Test takers are given two minutes to learn these 20 new words; then a short test is run to measure their vocabulary learning ability. By clicking on the object on the screen, test takers identify, the software presents the word. This part is not timed; when they click a button in yellow, they can progress to the next word. After completing the vocabulary part, immediate score report appears showing the score out of the maximum 20.

LLAMA_D, on sound recognition, measures how well test-takers can recognize words in an unfamiliar language. The program plays words in a sequence; then, test takers decide if

the word is new or repeated. The test part is not timed so that examinees can progress at their own pace.

LLAMA_E, testing sounds and symbols, is similar to MLAT's phonetic coding subtest. Twenty-four blue buttons show two letters in an unfamiliar alphabet. Test-takers have two minutes to explore how the system works and make connections between the letters and the sounds. After the two minutes, the program switches to test mode and presents twenty blue buttons representing two-syllable words and test-takers click on the one they believe they heard. The maximum score is twenty, and the result is shown after completing the part. Meara (2020) claims that the underlying idea is to tap into learners' ability to "realize that letters do not always stand in for the sounds that you use in your first language. Part of developing a good accent in your foreign language is learning to recognize differences of this sort" (*LLAMA_B V3.0 Learning New Words LLAMA_B V3.0 Learning New Words the Manual Short Instructions LLAMA_B V3.0 Learning New Words*, n.d.)

LLAMA_F is the grammar interference test. First, the program presents twenty red buttons. Clicking on the buttons reveals a picture and a short sentence of 2-4 words in an unfamiliar language. After five minutes, the program starts testing but it is not timed, similar to the previous parts. The program shows a picture, and the examinees select the appropriate representation of the words written under 16 blue buttons. The maximum score is twenty, and the report immediately shows the result.

Rogers et al. (2017, p. 56) found that LLAMA tests "are robust and are not subject to external individual differences." They claimed that previous language learning experiences influence LLAMA vocabulary learning and grammar interference tests. They found that LLAMA was not suitable for younger learners. Critical studies, e.g., Bokander & Bylund (2020) found unsatisfactory results with the internal validity of the LLAMA battery. They claimed that only the sound recognition part (LLAMA B) "fit a latent trait model with sufficient accuracy." (p. 1).

The LLAMA aptitude test has not been standardized. Meara emphasized in the manual that LLAMA should not be used for high-stakes testing situations, as reliability and accuracy are warranted.

1.5.6 The Hungarian Aptitude Test: MENYÉT

The Hungarian Language Aptitude Test (HUNLAT), in Hungarian Magyar Egyetemes Nyelvérzékmérő Teszt (MENYÉT) was designed and validated by Ottó (2002). It is not a simple adaptation of MLAT (Carroll, 1959), the original battery served as a model for this battery. The test development project started as an MA, and it was shaped to its final form in 2002.

The battery is in Hungarian language and measures four components of language aptitude: (1) The hidden sounds subtest is similar to the phonetic coding ability in Carroll's MLAT. In this test, participants associate a sound with a symbol. They have to remember symbols representing speech sounds. Using this ability, examinees identify "distinct sounds, to form association between those sounds, and symbols representing them and to retain these associations" (Carroll, 1981, p. 105). There is a one to one correspondence between the visual and audio material in Carroll's phonetic coding subtest; however, Ottó did not simply adopt this subtest, but added some nonsense syllables to it (Kiss & Nikolov, 2005). This test comprises twenty items, and it takes 10 minutes to complete. Language analysis is the second subtest; it requires test-takers to rely on their inductive language learning abilities. For this subtest, Ottó used Pimsleur's PLAB (1966) language analysis part as a model. Participants select the translation of a Hungarian sentence from four versions of an artificial language by figuring out the rules from examples. The third subtest is called grammatical sensitivity. In this part of the test, there are two sentences in Hungarian: a key sentence in which there is one word in capital letters and a second sentence where five words are underlined. The participants' task is to find a similar function of the key word in the first sentence word (marked by capital letters) in the second sentence in the underlined words. The last component measures vocabulary learning: it is similar to Carroll's rote learning ability measuring the ability "to learn associations between sounds and meanings rapidly and efficiently and to retain these associations" (p. 105). Ottó used 24 Swahili and Hungarian word pairs. The test takers have five minutes to study them. After the learning period, they are given 20 Swahili words, and they are to select their Hungarian equivalents from five options. Each component of the test battery consists of 20 items; thus, the total score is 80.

1.6 Empirical research with MENYÉT

MENYÉT has been used in Hungarian context several times. Ottó and Nikolov (2003) used the battery in three groups: first year English majors, non-English majors and unemployed language learners. In their study, they investigated the three group's total and subtest's MENYÉT scores, the relationship between MENYÉT and learners' sociocultural background and other variables. They also measured the predictive power of the battery on the learner's English proficiency. The results fulfilled the requirements, English majors achieved the highest scores, followed by the non-English students, and the unemployed learners scored the lowest. MENYÉT scores correlated negatively with learners' age ($r = -0.45$; $p < 0.001$; $n = 127$). The older the learners were the lower scores they achieved. Another sociocultural finding was the relationship between the total score of MENYÉT and learners' mother education ($r = 0.29$; $p < 0.01$; $n = 124$). Learners' Grade Point Average and MENYÉT total and subtests did not show significant correlation. Finally, they found significant correlation between learners having state language exam and their MENYÉT scores (r partial $= 0.45$; $p < 0.001$).

In another study Nikolov and Ottó (2006) examined beginners and non-beginners English and German language learners' English and German proficiency and IDs and found that the best predictive factor was language aptitude in the case of English beginners ($r=0.52$, but for German beginners it was only the second most important factor ($r=0.39$) followed by German language learners GPA ($r=0.49$). For non-beginners students in both language groups aptitude was the second-best predictive factor (English $= 0.44$, German $=0.44$) while previous level of language proficiency was the best predictor (English $= 0.78$, German $=0.74$).

Hild (2007), in her case study, examined the response validity of MENYÉT's language analysis subtest with the help of think aloud protocol. She concluded that the 15-minute time frame for the language analysis subtest was sufficient.

Sáfár and Kormos (2008) used MENYÉT in investigating the relationships between language aptitude, language proficiency, working memory, phonological short-term memory, and the stability of language aptitude in a Hungarian bilingual school (intensive group) and a regular English language program school (control group) at two times of measurement. Students from both schools achieved high score on MENYÉT (intensive group 53.41 points first time 60.82 points second time, control group 58.38 points first time and 60.67 points at the second time). They found significant but low correlation between MENYÉT's total score and language proficiency ($r = 0.36$; $p < 0,05$; $n = 40$). They found a meaningful relationship

between MENYÉT's total score and working memory ($r = 0.36$; $p < 0,05$; $n = 40$); however, with phonological short-term memory and MENYÉT there was no significant relationship.

Kormos and Trebits (2012) examined how MENYÉT's components related to oral and written narrative tasks in a Hungarian-English bilingual secondary school in Budapest (N=44). More specifically, the relationship between language aptitude and lexical variety, syntactic complexity, accuracy, and fluency in two different oral and written narrative tasks. They found that:

> …aptitude components were differently related to linguistic measures
> of oral performance than to those of written production, and that the
> strongest positive link between aptitude and linguistic measures
> manifested itself in the cartoon description task, where students did
> not have to conceptualize the storyline. (p. 28)

A recent study (Yamashita, 2022) examined MENYÉT's language analytical ability (LAA) subtest's adapted English version (Schmitt, 2003) at a U.S. University. In his research, Yamashita (2022) claimed the LAA test was reliable (.78) and represented the performance of test-takers after removing the last item.

Batteries presented so far were designed for learners over age 15; however, it is worth mentioning that language aptitude tests have been developed for younger learners, too. Carroll and Sapon (1967) validated the MLAT-E, the Modern Language Aptitude Test-Elementary version. The Spanish version, MLAT-ES, was designed by Stansfield and Reed (2004). The Hungarian version of MLAT-E was developed and validated by Kiss and Nikolov (2005). The test is based on the components of the aptitude battery of Ottó (2002), but as the target population comprised young learners, the content was modified for the cognitive level of grade 6 learners. The final components of the battery focused on the following tasks (Kiss & Nikolov 2005. p.120):

- ♪ Phonetic coding (Associating sounds with written symbols), 15 items
- ♪ Grammar sensitivity (Identifying semantic and syntactic functions), 10 items
- ♪ Inductive language learning (Recognizing structural patterns), 11 items
- ♪ Rote learning (Memorizing lexical items), 9 items.

For practical reasons the number of items were reduced from the original MENYÉT's 80 to 49, and the amount of time required to complete the test battery was also shortened from 60 to 45 minutes. Except for the phonetic coding task, all other tasks were retained. For the phonetic coding part complex numbers were used from an artificial language called Klingon. This was the language used in an American series called Star Trek. They reported that the

test's predictive power was r=.634, (p<.01, N=398) and the battery is suitable for measuring young leaners aptitude. Kiss and Nikolov found that learners good at other school subjects performed better on the aptitude test. They also examined the relationship between foreign language aptitude, motivation, and English language proficiency. They found significant correlations (p<.01) between the test scores; however, language proficiency and language aptitude indicated a stronger relationship (.627) than language proficiency and motivation (.478). So, their findings on young learners were in line with previous studies on older students, as language aptitude was the best predictor for language learning success (Dörnyei & Skehan, 2003; Li, 2019).

1.7 Summary

For a while, researchers did not use aptitude tests, as they thought it was unfair to label learners as high or low ability. Aptitude studies have recently focused on the role of working memory. Hummel (2009), Yalcın et al. (2016) found weak correlations between language aptitude and working memory which indicates that the two constructs are separate. Li (2017) examined 24 studies in her synthetic review and claimed that working memory is less predictive than the more complex construct of language aptitude.

Aptitude tests predict the rate or speed of learning. If someone has low aptitude, they may develop at a slow rate, and would need a lot more practice than other students with higher aptitude. They may need a lot more motivation in the classroom not to lose their effort and become demotivated. Thus, I will give a short review of motivation studies in language learning; however, first another type of aptitude is discussed: music aptitude.

Chapter 2 -   Music Aptitude

2.1 Introduction

In the previous section I introduced language aptitude as the first pillar of my dissertation. In this section I review the construct of music aptitude, some notable batteries and the related concepts. Lastly, I show some empirical research on the interaction between music and language.

2.2 Definitions of music aptitude

Similar to language aptitude, the construct of music aptitude has changed over time. In the beginning, music aptitude was believed to be an innate trait. As Seashore stated, "when the proximate physiological threshold has been reached, practice is of no avail" (Seashore, 1919, p. 60).

Early on, music aptitude was described as a genetically determined static factor which could be predicted accurately (Stanton, 1922). The static nature of music aptitude was challenged over the decades by Lundin (1967) and Farnsworth (1969). Their studies pointed out that practice and training can change the level of music aptitude, thus, music aptitude cannot be fully innate. Lehman (1968) prosed that music aptitude is "the potential or capacity for achievement" (p. 8).

Azzara defined music audiation as "audiation is to music what thought is to language" (1991, p.106). A child may be born with a high degree of music aptitude, "but unless he receives appropriate early informal environmental influences, the potential he was born with will atrophy" (Gordon, 1981, p. 6). Karma (1973) divided sensory abilities into two parts: sensory discrimination and sensory capacities. For the latter he found that it is relatively static, and it predicts future ability well.

 Gordon differentiated two types: developmental and stabilized music aptitude. He also observed that environmental music plays an essential role, especially between age five and nine; the latter is a milestone in children' developmental stage of music aptitude. After this critical period, music aptitude stabilizes (Gordon, 1981).

2.3 Music aptitude tests

Music aptitude tests are based on the fundamental characteristics of sound: pitch, time, and intensity. When we identify someone's voice or a note on a musical instrument, we simultaneously sense the pitch (base frequency of sound), the timbre (the complexity of different pitches and the overtone content, which is often revered as tone color). The interaction of time and intensity result in rhythm. As music abilities are diverse their measurement requires specific tests.

Füller (1974, as cited in Dombiné 1992, p. 210) proposed four categories for music tests.
- Music aptitude test
- Music achievement tests
- Musical performance tests
- Musical taste and attitude.

2.3.1 The Seashore test (Measures of Musical Talent)

The first validated music aptitude test was conceived by Seashore. He represented those scholars who claimed that language aptitude consists of several abilities and these abilities are measured in his battery developed over 19 years of hard work. In his test Seashore (1919, in Dombiné 1992, p. 2) differentiated four capacities:

- sensory, the ability to hear music,

- motor, the ability to express music,

- associational, the ability to understand music,

- affective, the ability to feel music and express feeling in music.

His approach was to create a battery which could quantify the first, the sensory ability. The final test was published in 1919 to be used from age 10. It consisted of six subtests:
- Pitch discrimination: consisted of 50 items, participants decided if the first or the second sound was higher or lower.
- Loudness discrimination: the task was to indicate which sound was louder, 50 items measured the difference between the sense of sound insensitivity.
- Rhythm discrimination: In this 30-item subtest participant decided if the two consequently played music patters are different or identical.
- Time discrimination: 50 items measure if the participant can differentiate which sound was longer or shorter in time.

- Timbre discrimination: The aim of this 50-item subtest was to measure how well the participant can differentiate the timbre of a sound relatively to the intensity changes of its overtone content.
- Memory: the last subtest consisted of 30 items and was designed to measure short term memory. Participants were played a series of tones two times. When the melody was played for the second time, one note was changed, and the participant identified which tone was changed.

Mursell (1937) claimed that aptitude tests should be "work sample" (p.440) types. He believed that only those aptitude tests are successful and useful which measure the abilities required for the work. He agreed that Seashore's Measures of Music Talent test is theoretically true, but he argued that:

> It undertakes to measure, among other things, the sense of pitch and the sense of rhythm, on the theory that a good sense of pitch and a good sense of rhythm are important for musicians. No doubt the theory is quite true in a general sense, but specifically it is very much of a question whether the decisions about pitch and rhythm which one must make in taking the test are at all like those that a musician must make in his actual work. (p. 441)

From the increasing number of music aptitude tests, the most significant battery proved to be Gordon's (1965) Music Aptitude Profile. Gordon-Seifert (1994) also claimed that music aptitude cannot be regarded holistically, and his three-year longitudinal study further supported Seashore's results. The static feature of music aptitude with a battery measuring .77 longitudinal predictive validity settled the debate for a while. As all batteries were designed to measure music aptitude only from age nine, more and more tests were created to fill the age gap and measure children's music aptitude before age nine. These batteries could not provide valid and reliable results. Gordon further developed his battery, and the new version enabled him to measure children's music aptitude below nine. The Primary Measures of Music Audiation (Gordon, 1979) revealed that music aptitude is a product of both nature and nurture.

2.3.2 Colwell's Music achievement test (MAT)

MAT was developed in the USA in 1968 by Richard Colwell, and as a consequence of the reform in the Education system in 1994, it became popular. MAT measures two different larger domains of music abilities in four parts.

The aptitude related abilities were in part I.

- 𝄞 Pitch discrimination,
- 𝄞 Interval discrimination,
- 𝄞 Meter discrimination.

The achievement related areas were in part II-IV.

- 𝄞 major-minor mode discrimination,
- 𝄞 feeling for tonal center,
- 𝄞 pitch recognition,
- 𝄞 instrument recognition.

Colwell's (1968) battery was widely used because of its impressive reliability and validity values. MAT was reported the following reliability values: Part I and II .797 - .965, part III .460- .907 and .814-.883 for part IV. For construct validity, Colwell investigated each item and involved 635-2,421 participants to finalize the items. To increase the discrimination validity, the test took only 15 minutes to complete. The standardization was based on the results of 19,500 students. (Thurmezeiné Heller, 2007, p. 89. The first part has been used independently to measure music aptitude under the label of Music Elementary Test.

2.3.3 The Hungarian MAT

The Hungarian Music Aptitude Test (HMAT) was constructed by Turmezeyné Heller (2007). The Hungarian version of Colwell's (1968) MAT constitutes the first part of the original battery, the Elementary Music Test, measuring:

- 𝄞 Pitch discrimination (higher or lower sounds),
- 𝄞 Interval discrimination (interval distance, scalewise or leap)
- 𝄞 Meter discrimination (double or triple meter).

She chose to adapt Colwell's Elementary Music Test because it measured those innate music abilities which are independent of previous music training. The other reason why she chose to adapt only the first part was because the content of the other three parts substantially depended on the education system of the host country which largely differs from the Hungarian one.

She created the sound files and the test booklet for the Hungarian version (Turmezeyné Heller, personal correspondence May 29, 2017). The pitch discrimination test

has two parts. In the first one, there are 15 items. The participant has to decide if the second recorded sound is higher or lower than the first sound. The second pitch discrimination test comprises 10 items and the participant has to indicate the lowest pitch from a group of three pitches. The next part measures interval discrimination in two tests, containing 10 and 18 tonal patters and phrases, respectively. The task is to indicate if the pitches move scale-wise or leap. Finally, 21 items in the meter discrimination test measure the recognition of double or triple meter from a short music excerpt.

2.4 Music talent

Seashore (1915) claimed that "Musical talent, like all other talent, is a gift of nature — inherited, not acquired" (p. 1). Seashore (1919) pointed out that musical talent constitutes five measurable factors, but he only applied perceptive skills, musical sensitivity, in his test. In the second category he listed productive skills to express music. (see Table 2.1) He found musical memory as one of the main contributors for a musical talent.

> It is not merely a matter of recalling selections. Memory enters intricately into the stages of hearing, feeling and rendering of music. The learning process is one special aspect of memory. (p. 12)

Davidson et al. (1998) proposed that (1) A talented people possess genetically inherited structures; (2) there are early signs of talent; (3) talent forms only a potential for future excellence; (4) majority of people do not have a special talent; (5) talent prevails in a defined way (p. 406).

Table 2.1

Seashore (1919, p. 7-8) Elements of music talent

I Musical Sensitivity		II. Musical Action	III. Musical Memory and Imagination	IV. Musical Intellect	V. Musical Feeling
Basic capacities sense of:	Complex capacities sense of:	Natural capacity, the control of:			
1. pitch	1. timbre	1. pitch	1. Auditory imagery	1. Musical free association	1. Musical taste: likes and dislikes
2.intensity	2. rhythm	2 intensity	2. Motor imagery	2. Musical power of reflection	2. Emotional reaction to music
3. time	3. consonance	3. time	3. Creative imagination	3. General intelligence	3. Emotional self-expression in music
4. extensity	4. volume	4. timbre	4. Memory span		
		5. rhythm	5. Learning power		
		6. volume			

2.5 Empirical research on the interaction between music and language

The positive effect of using music in classroom contexts has been long recognized and applied in language teaching. Lo and Fai Li (1998) claimed that songs can create a relaxed atmosphere for learning where students feel more secure. Studies claimed that besides cognitive factors, affective factors also play an essential part in language learning and language skills can be developed by using songs in and/or out of classroom context (e.g. Rahman, 2005). Studies have been examining the relationship between music and language abilities. The positive effect of musical training on language skills has been pointed out in several studies. There are several ideas about the connection of these domains.

2.5.1 The impact of music on speaking skills

Active listening skills and fine discrimination of subtle differences between sounds are important skills that can be developed through music. Learning to sing folk songs and pop songs can provide practice with listening comprehension and pronunciation, which can then transfer to improvements in speaking skills (Spicher & Sweeney, 2007, p.11)

Seliger (1978) claimed that after around puberty the chance to reach native accent diminishes. Many studies examined the relationship between phonetic and music abilities.

Hyman proposed (2006) that language accent can be "stress accent" or "pitch accent". Patel (2008) proposed that people have two well defined sound systems. The linguistic system relies on timbre, while the music system is based on pitch and the overlapping characteristic is rhythm.

Studies have been written about the enhancing effect of music on perceptive skills, especially pitch processing and pitch discrimination. For example, musician and non-musician adults and children were participants in a longitudinal study. It revealed that music practice developed pitch processing both in music and speech (Besson et al., 2007). Nurture was found to be responsible for reading skills improvement and pitch discrimination (Moreno et al., 2009).

Prosody in foreign language (FL) knowledge plays a crucial part, as was shown in a study where the perception of Dutch word stress was influenced by the learners' musical characteristics (musical training, musical abilities, FL teaching methods using music (Degrave, 2016). There is a positive connection between pitch perception and pronunciation abilities in L2 (Posedel et al., 2012).

Milovanov et al. (2008) used the Seashore music aptitude test to examine two groups of children. In the group where participants had better pronunciation skills the Seashore test indicated higher pitch discrimination, better sense of rhythm and timbre tonality. In a later study, Milovanov et al. (2010) examined the relationship between Finnish adults' music aptitude and their pronunciation skills. They found a strong correlation ($r = -0.641$, $p = 0.001$) between general music aptitude and pronunciation skills. Moreover, they did not find meaningful relationships between pronunciation skills and listening discrimination skills.

Christiner and Reiterer (2013) studied if singers or musical instrument players have better phonological skills. They found that singers outperformed instrumentalist in the ability of speech imitation. They stated that besides singing ability, working memory and educational background also played an important part in speech imitation. In a follow up study (2015) they investigated singers', instrumentalist' and non-musicians' language imitation ability. Their results were in line with previous studies: musicians were better at imitating unintelligible utterances and foreign accent than non-musicians. Vocalists' and instrumentalists' musical perceptions were identical while on speech reproduction singers achieved significantly better results than musical instrument players. They proposed that in music related language acquisition research vocalists should be differentiated from instrumentalist, as based on their findings "vocal motor training, as of singers, may speed up foreign language acquisition processes" (p. 1). Schneider et al. (2005) identified further

differences between vocalists. They found that pitch discrimination ability was significantly higher in sopranos than in altos.

Some further studies have been conducted to analyze interactions between music and language (Sloboda, 1989; Patel, 2003) and their findings are encouraging (e.g., Ferreira, et al, 2014). It has been found that certain properties of songs support verbal learning. Comprehension of non-native speaker's speech is dependent on prosodic features, like rhythm, stress, and intonation (Parker, 2000). A simple and predictable song structure, such as verse and chorus (Kellaris, 2003, 2001; Wallace, 1994), a symmetrical melodic line, such as a rise in pitch followed by a fall (Wallace, 1994) are all conducive to learning. Songs or phrases in which the end leads naturally back to the beginning (Kellaris, 2003), or a rhyme scheme in the lyrics can facilitate recalling words (Rubin & Wallace; 1989 Wallace, 1994).

2.5.2 The impact of music on reading skills

Domoney and Harris (1993) proposed that involving learner-centered methods in language teaching, for example, working with pop music, improve vocabulary, especially colloquial language. Gatbonton and Segalowitz (1988) pointed out that automaticity "a component of language fluency which involves both knowing what to say and producing language rapidly without pauses" (p. 473). Automaticity has been used in Communicative Language Teaching, in which instead of repetitive drills songs can create more engagement and opportunity to expose learners to authentic English outside classroom.

Texts set to music yield better phonologic processing; thus, music skills were examined in a study (Anvari et al., 2002) that found a significant correlation between phonological awareness and reading development in pre-school children between age 4-5. The same study also revealed that music perception provided a special variance for predicting reading skills. First-year primary-school students' reading ability was investigated by Lamb and Gregory (1993), namely phonemic and musical sound discrimination. The study examined reading performance and found a positive relation between discrimination of music sounds and reading skills; the key factor was awareness of pitch changes.

2.5.3 The impact of music on memory

The cognitive aspect of musical training was also investigated in many research papers. Before the age of twelve, extensive music training was found to have a positive long-term effect on verbal memory (Chan, et al., 1998), and students with music training had better memory for verbal material (Cuddy et al., 2000). Another component of language learning, working memory and its relationship with music aptitude has been the focus of many studies. In several experiments concerning spoken and sung lyrics participants with music training performed better than participants without music training (Cuddy et al., 2000). A paper by Schön and François (2011) examined similarities in language and music learning. It revealed that the consequences of learning, the linguistic and musical representations were similar but not the learning processes. The authors pointed out that music supports speech segmentation, and musical competence facilitates language learning by a positive transfer effect. Pitch processing was the focus of a research conducted by Schön et al. in 2004; they found that extensive musical training helped enhance pitch processing not only in music but also in language learning.

A few studies discuss how music abilities enhance productive language skills. Music ability accounted for an important variance in both productive and receptive phonology, but not in syntax and lexical knowledge in a study which tested musical-ability hypothesis claiming that musical skills contribute to language learning especially in the acquisition of L2 sound structure (Slevc & Miyake, 2006). Musical training was found to exert a beneficial effect on the perception of minor changes in pitch of spoken language (Schön et al., 2004).

In a recent study, Coumelet et al. (2019) examined the relationships among working memory, musical aptitude, and phonological awareness. Participants were tested on their music aptitudes; they filled in a self-assessed test on their singing abilities and asked to mimic a foreign language accent; native speakers graded the imitated accent. The results indicated a meaningful relationship between music aptitude and singing with the imitated accent, but not with working memory. In a different study, a positive but not significant relationship was found between 26 students' pronunciation and their habit of listening to songs in English (Dewi et al, 2020).

2.5.4 The impact of music on listening skills

Cullen (1999) differentiated two processes which may occur while learners listen to music: top-down and bottom-up. In the former, listeners approach meaning by utilizing background information to understand the lyrics, whereas in the latter process listeners gradually distinguish sounds, words and sentences to understand the lyrics. In other publications, Saricoban and Metin (2000) and Schoepp (2001) claimed that because of the structure of pop-songs (repetitiveness and consistency) they are ideal for promoting automaticity.

Tsang (2020) examined the effectiveness of using songs for improving listening skills in Hong-Kong ESL learners. He found that participants' listening skills improved when lyrics was analyzed phonologically, while gap-filling exercises of lyrics were not effective. Wallon (1995, as cited in Tom & Saira, 2018, p. 73) reported that motherese, a manner how mothers speak to their babies in a slower and exaggerated way (wider range and higher overall pitch) is highly effective and similar to that of the characteristic of songs. Carmen Fonseca Mora (2000) noticed that language teachers introducing new structures unconsciously apply this 'singsong' manner of speech.

2.5.5 The impact of language on music

As was shown in the previous sections, it has been recognized that music has a positive effect on language learning. Saraei (2018) investigated if language has a transfer effect on music. Participants, (N=40) were divided into four groups: tone-language speaker musicians, tone-language speaker non-musicians, non-tonal languages speaker musicians and non-tonal languages speaker non musicians. The results of Gordon' (1979) aptitude test indicated that tone-language speaker non-musicians outperformed non-tonal languages speaker in the investigated pitch discrimination subtest.

2.6 Summary

The definition of music aptitude is at least as complex as defining the construct of language aptitude. Over the years starting from the psychometric approach new batteries emerged to measure different and complex music abilities. Music aptitude is based on perceptive and productive skills. In this dissertation I only measured abilities connected to musical sensitivity, those capacities which were expected to be innate and static.

Chapter 3 -   Language learning motivation

3.1 Introduction

Language aptitude plays a crucial part in language learning, but high language aptitude does not necessarily mean successful language learning. Motivation is the main driving force to achieving any goal. In this part, first, I present different interpretations of motivation, and then I summarize some of the most critical stages of motivation studies.

3.2 The definition of motivation

An American educational psychologist John M. Keller argued that "Motivation refers to the choices people make as to what experiences or goals they will approach or avoid, and the degree of effort they will exert in that respect." (1983, p. 389). In his view, motivation was a general concept, but some keywords remained constant and reappeared in definitions, for example, "goals" and the "effort". Gardner (1985, p. 10) defined motivation as "the extent to which the individual works or strives to learn the language because of a desire to do so and the satisfaction experienced in this activity". He continued that motivation is "the combination of effort plus desire to achieve the goal of learning the language plus favorable attitudes toward learning the language" (p. 10). Gardner, a socio-psychologist, expanded Keller's concept by adding a new term 'favorable attitude' and placing motivation in the language learning context. A sociolinguist, Alene Moyer (2004), viewed motivation as "a construct that uniquely represents many orientations simultaneously: conscious effort, intentionality, and planning towards a specific goal" (Moyer, 2004, p. 39). Similarly to Gardner, she also found that motivation is a combination of several factors, and she added that these factors work at the same time.

In Dörnyei's (2001) interpretation, motivation "is responsible for why people decide to do something, how long they are willing to sustain the activity, and how hard they are going to pursue it" (p. 614). This definition focuses on three questions: why, how long and how hard. Even though this description may appear general and can be related to any learning, I still think it contains the three most important factors impacting foreign language learning, so I use their definition in this study.

3.3 The conceptualizations of motivation

Dörnyei (2015) differentiated three stages in motivation studies in applied linguistics. Each period represents a different focus on the subject.

1.   Gardner and Lambert's social psychological period (1959–1990)
2.   The cognitive-situated period (the 1990s-2000)
3.   The process-oriented period (2000 to the present day)

In the next section I follow his conceptualization.

3.3.1 Social psychological period

In the social-psychological period, Gardner's merit was to discover that in successful language learning, besides cognitive factors like language aptitude, other affective variables also play a crucial part. Gardner (2010) found that motivation has three main components:

1) The desire to learn the language

2) Attitudes toward learning the language

3) Motivational intensity (i.e., the effort required to learn the language).

In order to measure affective variables in second language learning, Gardner (1985) constructed the Attitude/Motivation Test Battery (AMTB) based on these three components. Different adaptations followed the first version; the latest international one (2004) consisted of twelve components and 102 items: Interest in Foreign Languages, Parental Encouragement, Motivational Intensity, Desire to Learn, Attitudes toward Learning the FL, Attitudes toward FL Speakers, Integrative Orientation, Instrumental Orientation, FL Course Evaluation, Evaluation of FL Teacher, FL Use Anxiety and FL Classroom Anxiety (Dewaele, et al., 2019, p.66).

Gardner (1985) divided language learners into two categories. Learners with integrative orientation have a positive attitude towards the target language community, and they may even want to be a valued member of the language speakers. In contrast, learners whose motive is practical, for example, they may want to get a proficiency language exam certificate for their studies or a better job or salary, belong to Gardner's instrumental orientation group.

Motivation is the third component in Gardner's integrative motive concept in addition to integrativeness and attitudes toward the learning situation. Gardner's motivation model consists of three parts: motivational intensity, desire to learn the language and attitudes toward learning the language (Gardner, 2010).

There were other notable scholars proposing models in the socio-psychological tradition, for example, Clément's (1980) social context model, Giles and Byrne's (1982) intergroup model and Schumann's (1986) acculturation theory, whose models were used. As Dörnyei pointed out (2015), the main weaknesses of social-psychological approach studies were that scholars were concerned with motivation on the macro level, and less attention was paid to the micro-level. He meant that motivation was studied as a broader, general concept instead of concentrating on the individual language learner at the language learning level in context.

3.3.2 Cognitive-Situated Period

Dörnyei (2015) called the second phase of motivation studies the Cognitive-Situated Period, which started around the 1990s. The break from Gardner's model was made possible because of the development of cognitive psychology. Scholars found it necessary to shift to "actual learning situations" at a more specific language classroom level (Dörnyei & Ryan, 2015, p.80). The cognitive-situated period was started by the work of Crookes and Schmidt (1989). They claimed that previous studies did not discriminate motivation from attitude, and the concept of motivation was limited only to the formal and informal context instead of a more general concept. An example of the ambiguity between attitudes and motivation is Gardner Attitude/Motivation Test Battery, which measured both attitudes and motivation simultaneously.

There were two significant theories in the cognitive situated period: the Self-determination theory (Deci & Ryan 1985; Ryan & Deci, 2002), and the attribution theory proposed by Weiner (1992).

3.3.2.1 Self-determination theory. Deci and Ryan (2002) conducted empirical research and claimed that there were three psychological needs for motivation: competence, relatedness, and autonomy. They found that these needs are "essential for facilitating optimal functioning of the natural propensities for growth and integration, as well as for constructive social development and personal wellbeing" (p. 69). In their theory, they differentiated intrinsic and extrinsic motivation. The former relates to activities which are interesting for a language learner, due to the "inherent satisfaction of the activity itself", whereas in the latter, motivation comes from an external source and it "refers to the performance of an activity in order to attain some separable outcome" (Deci & Ryan, 2002, p. 71). Intrinsic motivation can

be facilitated by competence and autonomy. In their theory, competence can be enhanced by positive feedback, communication, and rewards, which lead to increased intrinsic motivation. However, lacking these characteristics may undermine intrinsic motivation. Ryan (1982) claimed that intrinsic motivation is only enhanced if the sense of achievement (competence) is paired with autonomy.

The question of which type of motivation is more important from the view of language learning, extrinsic or intrinsic, is not as straightforward as it may seem. There may be cases and circumstances when both types of motivation are present in the same learner or once one is more dominant than the other. One may assume that the presence of both cannot have an adverse effect. Although, Deci, et al. (1999) claimed that rewards undermine intrinsic motivation, Nikolov (2001), found that unsuccessful learners attributed their lack of success to early age unmotivating classroom practices; in her other study, she indicated the grammar-translation method, tests, drills and oral reading as the most demotivating task types (Nikolov & Nagy, 2003). However, she also pointed even though challenging tasks can motivate young learners, but too easy ones are disliked (Nikolov, 2017). Teachers and parents can also facilitate intrinsic motivation. Studies have shown that teachers and parents in favor of autonomy intensify intrinsic motivation (Flink, et al., 1990; Grolnick, et al., 1997). The importance of this theory in the classroom context is that if students believe the material is helpful for them and they can learn it (competence), and they have some control over how they learn it (autonomy) with external help, if necessary, from their fellow students and teachers (relatedness), they could be successful in foreign language learning.

3.3.2.2 Attribution theory. The attribution theory was developed first by Fritz Heider in 1958. His theory was elaborated on and placed into a learning context by a social psychologist, Bernard Weiner. According to Weiner (1993), people are responsible for how they interpret their past failures or successes. Their subjective view may shape their future success based on how they attribute to their past experiences. He differentiated four factors which determine attribution: ability, effort, task difficulty, and luck (Weiner, 1972). Some of these factors are similar to the characteristics of successful language learners, e.g., ability, language aptitude, and effort were listed in previous motivational studies as necessary components. At the same time, task difficulty and Krashen's Input Hypothesis (1985) share

similarities in that both are closely linked to the essential learning factor, the sense of achievement.

The most dominant characteristic of the process-oriented period is the recognition of the dynamic nature of motivation. Ryan and Dörnyei (2013) noted that motivation is not static, but an ever-changing dynamic factor affected by several internal and external factors.

Earlier, the process model implemented the temporal nature of motivation. Dörnyei and Ottó (1998) divided the motivational process into smaller sections and differentiated three phases: the preactional phase, which precedes the actual onset of motivation by goal setting and forming intentions. Then in the actional phase, individuals implement their actions, whereas in the post actional phase, they assess their performance for future reference. After the completion of the third phase, the circle starts again with phase one enriched by the experience gained from the previous post actional phase.

(Dörnyei, 2015 p. 98) pointed out that attribution theory impacted the development of motivation research in two ways: motivation is temporal, "people's past experiences are linked with their future achievement and attribution studies widened the door to qualitative inquiry into L2 motivation".

3.3.2.3 Person-in-Context Relational View. The Person-in-Context Relational view was conceptualized by Ushioda (2009). She claimed that motivation studies should focus on actual, real people instead of theoretical research. Her contribution to motivation studies was to realize that the learning context and the learner relationship are mutual: the "learners shape and are shaped by context" (Ushioda, 2015, p. 48).

3.3.2.4 L2 Motivational Self System. The L2 Motivational Self System theory proposed by Dörnyei which combined the work of Markus and Nurius's possible selves (1986) and the self-discrepancy theory of Higgins (1987). Dörnyei's recent theory consists of three main parts: the Ideal L2 Self, the Ought-to L2 Self, and the L2 Learning Experience (Dörnyei, 2015, p. 87). In his theory, learners first establish a potential future image of themselves, the discrepancy between the existing state and the imagined state fuels the driving force to change (motivation). The second self, the Ought-to L2 Self, represents what attributes the learner should have to satisfy the expectations for successful learning. The third component, the L2 Learning Experience, is the learner's experience in the learning process containing all the events during learning in specific contexts.

3.3.2.5 "Small lens" approach. The "small lens" approach by Ushioda (2016) proposed that instead of general studies on second language motivation trying to reveal the larger picture, scholars should narrow down their focus on the connection of concrete aspects of language development and SLA. She claimed that motivation research "shed relatively little light on how motivation may be relevant to internal processes of linguistic development or the acquisition of specific features of the target language" (p. 565). By specific features she meant that more studies should be conducted to target, for example, "quality and quantity of completed homework or the amount of extensive L2 reading that a learner does".

3.4 Motivational studies conducted in Hungary

In the Hungarian context, several studies investigated learners' motivation. On young learners' motivation, Nikolov (1999) conducted a qualitative longitudinal study between 1977 and 1995 in which she found that students were motivated the most by intrinsically motivating activities and tasks, which were cognitively and linguistically tuned to their level and interest and the teacher; however, integrative motives did not emerge in her findings.

Dörnyei et al. (2006), in their longitudinal research, studied different motivation-related issues and claimed that among the 13,000 participating primary school students, the English language was the most popular. The other most crucial finding was that the critical factor in learners' motivation was integrativeness, which, compared to Nikolov's result, was different. Csizér (2012) explained the mixed results with the different research methods and aims. While Nikolov (1999) focused on the emerging motives and the internalization of different motives, Dörnyei et al. (2006) used a cluster statistical procedure to create learners' profiles. I think another explanation could be the age of the participants. In Nikolov's work, participants were much younger (6-14), while Dörnyei et al. studied grade 7-8 (age group 13-14) learners, who were technically primary school students but represented a more mature population with a different conception of L2 learning and culture.

Another study conducted by Csizér and Kormos (2008) investigated the motivation and its inter-cultural aspect of primary school learners (age: 13-14) of English and German language. They found that learners of English had a more positive image of the target language culture and people than German language learners. They also claimed that students of English were more confident users of English than students of the German language, and inter-cultural contact played a more significant role in their language learning Csizér, 2012, p. 237).

Clément et al (1994) first pointed out in his research with secondary school students in Hungary that classroom atmosphere and group dynamics are vital components of motivation. He showed that two other variables, integrativeness and self-confidence, greatly influenced the motivation of the examined population.

Csizér and Kormos (2008) compared the motivational profiles of secondary school learners and university students of English majors. They found only two differences while testing Dörnyei's (2005) L2 Motivational Self-System.

- For the secondary school learners, the Ought-to self was less critical in their motivational behavior than for university students.
- The Ideal L2 self was more important for university students than for secondary school students.

Several recent studies have been conducted on different aspects of motivation: self-regulatory strategies and writing performance (Tankó, 2017; Papi, 2018). On a different note, Mercer and Dörnyei (2020) pointed to the negative consequences of a new learning environment, which weakens motivation and distracts learners from successful language learning. They pointed out that learners are flooded by captivating information through social media, which are instant, tailor-made to their needs, and easily accessible on their smartphones.

In a recent meta-analysis, Sunday et al. (2021) examined 44 studies in 16 countries with 147,943 college students' smartphone habits and academic performance. They found a weak negative relationship ($r = -0.12$) between smartphone addiction and learning. The results also imply that cognitive abilities are negatively impacted by excessive use of smartphones. Among the typical distractors from smartphone addiction, they found texting, chatting, multitasking in class, checking social media, and video gaming. These activities, both at home and in the school context, may deteriorate students' ability to focus and negatively impact their academic achievements.

3.5 The definitions of demotivation and amotivation

While motivation is the driving force in language learning, demotivation and amotivation could contribute to unsuccessful language learning. In order to understand the nature of motivation, scholars have examined motivation-related concepts. Several studies wanted to understand motivation better by investigating the two related terms, demotivation and amotivation. The definition of demotivation is the opposite of motivation, which was dealt

with in detail above. Still, I feel it is important to point out some additional specifics on demotivation.

Dörnyei (2001) claimed that demotivation is a lengthy process in which learners gradually lose interest in language learning due to external factors like inadequate teaching methods, unpleasant classroom atmosphere, or boring teaching materials. He also concluded that "a demotivated learner is someone who was once motivated but has lost his or her commitment/interest for some reason" (p.142).

Bandura Seligman and Maier (1967) claimed that if a task is beyond learners' competence and repeated failure occurs, learners feel that the goal is unreachable, and learned helplessness may develop, which may lead to low self-efficacy (Bandura, 1993) and this vicious circle may lead to amotivation. The term amotivation was introduced by Deci and Ryan (1985) as "the relative absence of motivation that is not caused by a lack of initial interest but rather by the individuals" feelings of incompetence and helplessness when faced with the activity" (p. 15), and later (2002) they pointed out that amotivation is the worst state of motivational deficit.

In another definition of amotivation, it is the lack of motivation and represents a passive state (Vallerand & Ratelle, 2002). A process from demotivation to amotivation was proposed by Nakata (2006). He claimed that learners first became demotivated; if that status remains, they may shift into amotivation.

3.5.1 Empirical studies on amotivation

Legault et al. (2006) conducted research with 741 Canadian high school students and investigated the reasons for their high degree of school dropout. By factor analysis, they found that there were four reasons why learners were amotivated: their ability beliefs, effort beliefs, the value placed on academic tasks, and characteristics of the academic tasks. (p. 577). The possibility of dropping out of school was predicted by the lack of academic values, and the low belief in their ability. Yang's (2009) findings were also in line with Nakata's. In her study, she found that demotivation can cause amotivation. Regardless of their earlier motivational level, students feel that they could not succeed in language learning, and they felt helpless. Dörnyei & Ushioda, (2013) pointed out the importance of task selection, as an unreasonable task can lead to amotivation. Cheon and Reeve (2015) found boring, useless tasks and learned helplessness result in amotivation. As for external factors, goal-performance oriented classroom Ntoumanis et al. (2004) and controlling classroom context (Pelletier et al.,

2001) increase amotivation in students. In a correlational study in India, Banerjee & Halder (2021) investigated the relationship between supportive teachers and amotivation among 115 middle school children. They claimed that insufficient teacher factor was the highest predictor for amotivation, next was controlling teachers, and the least influential predictor was teacher relatedness support. Wang et al. (2019) found that a teacher aiming to manage amotivation should possess all three qualities of teacher structure, teacher autonomy, and relatedness support. In a recent study İlter (2021) claimed that teacher support can decrease amotivation, and a positive classroom atmosphere can prevent or diminish the chance of amotivation.

3.5.2 Empirical studies on demotivation

Boggiano and Katz (1991) examined teachers' controlling strategies. They claimed that students with extrinsic motivation suffer most from control-oriented teachers, and even though rote learning improves, it decreases at the expense of motivation.

Gorham and Christopher (1992, p. 246) examined the primary motivator and demotivator factors of 308 college students. They revealed that from the 926 demotivator factors, students mentioned in the first place that, the teacher was boring and confusing students (N=147), grading and assignments (N=137), the course and the material (N=129), the teacher's attitude towards the students (N=103). They even mentioned the teacher's appearance as a demotivator factor (N=34).

A similar study was conducted by Kearney, et al. (1991), which specifically investigated demotivating teachers' behavior. They found that in 254 participants' responses that teachers' most frequent demotivator factors were in this order: "(1) sarcasm and putdowns, (2) absence, (3) strays from the subject, (4) unfair testing, (5) boring lectures" (p. 25).

In a study, Dörnyei (1998) focused on 50 demotivated students who were chosen by teachers and fellow students. He found the following demotivating factors: 1) the teacher (N=30); 2) inadequate school facilities (N=11); 3) reduced self-confidence (N=11); 4) negative attitude (N=9); 5) compulsory nature of L2 study (N=4); 6) interference of another foreign language being studied (N=3); 7) negative attitude towards L2 community (N=3); 8) attitudes of group members (N=2); and 9) coursebook (N=2) (p.148).

Nikolov (2001) examined the affective and cognitive variables contributing to language learning in a qualitative study: 94 adults (ages 19-27) had positive attitudes toward knowing a foreign language. Still, they believed their lack of hard work and determination

were the main reasons for being unsuccessful in language learning. They thought that motivation, aptitude, and the age of onset were less critical factors. The author highlighted the importance of classroom methodology and the language teacher's role.

Trang and Baldauf's (2007) results were in line with Dörnyei's (1998) findings. For the main demotivating factors, they also found the lack of self-esteem, negative attitudes to English learning, but a new factor emerged: students' negative past learning experiences.

Hu (2011), in a study examining 467 EFL Taiwanese college students' relationship between language proficiency and demotivation reported that learning difficulties, especially the lack of vocabulary and language-specific anxiety, were the two key demotivating factors. She also found that "monotonous teaching, punishment, and poor teacher-student relationship" also contributed to demotivation (p. 90).

Ren and Abhakorn (2022) examined 21 Chinese college students' demotivational factors in learning English in a recent study. Their results indicated three internal factors which are partially related to Dörnyei's (2009) L2 Motivational Self System. Ren and Abhakorn interviewed the participants and found that students related the cause of demotivation to the divergence between their actual and possible selves, their low ought to selves, and the low value of English learning.

All these studies agree that amotivation is a multidimensional construct. It is a result of many, sometimes simultaneous processes. Learners' motivational level fluctuates over time, and even highly motivated students may lose interest in the activity they pursue.

3.5.3 Engagement

Successful language learning relies on many factors, like language aptitude and motivation and recently, engagement studies have been gaining popularity in SLA studies. As with any sparsely mapped new territory, first, it had to be recognized as a separate entity.

Heddy et al. described it as "the holy grail of learning" (2015, p .1). Appleton (2012, p.6) characterized engagement as an "effortful learning through interaction with the teacher and the classroom learning opportunities". Motivational engagement is the focus of recent studies (Al-Hoorie et al., 2020; Mercer & Dörnyei, 2020) and as Mercer and Dörnyei (2020) claimed "motivation is undoubtedly necessary for preparing the deal, but engagement is indispensable for sealing the deal" (p. 5-6). In other words, these are two aspects of the same coin.

In the definition of engagement, there seems to be a general agreement that it consists of three interrelated components: behavioral (the action part, when learners participate in school and extracurricular activities), affective (learners' positive or negative interactions with school-related activities with classmates, teachers, and materials), and cognitive part (what learners think about the action, to what extent they are willing to invest in learning) (Fredricks, 2004).

Appleton et al. (2006) developed a Student Engagement Instrument (SEI) comprising 33 statements in a questionnaire, where learners used a 4-point scale to mark their answers. It was created to help define and clarify the construct and measure two types of engagement for middle and high school students. In their validation process, the Cronbach's alpha (α) varied between .72 (Family Support for Learning) and .88 (Teacher-Student Relationships), N= 1,931 (Appleton et al., 2006, p. 438).

The effective engagement part (perceived connection to others) consists of three main components:

- the relationship between students and teachers (9 items)
- peer support at school (6 items)
- family promotes learning (4 items).

The three parts on cognitive engagement (perceived relevance and motivation to learn) include:

- control and the importance of schoolwork (9 items)
- future plans (5 items)
- intrinsic motivation (2 items).

For engagement, the SEI focused on the student-teacher relationship and how vital students found activities and tasks in school. These components were measured in nine items. Kuorelahti et al. (2015) examined the engagement level of 2,485 Finnish junior high school students with SEI and found that students' affective and cognitive engagement positively correlated with their behavioral engagement. The correlation results were in line with the original values.

3.5.3.1 Optimal engagement. There is a higher and rather more intensive level of engagement explored by the Hungarian American psychologist Csikszentmihalyi (1975). He called it optimal engagement, which is more commonly known as "flow". He defined optimal engagement as a state of mind where:

> Self-consciousness disappears, and the sense of time becomes distorted. An activity that produces such experiences is so gratifying that people are willing to do it for its

own sake, with little concern for what they will get out of it, even when it is difficult, or dangerous. (Csikszentmihalyi, 1975, p. 71)

Csikszentmihalyi (1996) distinguished nine characteristics of flow.

1. There are clear goals every step of the way

2. There is immediate feedback to one's actions

3. There is a balance between challenges and skills

4. Action and awareness are merged

5. Distractions are excluded from consciousness

6. There is no worry of failure

7. Self-consciousness disappears

8. The sense of time becomes distorted

9. The activity becomes autotelic

First, Csikszentmihályi's theory proposes that for optimal learning, students should get a task that is neither easy nor difficult but still challenging for them. The ideal task changes proportionately to the development of the learners' language skills, which are further triggered by new challenges (Hektner & Csikszentmihalyi, 1996, p. 4). This balance of challenge and skill shows similarity with Krashen's (1983, p.2) input hypothesis (n+1), which states that for progression in language acquisition: "structures that are a bit beyond our current level of competence' are required for students to be able to acquire them".

Hekter and Csikszentmihályi (1996), in a longitudinal study, examined how optimal engagement changed over two years in 281 secondary school students in the USA. They also examined how the increased flow experience affected students' affective and cognitive experiences in and out of school. They concluded that students "who increased in flow also increased in intrinsic motivation, self-esteem, time spent doing schoolwork, and in the relevance of their activities to their future career goals" (p. 1).

3.6 Challenges in motivating the Generation Z

The latest generation, Generation Z, comprises people who were born after 1995 (Cilliers, 2017, pp. 189–190). There are many terms for Generation Z, and one keyword, technology, connects all of them. They are also referred to as C Generation – where C represents connectedness or connected to the internet; others find the letter C is related to communicating; content-centric; always clicking (Świerkosz-Hołysz, 2016, p. 440; Hysa, 2016, p. 389; Dudek, 2017, pp. 144–145) as cited in Dolot (2018, p.44). Csobanka (2016) characterized them as active social media users, living their life on the internet.

Language learning should be reconceptualized in the modern learning environment. The main stakeholders are the language learners, who live in an ever-changing environment, and their needs are rarely reflected in their learning contexts. Circumstances for language learning have never been so favorable in relation to technology. However, the implementation of tasks using modern devices in language teaching is often limited simply to a role of a media playback device which is a passive and unchallenging activity for learners filling in textbooks and students' books. Using videos and presenting the culture of English-speaking countries gives no value for learning English. Generation Z is the first born into WiFI, smartphones, and social media, and their threshold level of interest is way beyond the often-uninteresting usage of devices like smartboards and interactive projectors. In my experience, their interpretation of what interesting and engaging activities are tends to be very different from those tasks and activities presented in teaching materials.

At the same time, modern devices like smartphones, tablets, wearables, and social media can distract learners, distract their concentration or can even undermine motivation Dörnyei and Mercer (2020). A Hungarian psychologist Tari (2011) collected the characteristics of Generation Z and similar to Dörnyei, she also claimed that Generation Z has difficulties concentrating and relying on their long-term memory due to devices offering opportunities to multitask. She claimed that learners' ability to focus on an activity could not last longer than seven minutes. She also pointed out the general tendency of sleep deprivation among representatives of Generation Z because they stay up late in the false sense of missing out on something for their virtual self (social media). The latter further compromises concentration skills. According to Tari (2011), members of the Z generation require more focus on motivation and effective methodology, and the teacher's role is even more crucial than before.

3.7 Summary

Motivation is a complex and interrelated construct. The depth and complexity and its dynamic nature resemble those characteristics of aptitude which were described in the previous chapter. Even though motivation research has mapped out many contributing factors for language learning and their importance has been widely recognized I do not think findings have been successfully implemented in language teaching materials and classroom methodology.

Chapter 4 -   An overview of Computer Assisted Language Learning (CALL)

4.1 Introduction

There are several salient factors contributing to successful language learning. In the previous sections I presented motivation, language aptitude and music aptitude. Access to multimedia devices creates a link to all the previously described factors. With the advance of technology, educators have had access to new devices to widen their palette of teaching techniques. Computers gradually replaced traditional means of educational tools and most probably old devices, like tape recorders, overhead projectors will likely become unknown for many younger learners. Stakeholders in education sensed the opportunity to live up to their potential in modern technology. However, technology has changed, and a new generation of learners has different needs, attitudes, expectations of education. Generation Z comprises comfortable users of the internet, computers, and mobile devices and social media are part of their daily life. They are less sensitive to the novelty of modern technology. To fill the gap and to make learning materials more appealing textbook publishers provide supplementary materials on CDs, CD-ROMs, DVDs and online to their textbooks and workbooks. Computer Aided/Assisted Language Learning (CALL) emerged as a possible solution to pace the need of stakeholders in education.

4.2 Definitions of CALL

Early on, from 1980-1990, the communicative phase CALL was integrated into the communicative approach, which shifted focus in learning a new language from form to content. In contrast with the first phase, computers were no longer used as a provider of drill-based tasks, but rather a context supplier, where students could use the language even for non-educational purposes, for example, in computer games. In this phase, with the appearance of personal computers, language learners gained access to computers outside schools, and they could use them for multiple purposes.

The integrative phase of CALL started in the 2000s when computers completely lost their tutorial-mechanical role and since then, they have become a medium for more extensive variety of education potentials. Warschauer (1990) coined the term "integrative", as in this phase technology (multimedia networked computers) and the four language skills (reading, listening, speaking, writing) were integrated into language learning. In integrated CALL, language learning became an ongoing process. As technology progressed and multimedia

computers became accessible to large masses, the definition of CALL changed, and so did the potential of implementing new technology in language learning. In the next part, I present how CALL has been used in classroom contexts.

4.3 Empirical studies based on CALL

The positive effect of using CALL in language learning has been addressed in many studies during the different phases of CALL. Its impact on language learning has been manifold. As using new ideas in early CALL studies was not widely spread, they could only reflect limited ways of implementing CALL. Piper (1986) found that using some software in language learning increased learners' interaction with each other. She also noticed that the type of software largely influenced the number of learner interactions.

Johanesen and Tennyson (1983) revealed that computerized feedback on errors improved learners' language performance. Even during the early years of CALL, motivation gained more and more attention in education. Malone (1985) pointed out four different benefits of using computers in education: the connection between computers and intrinsic motivation, the instructional effectiveness of software and intrinsic motivation, the importance of empirical studies on developing computer-based educational software, and the effects on social equality, social development, and education. He proposed to investigate these issues before computers became a part of learners' daily life. Malone (1987) proposed seven factors which could scaffold intrinsic motivation in connection with computers: challenge, curiosity, control, fantasy, cooperation, competition, and recognition.

Another aspect of CALL, learner autonomy, was investigated by Furstenberg (1997, p. 22); she found that computers allow "the learner to make choices and thus provides autonomy, a sense of empowerment, and the opportunity to become an active participant in language learning". Schmenk (2005, p.107) found that the "popularity of learner autonomy may be at least partially related to the rise of computer technology and the growing importance of computers in language learning environments worldwide". Godwin-Jones (2011) pointed out that students using meta-cognitive strategies may improve their learner autonomy with CALL and emphasized that materials provided by computers facilitate self-initiated learning, thus they contribute to autonomous learning.

As for specific domains of language skills, studies (Aghlara & Tamijd, 2011) claim that computer games improve vocabulary. Bado and Franklin (2014) found that computer games had a positive effect not only on vocabulary but also on cooperation and motivation.

The unique state of computer games was investigated by Beck and Wade (2006). They explained that the main contribution was in the nature of computer games: they immersed learners in the game without being aware of the world around them.

In more recent years, with the advance of technology, a new format of learning has emerged, mobile learning (m-learning) and many more studies have investigated its effect on language learning. As a next step, a clear definition needs to be proposed for CALL and its new offset gamification.

4.4 Gamification: is it a game-changer?

The term *gamification* was first coined by a British consultant, Pelling, in 2002 (Pelling, 2011) in the field of marketing and it started to gain popularity in education. With the advancement of communication standards (4G technology), internet providers supplied fast connections for the ever-growing number of mobile device (smartphones, tablets) users, especially for the net-generations who comprise the vast majority of learners at school today. The definition I use for gamification was proposed by Deterding, et al. (2011, p. 9): they defined gamification as "the use of game design elements in non-game contexts". The non-game context can be regarded as, for example, an educational institution. As for game design elements, Flores (2015) suggested twelve characteristics a game should have: (1) points, (2) levels, (3) badges, (4) avatars, (4) leaderboards, (5) performance graphs, (6) progression, (7) quests/challenges, (8) social elements/community collaboration, (9) discovery/exploration, (10) rewards, (11) achievements, and (12) epic meaning.

One example of how these elements can be used in practice is the free online platform Kahoot. Most of the previously listed game elements are part of Kahoot along these lines: players can select from several digital badges (3) and avatars (4) at the beginning of the game. Points (1) can be collected during the activity, based on Kahoot scores; the first five players will be displayed on the leaderboard (4). Progression (6) is rewarded (10) by animated characters (emotes), which help users to express themselves in challenges (7). Achievements can be shared in social media and created Kahoot games can be shared by millions of players (8). Participants can work in groups (8), select images, videos for their quiz games (9), resulting in a new quiz (12), which gives a sense of achievement for learners. These features can explain the popularity of the game and the reasons why I selected it and used in the research I implemented with my students.

4.5 Summary of Part I

The theoretical discussions on individual differences and CALL in Part I aimed to define the key constructs and to frame the empirical studies in the dissertation in Part II. Language aptitude in its earlier definition was considered an innate, relatively static construct (Carroll, 1959) which language learners tend to have at various levels; its fundamental role in second and foreign language learning was well established early on. As more and more studies were conducted, though its role remained static, its dynamic nature in foreign language learning has been claimed and proven in other studies (e.g., Grigorenko, 2000; McLaughlin, 1990; Sáfár & Kormos, 2008). Over the years, theoretical conceptualizations and new test batteries were conceived and paved the way for innovative approaches. New concepts and new batteries aimed to explain and measure the operation of language aptitude more precisely (Ehrman, 2000; Grigorenko 2000; Meara, 2005; Ottó, 2002; Stansfield & Reed 2005; Kiss & Nikolov 2005; Rysiewicz, 2008). Overall, the key role aptitude plays in the process and final outcomes of learning a new language has been underpinned by many studies, as was presented in this chapter. The key issues concern to what extent aptitude impacts how successful students can be and to what extent and how aptitude changes as a result of language learning and students' other experiences.

The role of music aptitude in language learning, in contrast, is a less clear issue. While music can establish a positive atmosphere in language classrooms, as it has been generally accepted, its further contribution has been less recognized. In the discussions on music aptitude, I presented a similar tendency I found in the case of language aptitude. Initially, it was thought that one's music abilities would not change after the critical period (Seashore, 1919). Like in the case of language aptitude, research tools were developed to measure musical aptitude, and some studies also claimed that music abilities could change over time and be developed in long-term interventions (Colwell, 1965; Turmezeyné Heller, 2007). The other similarity in the two domains is that even though critiques have battered the first batteries over the decades, and their authors (Carroll, 1959; Seashore 1919) constructed them in the belief that they measured a constant value, the original constructs have served as the core for the latest test batteries (Colwell, 1987; Li, 2015).

If language aptitude is the brain (cognitive mind), music is the heart (emotional mind), then, motivation is the energy for successful language learning. Without energy, we fail to accomplish even our simplest goals, not to mention mastering a foreign language; therefore, no wonder why motivation has been the focus of many studies in SLA. The crucial role of

motivation in language learning has been inevitable, although the way it fluctuates and can turn into a negative domain has been researched only recently (Cheon & Reeve, 2015; Dörnyei, 2001; Yang, 2009).

From a pedagogical perspective, this factor is the one that educators work with every day, as motivation underlies hard work without which learners, even with high language and music aptitude, cannot accomplish their goals. It has been proposed that hard work is a must to archive extraordinary results, whereas other contributing factors follow it in importance.

Engaging tasks are directly linked to motivation. Even though teachers, language classroom, parents, fellow students, and different selves can be motivating, nothing can be more engaging than tasks that bring joy, freedom, instant reward, and a sense of achievement and mastery. Eventually, being motivated is a potential state which can decline quickly; however, if it is manifested in meaningful activities, time flies, and language learning can turn into a range of fun activities that may accompany learners after they leave the classroom.

In Part II, I am going to try to synthetize the findings of Part I and demonstrate how each factor contributed to participants' learning of English in three empirical studies.

PART II

Context for the three studies

The three studies took place at a secondary school in a small town in Southern Hungary. The school offers three types of curricula to students between the ages of 14 and 18: (1) grammar school for more academic learners, (2) technical and (3) vocational education for learners with interest in practical subjects. Only one third of the students are local, whereas two thirds commute from 66 smaller settlements in the region. Thus, the majority lives in isolated rural villages and use inadequate public transport. The region is characterized by a high unemployment rate and socio-economic problems. In recent years the number of disadvantaged learners has increased. According to the latest statistical data on the school, 58 percent of the students are categorized as disadvantaged, including 28 percent coping with multiple disadvantages (Batta, personal communication, June 30, 2022).

Curricula in the grammar school program aim to prepare most students for entering higher education. Students in the technical strand can take a school-leaving exam with an additional certificate in marketing or informatics. In the vocational program, learners can choose from the following trades: carpenter, shop assistant, mason, baker, waiter or waitress, according to the school's website. Due to the disadvantaged social and economic circumstances in the area, the school plays a key role in offering students an opportunity to earn a secondary-school examination and to learn a profession or a trade.

The number of grammar school students at the secondary school has been gradually decreasing. While in 2000 there were 1,250 students, and three grammar school classes could be started (approximately 100 students), by 2021 the total number of students dropped to 398 starting only one grammar class with about 30 students. The reason for this decrease is manifold. Geopolitically the school is in one of the most underdeveloped regions in Hungary. The population is decreasing, and over 60 percent of students live in small, remote villages. The secondary school does not have a dormitory, so most students need to get up as early as 5 A.M. to catch their buses. Even though grammar school education in Szigetvár dates back to the 19th century, in 2016 the Ministry of National Economy planned to cease grammar school education in 80 secondary schools offering a mixed training system (schools providing grammar and vocational school education, like the school in Szigetvár) in Hungary. This law was not implemented because regionally one grammar school was allowed to operate and in Szigetvár district there was only this secondary school.

To make learning attractive, the secondary school offers four specialized grammar school programs. Grammar school students can choose from either 'specialized' English or German language classes (seven classes per week instead of the normal four), extra information technology (IT) or extra physical education classes. As admission to grammar school programs is based on the primary school grades, (reliability of grades is questionable, as in Hungary there is no national school leaving exam from primary school), even less able students can get into grammar school programs. The school cannot afford to select learners with filter tests, because of the small number of students graduating from primary school in the region. All of these reasons lead to a situation in which streaming students in different groups according to their level of English is not possible. It is common practice that students with no prior English studies are placed in the same group with those who have learnt English for years. This lack of streaming creates challenges not only for the students, but also for language teachers, especially for English language teachers.

Chapter 5 -   Study 1

An exploratory single case study of a musically and linguistically gifted successful EFL learner

Figure 5.1

Data collection instruments and timeframe of Study 1
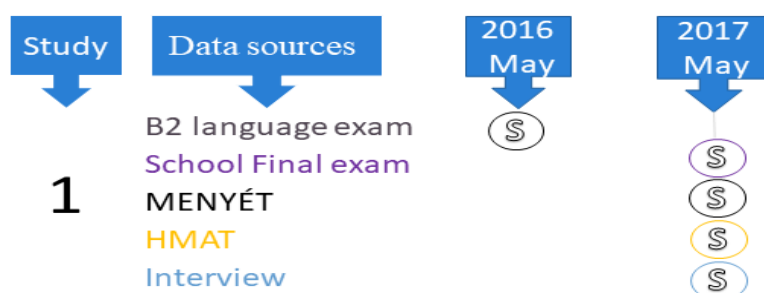
5.1 Introduction

The favorable role of music is generally accepted in language learning, but there is not enough in-depth research on it. The study of aptitude for language learning and music has been established separately; however, studies linking them are scarce. In this case study I examined the language aptitude and music aptitude of an 18-year-old secondary-school girl, Maggie. To explore how her aptitudes, learning strategies, experiences contributed to her success in both learning English and music, I conducted a semi-structured interview with her about her language and music learning history, the ways in which she has benefited from playing a musical instrument and singing. I wanted to examine her learning methods and the possible transfer between her experiences with music and language learning to explore how components of music and language aptitude relate to one another in her case. I assumed that there are underlying overlaps between the two domains.

I expected favorable results in auditory skills, specifically, sound perception and sound production. In order to conduct a valid case study, I applied validated and reliable test batteries. The Hungarian Language Aptitude Test (Ottó, 2002) measured her language aptitude; the Hungarian Music Aptitude Test (Turmezeyné Heller, 2007) examined the music aptitude. For triangulation, I conducted a semi-structured interview in which I wanted to look beyond the aptitude test results and understand better her underlying traits and experience. To approach the topic from yet another point of view, I also examined the participant's English proficiency by looking at her intermediate-level (B1) Final School Leaving Exam results in detail. She passed it in May 2017. I was particularly interested in the outcome of her listening

comprehension test. Another perspective and another source of data was her B2 level language proficiency exam she took earlier in 2016. Here, I gained more information about her language performance on a different test.

5.2 Method

5.2.1 Research questions

Q1 How do music aptitude and language learning aptitude interact in a student's life?
Q2 How does the participant evaluate her strengths in language and music learning?

5.2.2 Participant

Choosing a participant for the case study was essential. I aimed to find someone who was equally successful at learning a foreign language and was also good at music. I chose an 18-year-old secondary school student, Maggie, from my school who passed her school-leaving exam with great results and also earned a B2 language exam certificate in 2016, at the age of 17. She was good at singing and played the piano at school programs. She started to learn English at the age of six and took part in several primary school singing competitions. Before starting school, she attended a kindergarten offering a special music program. Later on, she sang in her primary school choir and at secondary school, she sang at special school events on a regular basis. Besides singing, she played the piano for eight years. She won several local singing competitions. I selected her for this case study not only because she was a motivated student and an excellent singer, but also because she was highly proficient in English.

5.2.3 Data collection instruments

5.2.3.1 Aptitude tests. In this study I used two aptitude tests I presented in detail in Chapter 2: MENYÉT (Ottó, 2002) and HMAT (Turmezeyné Heller, 2007). The language aptitude test measures four components of language aptitude: hidden sounds (phonetic coding ability), language analysis (inductive language learning), words in sentences (grammatical sensitivity) and vocabulary learning (rote learning ability). For further details see section 2.4.6. In this research the Hungarian Music Aptitude Test (Turmezeyné Heller, 2007) was used to measure the participant's music abilities. To my knowledge there are no other

validated music tests measuring these components in the Hungarian context, so this is the other reason why HMAT was used in this research.

5.2.3.2 English language proficiency tests. The third test I used was the English Intermediate-level Hungarian school leaving exam. It is an exit test measuring secondary school students' proficiency at B1 level. It consists of five components: reading comprehension, grammar, listening comprehension, writing skills, and speaking skills. The last test I applied is a Language Proficiency Exam accredited at intermediate (B2) level along the Common European Framework of Reference (CEFR, Council of Europe, 2020). The test measures the four language skills, reading comprehension, writing skills, listening comprehension, and speaking skills. The pass rate is 60 percent.

5.2.3.3 Semi-structured interview. As a last instrument, for triangulation purposes, I conducted a semi-structured interview with the participant. I wanted to investigate how Maggie evaluated herself as a proficient language learner and active musician. I wanted to look beyond the score results and explore the way she perceived the importance of her good language performance. This part of the study helped me understand in depth the way she learnt music and the English language. I piloted the questions with a student of similar music and language abilities before using them in the interview.

5.3 Procedures

As I already had the results of the B2 language exam tests (2016) before administering the aptitude tests and conducting the semi-structured interview, in this research data from language tests only served to investigate how well the aptitude battery predicted the actual English language proficiency of the participant.

Figure 5.2

Overview of data collection instruments and timeframe of Study 1
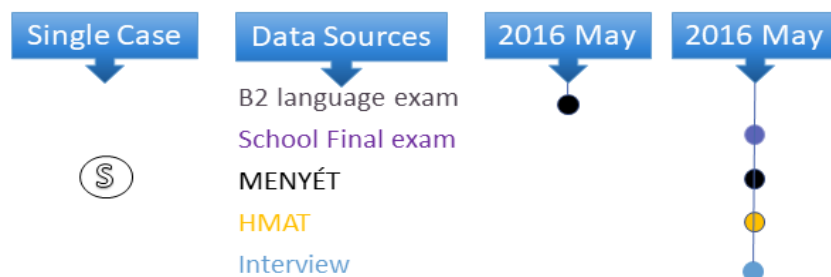
Both aptitude tests were taken at the secondary school in the same classroom where she learned English. Providing the same environment created a relaxed atmosphere for the participant. The aptitude tests were administered in May 2017. The tests were standardised, for reliability reasons instructions were recorded into a wave file in Hungarian language. The administration of the test took 61 minutes for MÉNYET and 25 minutes for HMAT.

She took the B2 language proficiency tests in May 2016. The school leaving exam written part was taken in May 2016, the oral part in Jun 2016. The semi-structured interview was also conducted in the same classroom and recorded on a smart phone in May 2017.

5.4 Results and discussion

5.4.1 MÉNYÉT test results

Each component consisted of twenty items. Out of the four components she excelled in her rote learning ability (20 out of 20); her phonetic coding ability and inductive language learning scores were also high (18 out of 20). The grammatical sensitivity result was the lowest out of the four components: 9 out of 20. To put her results in context, I compared her scores to the findings of Ottó and Nikolov (2003) in which first year English majors, non-English major university students and unemployed language learners' language aptitude was investigated. In the study on adults, the easiest component proved to be inductive language learning; the most difficult one was grammatical sensitivity. These results were in line with the case study result, as her score on grammatical sensitivity was the lowest out of the four components. What I found compelling was that her phonetic coding ability and rote learning

ability scores were higher than the means in the three groups in Ottó and Nikolov's (2003) study.

Figure 5.3

Comparison of the MENYÉT result of the case study participant with the study results of three groups of adults in Ottó and Nikolov (2003)
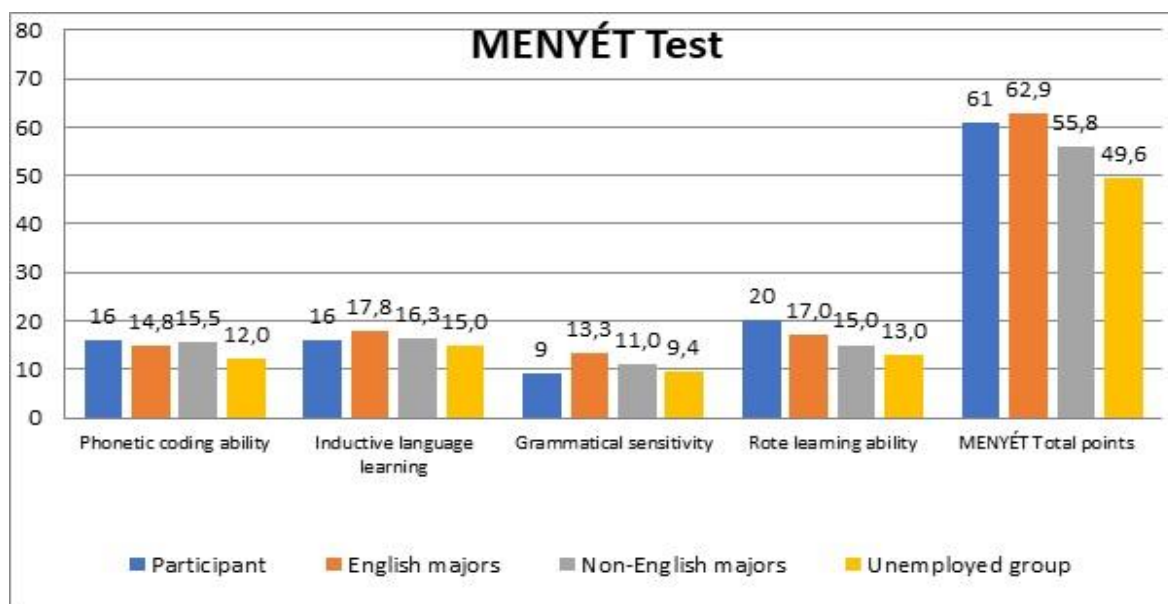
The findings of Ottó and Nikolov's (2003) study investigated other variables also, namely the relationships among the test scores and the length of staying abroad and having passed a language proficiency exam. The case study participant did not participate in an intensive language program, never stayed abroad longer than a week; however, she managed to earn a B2 level language certificate. As per the study by Ottó and Nikolov (2003), only 43.5 percent of the participants had a B2 language certificate without staying abroad for a longer time and only 43 percent of students managed to pass a proficiency exam after graduating from a secondary school with a non-intensive foreign language program. Therefore, her performances are outstanding in light of the results of this large-scale study.

5.4.2 Hungarian Music Aptitude Test results

The Hungarian Music Aptitude Test revealed that she reached the maximum point in interval discrimination. Her pitch discrimination result was the second highest (96%), whereas her meter discrimination score was 66% (Figure 5.4). A large-scale study measured university students' music abilities (Turmezeyné Heller, 2007) and comparing her test scores to

participants in that project offers an opportunity similar to her language aptitude. The mean age of the participants in the study (M=19.2) was a bit higher than the age of the participant of the case study. The participant scored higher on all three subtests than the mean for all university students, as shown in Figure 5.4.

Figure *5.4*

Eötvös Loránd University Faculty of Primary and Pre-School Education students' HMAT Scores, N=260, age m=19.2 in Turmezeyné Heller (2007)
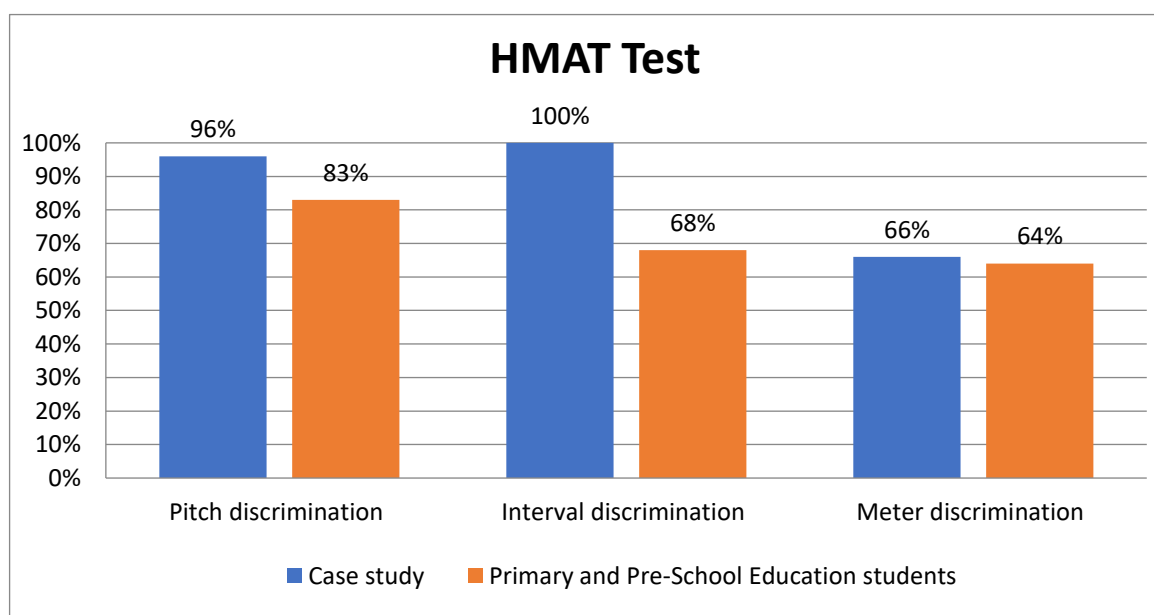
Figure 5.5 shows the participant's combined test results. Here the relationships are clear, several abilities can be interrelated. High scores on phonetic coding ability, inductive language learning, pitch discrimination and interval discrimination all relate to perceptive abilities. Her outstanding abilities include rote learning, indicating outstanding memory capacity, and the first two components in the music aptitude test: pitch and interval discrimination. On the B1-level exam the results most probably indicated a ceiling effect, whereas the picture based on the B2-level exam results is slightly different. At both proficiency levels, her speaking skills proved to be great. However, her listening scores were less impressive at B2 level than at B1 level. Her writing scores were her weakest at both levels.

Figure 5.5

MENYÉT, HMAT, final school leaving exam and B2 language exam results
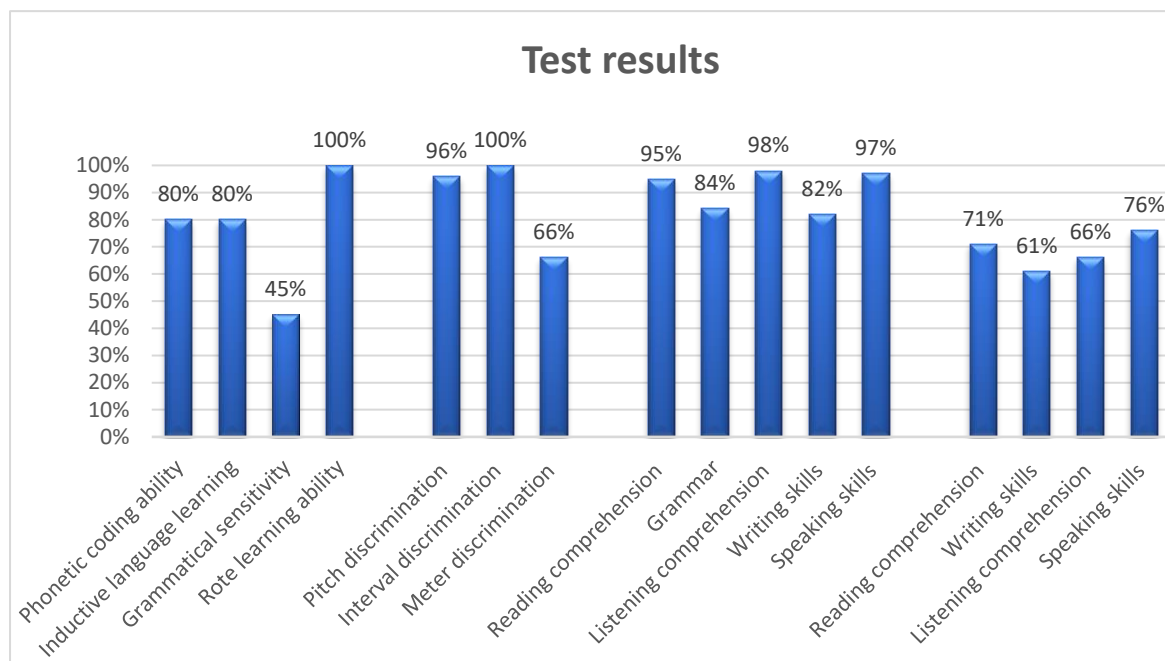
5.4.3 Semi-structured interview results

After presenting and comparing test scores with previous findings on these tests, let me turn to the interview data to find out about her perceptions of her language learning and music aptitude and achievements. Overall, her answers were in line with the findings presented in the previous sections. In answer to how she saw herself as a language learner, she stated: "I'm good at languages; I believe I have good pronunciation and good memory."

For the oral part of her English school leaving exam, she got maximum points for her pronunciation, proving that her self-assessment was realistic. Her answer further supported a study investigating the interconnection of high music aptitude and pronunciation skills (Esquef et al., 2008). Her 100% score on the rote learning ability component of MENYÉT also proved her valid and reliable self-evaluation. As she explained in the interview, she learnt to play the piano for eight years and passed the annual piano exams for which she had to prepare by playing piano pieces by heart. These learning experiences must have contributed to these abilities. However, when I asked her about this, she expressed her explicit belief in the innateness of her abilities: "I don't think there is any relation to my music classes. I simply inherited good memory. "

When I asked her about learning new words from lyrics she said, "I have learnt many new words from my favorite songs, all I have to do is to recall the lyrics." This answer is fully in line with a study conducted by Ludke et al. (2014) which found that singing can facilitate memory and language learning, words can be easily recalled from texts memorized with melodies.

I was also interested in her first encounters with music and the role of music in her life. "When I was a child, my mother used to sing songs first to me, but later with me. We sang together regularly in the evenings." As a result, her high pitch discrimination, music interval discrimination results are similar to Gordon's findings (1979): he pointed out the importance of early musically rich environment. Her early exposure to music and regular singing in a friendly home environment must have benefited her in important ways.

The positive or negative effect of listening to background music while studying has not been cleared unambiguously. Research reports Miller have mixed findings. In the participant's view, "I can't listen to background music while I'm learning. It distracts me." This statement is in contrast with the findings of Miller and Schyb *(*1989*)*. They found that background music had a positive effect on nonverbal tasks, especially for females. However, as her comment reflects, it can be a distraction for individuals. She added that listening to music was frequent in her case, "I listen to music wherever and whenever I can, if I'm alone, I sing a lot." Her statements concern both receptive and productive skills and obviously this frequent exposure and practice further improved her abilities (Slevc & Miyake, 2006). Even though I wanted to find out more about the key questions she did not want to share any additional information.

5.5 Conclusions

The uniqueness of this case study is that, to my knowledge, in contrast with previous language and music aptitude research studies, I approached the topic retrospectively. Instead of using aptitude tests to predict future achievements in music and language proficiency, this study was motivated by the excellent results of Maggie's English proficiency tests. I assumed if the participant showed great interest in music and languages, she most probably had high levels of language and music aptitude. As the test results indicated, and as I had expected, I found positive relationships between her scores on components of music and language aptitude tests. The participant's answers to the semi-structured interview threw additional light on the findings of the two test batteries: she was aware of her strengths and was knowledgeable about the ways in which her abilities allowed her to succeed.

The results on the two English proficiency tests showed that the participant's strengths were speaking, listening and reading comprehension at both levels of the proficiency exams. Her pitch discrimination and interval discrimination results were also high. The interview revealed that her love of music and extensive practice helped her remember vocabulary from lyrics and can explain her auditory discrimination skills, which probably enhanced her receptive and productive language skills. Her musically rich environment in childhood must have facilitated her abilities in the long term.

Chapter 6 -   Study 2

How two groups of high-school students benefited from playful and engaging tasks

Figure 6.1

Data collection instruments and timeframe of study 2

6.1 Introduction

In this chapter, I present how 24 learners of English engaged in creating meaningful and motivating tasks in a secondary school environment. Two groups comprising twelve grammar-school and twelve vocational-school learners constructed, shared, and played multiple-choice quiz games (Kahoot) over three months. The research revealed that learners in the two groups had distinct approaches in their choice of content, instructions, and language. The time required for comprehending tasks and compiling and answering quiz questions was very different. However, according to the results on a pre- and post-vocabulary tests, questionnaires and follow-up tasks, both groups benefited from creating and using the program. Working with Kahoot boosted motivation and peer interaction and encouraged autonomous learning in many cases. An encouraging indicator of the level of engagement and motivation was that learners wanted to stay longer after class.

6.2 Method

This study used a quasi-experimental research design: I could not select students randomly to groups, as they were already placed in groups by the school. I chose the instruments (engaging games) for the treatment period in advance, and I had a clear focus on examining only students' receptive skills in English in the two groups in their intact classroom context. According to these characteristics, this study was an interventionist quasi-experimental study (Mackey & Gass, 2005).

6.2.1 Research questions

This study aimed to find answers to the following research questions:

Q3 How did students in Groups A and B benefit from doing innovative tasks?

Q4 How did students perceive their progress in English after the treatment period?

Q5 How did their language aptitude results relate to their progress in English?

6.2.2 Participants

This study was conducted with two groups of twelve grammar-school (Group A) and twelve vocational-school learners (Group B). In Group A, there were ten girls and two boys. Their age range was between 16 and 18 years (Mean:16.8 years, SD: .55). They had seven English lessons per week, which meant 83 lessons during the treatment period of three months. The vocational group consisted of four girls and eight boys when we started, but one boy dropped out of school before the end of the project. Learners in Group B were on average one year older than learners in the first one (Mean 17.6. years, SD: .76). They attended a less intensive course, as was typical in the vocational curriculum: they had two English lessons a week, a total of 23 during the research period.

Students in vocational school usually have to cope with several disadvantages. In Group B, for example, there were twelve students at the start of the treatment period. One student reached age 16, and with his grandmother's authorization, he quit school. He was the oldest child in his family, and he had to start work to support his younger brothers and grandparents. According to the Hungarian Educational law, it is not mandatory to attend school after age 16 with parental authorization. Dropping out of school is frequent among vocational school students. In the 2021/2022 academic year, the dropout rate was 14% for vocational school students and 0 in the classes of grammar school students. The main reasons for not finishing the last academic year were behavior problems, unexcused absences, starting a job, and students becoming parents (Batta, personal communication, June 30, 2022).

Many vocational school students have severe problems with concentration and difficulty understanding even Hungarian instructions. The low aptitude result of Group B is in line with the outcome of the latest national competence assessment. The Hungarian Education Authority measures students' mathematics and reading comprehension competencies in 4th, 6th, 8th, and 10th grades. Tests are related to general skills and are not intended to measure school subject-specific knowledge. According to the latest assessment, 60.6% of the vocational school students

did not reach the minimum level in mathematics, and 19.7% in reading comprehension at the secondary school where I conducted the studies. The national average was 15% in mathematics and 7.2 % in reading comprehension (Batta, personal communication, June 30, 2022). I assume that students living in socio-economically problematic families, coping with multiple disadvantages, experience failure during their academic years; only motivation can help to break the vicious circle.

6.2.3 Data collection instruments

In this project data were collected with three instruments: KAHOOT: a free learning platform game, English language tests, and a survey designed for this study.

6.2.3.1 KAHOOT. KAHOOT is a popular game-based learning platform available for free at the time of the project. The first Kahoot game was launched in 2013, and since then, 1.1 billion players have used it in over 200 countries, and 60 million Kahoot games were created on many different topics (for details see their website at https://kahoot.com/company/). As the developers summarized their goal on their website, "We are on a mission to make learning awesome and unlock the deepest potential of each and every learner by making learning fun and engaging through games." https://kahoot.com/company/

Integrating Kahoot into an English language course syllabus is possible along two paths. The first and easier option is to select the type of game (quiz, jumble, survey or discussion) and to determine the difficulty level of the game from grade 1 to 12. The user can choose from a large variety of topics ranging from music to earth science and start the game. All games include some information on the time when it was created and the number of questions in them.

A more advanced way of using Kahoot is to create a new game. Users can add new questions and four possible answers. In the latest version, it became possible to use a built-in question bank service. Users start typing a query to search, and the question bank offers multiple alternatives where the correct one is marked. These alternatives come with images, and the creator can define the time limit in seconds for all potential players. Alternatively, it is possible to determine if a statement is true or false. As finalizing and saving a new game requires an internet connection, a user-friendly option makes it possible for off-line users to create and later import the data from spreadsheets.

6.2.3.2 Proficiency tests. In order to compare changes during the treatment period scores of valid and reliable proficiency tests were used to measure participants' English reading and listening comprehension skills. The Hungarian Educational Authorities' proficiency test battery measures three skills, reading comprehension, listening comprehension, and writing skills. The test battery for students at secondary schools comprised two reading and two listening comprehension tests at B1 level for grammar schools and at A2 level for vocational schools along the Common European Framework of Reference (CEFR, Council of Europe, 2001), in line with curricula used in these two school programs. Both the listening comprehension tests and the reading comprehension tests had ten items each, in one multiple matching and in one multiple-choice test. Thus, the proficiency tests comprised 40 items, each worth one score. (See Table 6.1) There was one example at the beginning of each test. The lengths of the listening tests were approximately seven to eight minutes at A2, and 18 minutes at B1 level. The texts consisted of 600-800 words at A2 and 800-1,000 at B2 level. The tests were freely available at an official website: https://www.oktatas.hu/pub_bin/dload/kozoktatas/meresek/celnyelvi_meresek/Celnyelvi_meres_tartalmi_keret.pdf

Table 6.1

The structure of the proficiency tests

Level	Receptive skills	Number of tasks	Number of items	Max score	Details	Time in minutes
A2	Listening	2	20	40	The total length of tests was 7-9 minutes	30
	Reading	2	20	40	The total vocabulary was 600-800 words	30
B1	Listening	2	20	40	The length of each test 8-10 minutes	30
	Reading	2	20	40	The total vocabulary was 800-1000 words	30

The education authority's test batteries were constructed to measure students participating in dual language (két tanítási nyelvű) education. They were validated along the same cutoff points: test takers passed if they achieved 60% on the language proficiency examinations. In this sense if participants achieved 60% for the first time, then I would expect them to reach 60% the second time again unless they forgot their English. In my research I wanted to find a more detailed picture on the progress of the participants and even though the test batteries were not validated for this particular purpose, I used them, as they were freely available and test scores were available for large samples of students allowing me to compare

and contrast my students' scores to those of the means of other students. The test batteries did not comprise speaking tests probably because it was not feasible to administer them reliably to large numbers of students in their school contexts.

6.2.3.3 MENYÉT. All four subtests of Ottó's Hungarian Language Aptitude Test were used to measure Group A's and Group C's language aptitude. See section 1.5.6.

6.2.3.4 . A survey of eight items was designed to elicit data on how students thought about their learning experiences. I investigated how the two groups evaluated playing Kahoot and how much they felt their reading and listening skills changed by the end of the treatment period. I also wanted to find out what they thought about competing with one another while playing games. As previous studies suggested (Wang, 2015; Wichadee & Pattanapichet, 2018), competition in classrooms improved not only students' motivation, but also their level of engagement.

6.2.3.5 Teacher's notes. During the treatment period I noted my observations on the two groups. I focused on the learners' involvement in the playful activities, and the effectiveness of my instructions.

6.3 Procedures

Computer Assisted Language Learning (CALL) require using computers and smart phones. As the game-based language learning classes were conducted in the language lab, there were 15 computers and one teacher computer with double monitors. All computers were equipped with a Multimedia Classroom Management Software (XCLASS). Learners used their smart phones and the WIFI connection provided by the school's main server.

The three-month treatment period started in February 2019. As Group A was part of a longitudinal project (Study 3), I used their test result here in Study 2. Group B took the MENYÉT (Ottó, 2002) test before the treatment period. Participants in both groups took the English proficiency tests on reading and listening comprehension in February 2019.

Figure 6.2

Overview of data collection instruments and timeframe of Study 2
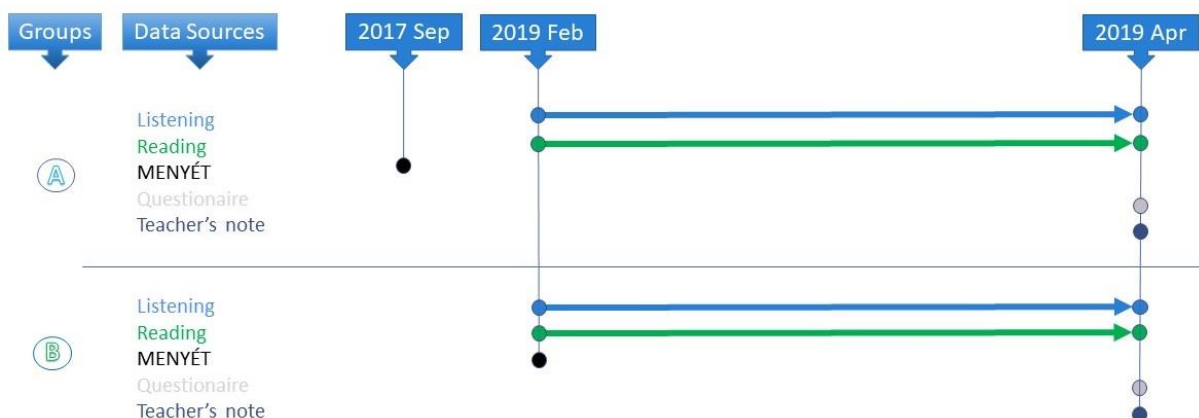
Both groups took the tests in the school's language laboratory, which is the same room where they learned English. Participants listened to the texts twice at both A2 and B1 levels. All instructions were in the target language.

Students were not allowed to use supplementary materials (e.g., dictionaries, smart phones), as they would have not only cast doubt on the validity and reliability of the results of the pre- and post-tests, but it could also have generated unfair advantages for some participants. They had 90 seconds to check the answers after filling in the tests.

While constructing activities for the three-month-long playful English project, I applied the principles of task-based learning (Ellis, 2003). Ellis (2003) proposed that tasks should meet four criteria: 1) meaning should be in focus; 2) a 'gap' is needed; 3) students need to use their resources when they complete tasks; and 4) the outcome of the activity should not be merely the language use (Ellis, 2003, pp. 4-5).

The reasons for selecting Kahoot as the main instrument for this study were manifold. As recent studies have discussed the popularity of using CALL and game-based learning in foreign language classrooms, I selected a platform which fulfilled the requirements of tasks defined by Ellis (2003) and could create opportunities for cooperative and competitive language learning in an engaging and playful context, would offer opportunities to improve all skills, and most of

all, could create a sense of achievement and mastery for participants. Kahoot seemed to offer learners opportunities to achieve all these goals.

The participants had not been familiar with this online game; therefore, the basic concepts of the game were introduced in the pre-task phase in early February. While watching tutorial videos on YouTube, students discovered different functions of Kahoot by following step-by-step instructions as to how to deal with issues from logging into the game to selecting avatars and filling in the evaluation part at the end of the game.

During the project, throughout 12 weeks, participants played Kahoot games in the last 15 minutes of every English lesson. To further boost their motivation, students chose the games and topics ranging from music (famous singers and bands) to technology (smart phones and games), according to their interests.

The most challenging task was the post-task taken in April: students had to create new quiz games which were later tested by their groups and used in other English classes. The post-task had two parts: first, they worked in pairs to promote collaboration, peer-to-peer teaching, and support one another in IT-related challenges. For example, to figure out how to find and download images, fill in and edit the offline spreadsheet for Kahoot. In the second part, participants could start creating their own Kahoot game and set time limits for each question/statement.

6.4 Results and discussion

In the first section I present the results on the pre-and post-proficiency tests (listening comprehension and reading comprehension) before and after the 12-week treatment period. Then, I share the tests of MENYÉT result. I continue with reporting the correlations between the students' scores on the language aptitude subtests and the English receptive skills tests. In the next section, in the analysis of the observation notes, I share what I noticed and noted down on students' playing and creating Kahoot games. In the last section, I answer the research questions and sum up my observations of the two main types of tasks: playing and creating engaging quiz games in English.

6.4.1 EFL proficiency tests

All students took a pre- and a post- test on their English reading and listening comprehension before and after the treatment period. In the next sections I present the students' results on the B1 level English tests of Group A; then the A2 level English tests of Group B.

   6.4.1.1 B1-level listening and reading comprehension tests results of Group A. The pre-test mean score on the listening comprehension test was 61.67 (SD = 18.5), and 55.42 on the reading comprehension component (SD = 21.79). The post-test mean score on the listening comprehension test was 76.67 and 68.33 on reading comprehension tests (standard deviations 21.46 and 13.57, respectively) (see Table 6.2). At both points of measurement students' scores on the listening comprehension test were better than on the reading comprehension tests.

Table 6.2

Descriptive statistics for Group A's (N=12) two English language skills in percent

	Mean	Minimum	Maximum	Range	Std.	Std.
Listening pre-test	61.67	35	90	55	5.34	18.50
Listening post-test	76.67	40	100	60	6.20	21.46
Reading pre-test	55.42	20	95	75	6.29	21.79
Reading post-test	68.33	55	95	40	3.91	13.54

The differences between the pre- and post-test mean scores on the listening comprehension tests were 15, and 12,91 on the reading comprehension pre- and post-tests. In order to examine if the differences are significant, a paired-samples T-test was conducted. The findings showed that the difference was significant at the .05 level (p<.05) in both skills; the correlation was stronger on the reading comprehension tests (Table 6.3). These results indicate that learners achieved significantly better scores after three months in both skills. These outcomes are meaningful, although there is no way of telling if students' scores would have increased significantly without doing these tasks for twelve weeks.

Table 6.3

Correlations between pre- and post-test proficiency test scores of Group A

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Listening Pre - Listening Post	15.00	23.45	6.77	-29.90	-0.10	-2.22	11.00	0.05
Pair 2	Reading Pre - Reading Post	12.91	16.85	4.86	-23.62	-2.21	-2.66	11.00	0.02

6.4.1.2 A2-level listening and reading comprehension test results of Group B. The pre-test mean score on the listening comprehension test was 55.91 (SD = 30.32), and a lot lower, 30, on the reading component (SD = 31.38). The post-test mean score on listening comprehension was 58.64 and 40.91 on reading comprehension (standard deviations 25.21 and 27.91, respectively) see Table 6.4.

Table 6.4

Descriptive statistics for Group B's (N=11) two English language skills in percent

	Mean	Minimum	Maximum	Range	Std. Error	Std. Deviation
Listening pre-test	55.91	10	100	90	9.14	30.32
Listening post-test	58.64	35	100	65	7.60	25.21
Reading pre-test	30.00	0	90	90	9.46	31.38
Reading post-test	40.91	10	80	70	8.42	27.91

Table 6.5

Correlations of pre- and post-test proficiency test scores of Group B

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Listening Pre - Listening Post	2.73	12.92	3.89	11.40	5.95	0.70	10.00	0.50
Pair 2	Reading Pre - Reading Post	10.91	20.10	6.06	24.41	2.60	1.80	10.00	0.10

The difference between the pre- and post-test scores was minimal on the listening comprehension test, 2.73 percent, and larger on the reading comprehension test 10.91 percent. A paired-samples T-test was used to examine if the differences are significant. The findings showed that the differences were not significant at the .05 level (p<.05) on either skill; the correlation for listening comprehension was stronger between the two points of measurement

than for reading comprehension (Table 6.5). The numbers show that reading skill scores increased more after three months but it was not significant. The standard deviations decreased a bit, indicating that differences within the group were somewhat smaller. Standard deviations were larger in both skills in Group B and this was especially true for the pre-tests' scores. While Group A standard deviation scores were 18.50 and 21.79, Group B scores were 30.32 and 31.38 in listening and reading, respectively. The results indicates that Group A students were a more homogeneous group in their perceptive skills before the treatment period. Group B's scores of standard deviations decreased results were more similar among the participants in the post-test. Tasks during the treatment period could be a reason for this change. Listening skill improved more in Group A while reading skill improved more in Group B. There are Kahoot games which require the use of auditory skills, but they were less frequent in the treatment period. Both groups played Kahoot even though Group A had more opportunity to play the quiz game, but they also received more instructions during the treatment period (83 lessons as opposed to 23 in Group B). So far, I may conclude that more intensive instructions and more opportunity to play Kahoot could explain for the better perceptive scores in Group A.

These students had a lot less opportunities to develop their English, as they had fewer classes for practice than their peers.

6.4.1.3 B1-level listening comprehension test results of Group A at the individual level. Lia and Cecil scored the highest on the first test (90 percent). From among the twelve participants, eight achieved better results on the post-test. Three participants scored 35 percent higher on the post-test than on the pre-test (Csilla, Dia, and Teo); whereas Dia, Cecil reached the maximum score on the second listening comprehension test. Evelyn achieved the lowest score on the first test (35) and improved on the second one by 20 percent (55). The nine learners, whose post-test results improved compared to their pre-test scores indicated a 2.772 increase on average. The three learners who achieved lower scores on their second listening comprehension test generated a 11.66 percent decrease on average. The results of Dia and Cecil indicate a ceiling effect. The low listening skill scores for April did not change over time (see Figure 6.3). These numbers indicate that there were important differences in the

twelve participants' development in their listening comprehension scores which are not seen in the means.

Figure 6.3

Individual listening pre- and post-test scores in percent of Group A
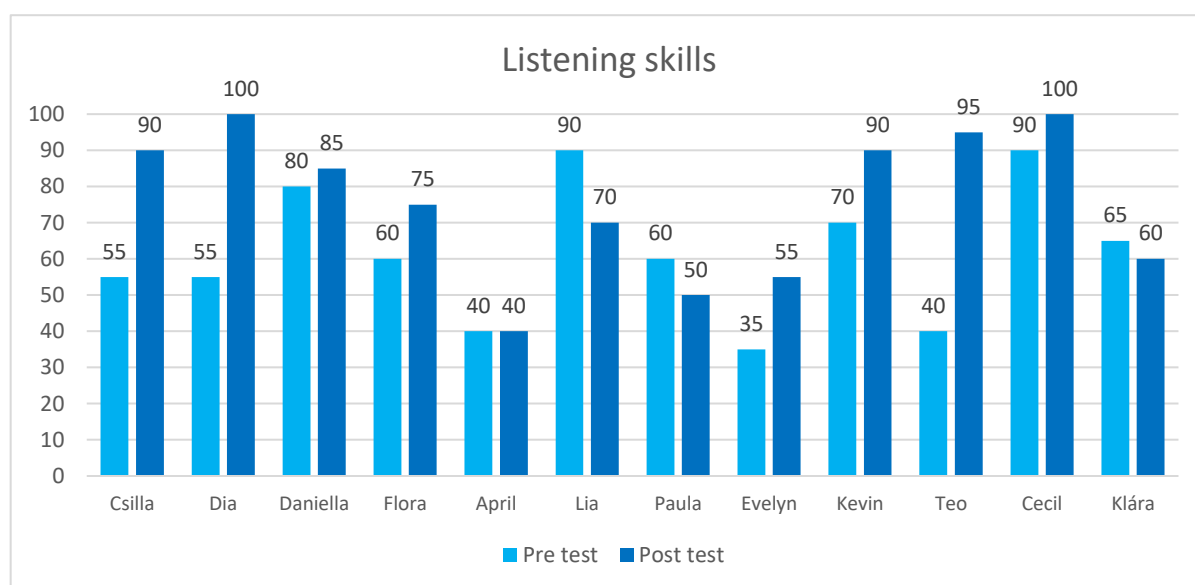
6.4.1.4 B1-level reading comprehension tests of Group A. None of the participants reached the maximum point on this test (Figure 6.4). Lia achieved the highest scores (95) on the first and the second test. Out of the 12 participants, 8 achieved better, two the same and two lower results in their second reading comprehension test. Evelyn's scores increased the most, as she achieved the lowest score on the first test (20) and improved on the second measurement by 40 percent (60).

Figure 6.4

Individual reading comprehension pre-and post-test scores of Group A

Reading skills
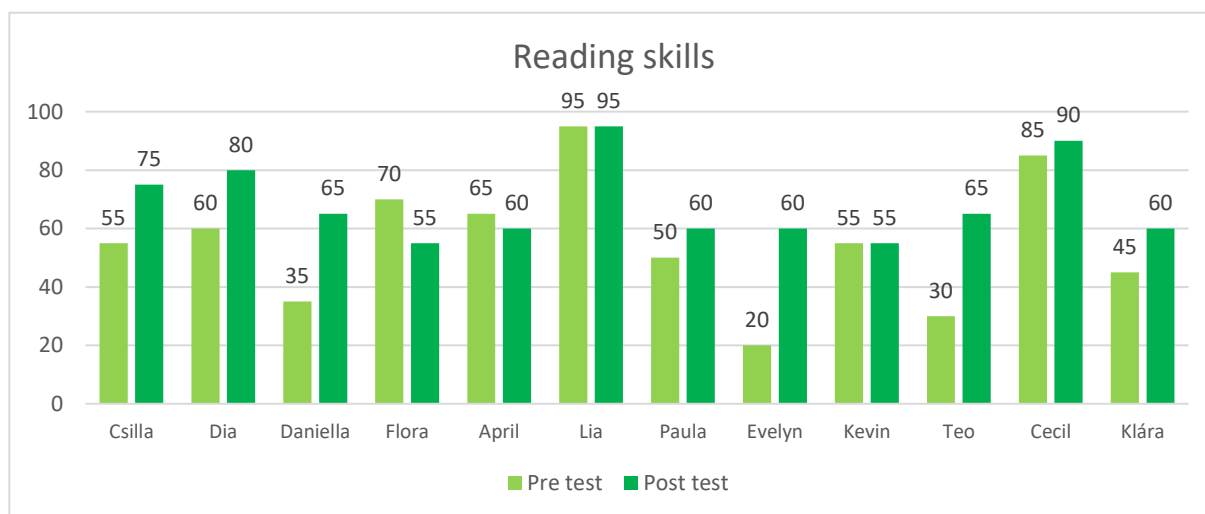
6.4.1.5 A2-level listening comprehension tests of Group B. Róbert and Károly excelled by achieving the maximum score on their first listening comprehension test at A2 level. Out of the eleven participants, only four achieved better results on the listening proficiency post-test. There was one participant, Róbert, whose score did not change, as it was the maximum score on both tests. Gedeon achieved the highest increase of scores between the two tests (30 percent). Gedeon scored the lowest (10 percent) at the first point of testing. Again, the individuals' scores show different patterns in Figure 6.5.

Figure 6.5

Individual listening comprehension pre-and post-test scores of Group B

Listening skills
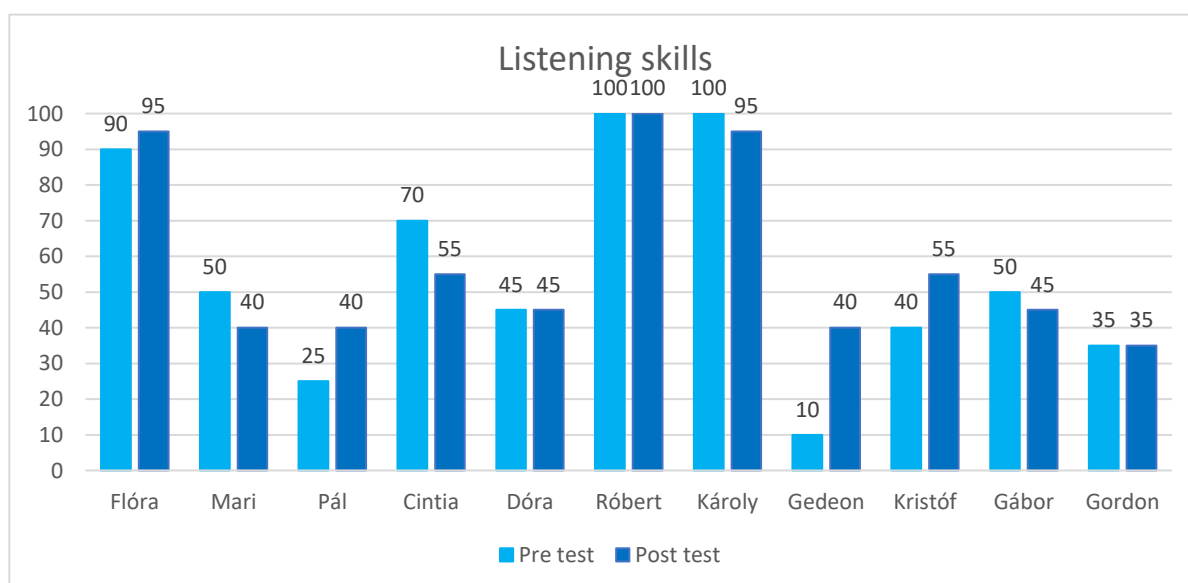
6.4.1.6 A2-level reading comprehension tests of Group B. Figure 6.6 shows that none of the students reached the maximum score on the reading comprehension test. Flóra achieved the highest scores on the first (90 percent) and the second test (80 percent). Out of the eleven participants, eight achieved better, and three got lower results on their second reading comprehension test. The scores of Gedeon and Gordon increased the most: 30 percent. Gordon achieved the lowest score on the first test (0) and improved on the second by 30 percent.

Figure 6.6

Individual pre-and post-test scores on the reading comprehension tests of Group B
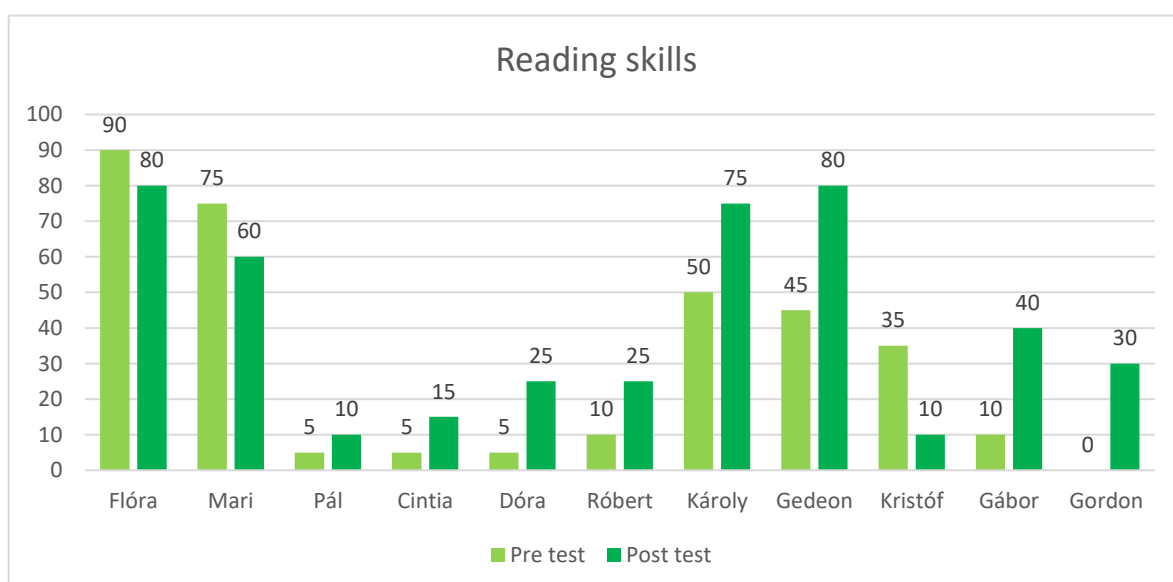
6.4.2 Results on MENYÉT

In this section I present the language aptitude tests results of Group A and Group B. Table 6.6 shows that between Group A (the grammar school group) and Group B (the vocational school group) the differences were large. There was a significant difference between phonetic coding and inductive language learning p<0.01 (45.46 and 62.27 in Group A and 29.55 and 31.36 in Group B, respectively). Grammar sensitivity test scores were more similar, (26.36 for Group A and 22.27 for Group B) but there was a larger difference between the two groups' rote learning ability scores (22.73 percent).

Table 6.6

Language aptitude differences between Group A and Group B in percent

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Group A Phonetic coding	45.46	11	16.65	5.02
	Group B Phonetic coding	29.55	11	10.60	3.19
Pair 2	Group A Inductive language learning	62.27	11	15.55	4.69
	Group B Inductive language learning	31.36	11	19.25	5.80
Pair 3	Group A Grammar sensitivity	26.36	11	13.25	3.99
	Group B Grammar sensitivity	22.27	11	12.32	3.72
Pair 4	Group A Rote learning	65.46	11	20.18	6.08
	Group B Rote learning	42.73	11	35.31	10.65

In the light of the low language aptitude results of Group B it is reasonable to expect that their language skills did not improve at the same rate as in Group A in the 12-week treatment period. Group B students with lower language aptitude showed less improvement on the language proficiency tests. This finding in line with the construct of language aptitude; it predicts the rate of language learning (Sapon, 1959; Carroll, 1993; Gardner & Lambert, 1972; Ellis, 1994) and plays an essential role in language proficiency *(*Grigorenko, 2000; Ehrman & Oxford, 1995: Nikolov & Ottó, 2006). The innate language abilities of Group A and more intensive instruction must have contributed to higher listening and reading scores. Language aptitude measures the rate of language learning (Carroll & Sapon, 1959) but Skehan (1998) claimed that it is independent of general cognitive factors; then how come students' language aptitude results were so different in the two groups?

Cognitive skills are essential in learning. Grade point average from primary school is vital to getting into prestigious secondary schools. Students with superior results generally attend grammar school programs and aim to continue their studies at universities. Less able students participate in a program that prepares them for a specific trade. Figure 6.7 shows the differences between MENYÉT (Ottó, 2002) scores in Group A, Group B and other previous studies on language aptitude results with the same battery in Hungary.

Figure 6.7

Total MENYÉT (Ottó, 2002) scores of Group A, Group B and groups in other Hungarian research projects
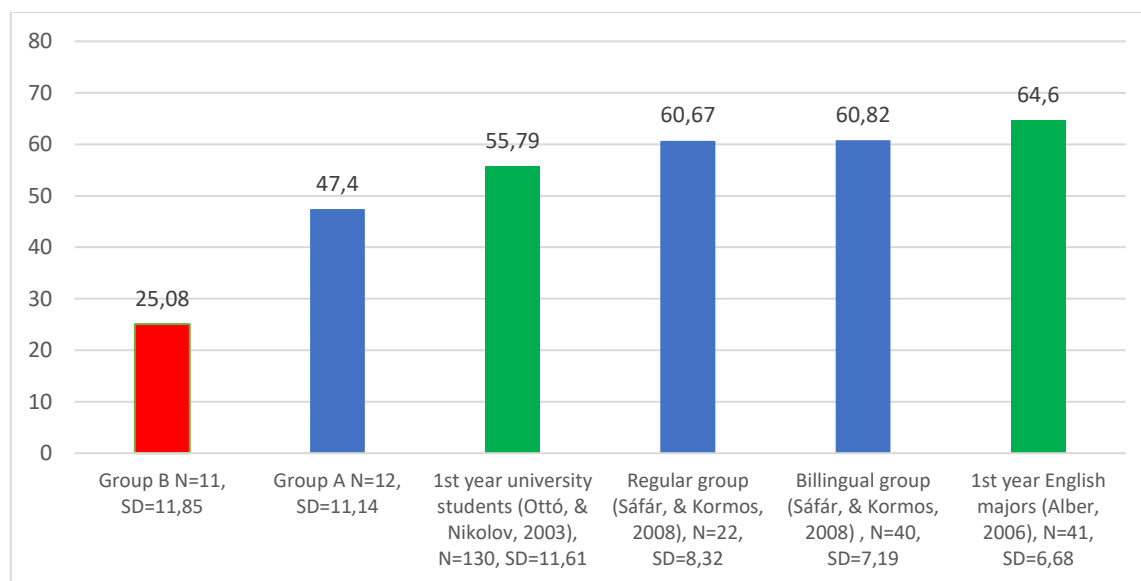
Group B is the vocational school group. To my knowledge, no other studies measured the language aptitude of vocational school students in Hungary, so I could not compare their results to any previous study. Their data in Figure 6.7 show the disadvantageous position of the vocational school group (in red) compared to other secondary school scores (in blue) in terms of language aptitude, which has been related to one of the most critical factors in language learning success (Dörnyei & Skehan, 2003; Li, 2019). These students' scores are clearly different from findings in other studies in which MENYÉT did not seem to discriminate well among more able students.

MENYÉT (Ottó, 2002) scores in this study revealed a substantial difference between the vocational and secondary school groups. The outcomes imply that the battery measured more than language learning abilities. Skehan (2002) claimed that grammatical sensitivity and inductive language learning are analytic aspects of the language aptitude construct. These inductive reasoning-related abilities are also essential in general learning. Pimsleur's (1966) first component of his PLAB battery was GPA. In this sense, he was right when he suggested that the concept of language aptitude was related to other academic subjects like Mathematics and Science.

Based on my findings, I am more inclined to agree with Pimsleur's view as other cognitive factors could also contribute to the construct of language aptitude.

6.4.3 Correlations between language aptitude subtests and perceptive skills

Even though the two groups took tests on different level (Group A at B1 and Group B at A2) I was curious to see how language aptitude predicted better score results and which subtest contributed if any to a larger extent in the development of participants' language proficiency.

Table 6.7

Correlations between language aptitude subtests and perceptive skills in Group A and Group B at two measurement points

| | Group A, N=12 | | | | Group B, N=11 | | | |
	Listening pre	Listening post	Reading pre	Reading post	Listening pre	Listening post	Reading pre	Reading post
Phonetic coding	-0.43	0.09	-0.22	-0.56	0.06	0.24	-0.44	-0.39
Inductive language learning	0.17	-0.01	0.16	0.19	-0.04	0.25	0.650*	0.24
Grammar sensitivity	0.02	0.42	-0.12	-0.28	0.31	0.59	0.67*	0.689*
Rote learning	0.25	0.44	0.57	0.38	0.92	0.42	0.36	0.09

Despite the significant increase of the perceptive skills in Group A the analysis did not indicate significant correlation between language aptitude subtest and the pre- post-tests of listening and reading skills. However, three meaningful relationships were found ($p<0.05$) in Group B: reading skills pre-test and inductive language learning, reading skills pre-test and grammar sensitivity, and reading skill post-test and grammar sensitivity (0,650* ,67* and 0.689*, respectively). Group B reading skills increased by 10.91 between the pre-and post-test. (Table 6.4). This improvement was not significant, still this linear relationship indicates that Group B students' development could be related to their weakest ability, their grammar sensitivity (which correlated even stronger in the post-test). Group B English proficiency was predicted to develop slower, so by the end of a longer than 12-week treatment period the results could have been significant.

6.4.4 An analysis of observation notes

Throughout the project I took notes on my observations and how students progressed. Weeks before the treatment period started, I had asked learners to give their opinion about playing computer games and if they had smart phones to connect to the internet. From that time on they

kept asking about the date we would start playing games. Participants in both groups were equally motivated and as soon as the school IT personnel established a separate router for the WIFI connection, the treatment period started.

After analyzing the notes, I took over the whole period of the project, I found two main emerging themes in my observations: comments were related to playing Kahoot games (the less creative part) and to creating Kahoot games (the more creative part). In this section, I present the findings and discuss similarities and differences between what I noted in the two groups.

6.4.4.1 Playing quiz games. The Group B (vocational-school group) had difficulties in understanding even simple instructions when they took the pre-tests and during the treatment period. Many of them did not understand what to do and where to write the answers in the tests. When we started to use Kahoot, they needed a lot of time and explicit instructions paraphrased multiple times about the rules in Kahoot. Therefore, I repeated and paraphrased instructions several times in Hungarian only in Group B, but I did not have to use Hungarian in Group A.

Group A (Grammar-school learners) were quicker to master the game and its functions. They started using them at a faster pace. Cognitive differences were visible between the two groups; however, although participants in Group B took somewhat longer to understand the rules, when some of the vocational-school learners grasped the way the application worked, they helped others successfully.

Both groups were active playing quiz games to the extent that there were instances when they did not want to leave the classroom for the break time. These instances were typical only when they played the quizzes and not when they created them. These findings show that they found the ready-made quizzes more intrinsically motivating and cognitively less challenging than designing new ones; therefore, they were more willing to put more time and effort into working on the quizzes the program offered.

Both groups, members were enthusiastic about choosing avatars and nicknames for themselves and they were happy to select the topics of the games, which were similar and represented their interest (music lyrics, famous singers, films, and animals) well. All participants in both groups seemed to enjoy playing Kahoot. Wang and Lieberoth (2016) found similar results concerning enjoyment and engagement. Playing quizzes was fun for 92 percent of the participants in their study. All Group A and Group B students liked to play Kahoot quiz games.

6.4.4.2 Creating new quiz games. Writing questions for the games was more challenging for participants in Group B than their peers in Group A. Even the simple template spreadsheet for creating a Kahoot quiz caused misunderstanding among them. There were rows and lines for writing questions and answers and the amount of time in seconds for the players to answer; they managed to add their texts only after several attempts. Instructions had to be rephrased many times, but pair work proved to be quite effective, as they could support one another well. I believe that the reasons for these outcomes could be their low level of English and differences in their computer skills. One participant, for example, could not save image files to the computer, others had difficulties with renaming files.

Learners in the Group A needed less support; they were more self-confident and required less help from me or from others. They created quizzes faster and they used the internet only for checking spelling or finding challenging contents and pictures. Group B used the internet for translating Hungarian words and sometimes sentences to English.

The choice and quality of the content also varied in the two groups. While most of Group A learners were confident English language users and created quite complex and engaging games (including, for example, interesting facts about their class, favorite films), they still liked to play in pairs and challenge other pairs. For them, creating Kahoot games looked like a lot of fun, and they were louder and more enthusiastic than the vocational-school group; overall, they seemed to enjoy testing their quizzes more.

Learners in Group B needed more scaffolding: examples of possible quiz topics and types of tasks, for example, gap filling, true or false-statement, find the odd one out, find the correct one. The needs I observed reflected their lower cognitive abilities and their modest English knowledge, which did not allow them to word their ideas by constructing simple sentences. They required more and more simplified input and guidance as well as repetitions in English offered both by peers and me. In order to overcome their difficulties, they were encouraged to use the internet: all except for Károly used google translator for even basic questions and they often made mistakes, for example, "how many color have the Hungarian flag?" Quiz question types were less challenging and less varied (Question 1: I'm from Canada, alternatives 1. I am Canada, 2. I am Canadish, 3 I am Canadian, 4 I'm Canadian. Question 2: I am form Australia….). Some quiz questions they formulated made little sense, for example, "How do we thank you?" A: thanks, B: thank, C: thank you, D: thank you very much.

All things considered, both groups enjoyed playing games more than creating quizzes. Creating tasks was more demanding for Group B learners; however, they also enjoyed their less than perfect Kahoot games a lot.

The advantages of game-based language learning have been recognized widely. In a recent study, Tivaraju et al. (2017) reported that Kahoot promoted not only positive attitudes towards and having fun in this game-based learning environment, but using the program also contributed directly to their English language learning. Another study corroborated the results: Ciaramella (2017) indicated increased vocabulary learning due to using Kahoot in her classroom. Additionally, Huang (2015), in his mixed method research, investigated the effectiveness of vocabulary development using technology and he also found improvement on a post-test on vocabulary.

6.4.5 Results of the Survey

The first research question examined the effectiveness of the intensive use of innovative playful tasks. Both groups benefited from playing Kahoot and creating meaningful and engaging games during the treatment period. As I expected, one of the outcomes of this research, namely that using Kahoot in the classroom would enhance students' motivation, was fulfilled based on my classroom observations, and in line with the other studies (Bergin & Reilly, 2005; Plump & LaRosa, 2017).

The survey filled in after the treatment period revealed that students in both groups considered using Kahoot an enjoyable activity (means= 4.75 and 4.63 out of 5, respectively). All learners from Group A believed they learned from the game, and only one participant felt that Kahoot was not helpful in the other Group B. The answer to the next survey yes or no question was unanimously positive: both groups would recommend the game to others. They enjoyed playing Kahoot more than creating new quiz games. There was no difference between the two groups in this respect. They felt privileged to be able to design new games for other classes and were happy to share their knowledge with each other.

Piskorz (2016) found similar tendencies in her research. Participants rated the fun factor at 4 points out of 5. On the question focusing on Kahoot as a useful tool for learning, out of the 112 participants, 100 experienced learning something useful from using Kahoot; however, in her research fewer learners (89 out of 112) recommended Kahoot to others. The slight differences can be explained by the different game content. In her research, Piskorz focused on language form by practicing problematic grammar issues (irregular verb forms, question

formation, passive voice in various tenses, reported speech, conditionals, and subjunctives) which tended to be less popular topics for learners. Participants in her study did not have a chance to negotiate or create content which must have further reduced the engagement level.

The second research question addressed learners' self-evaluation of their English learning. Students in the two groups evaluated their progress in English differently. The proficiency test results, and their own beliefs were different in the case of grammar-school learners (Group A) from those of the vocational-school students (Group B). According to the survey results, after the treatment period, all participants felt that they had learnt something, but Group A students were less optimistic about how this experience affected their listening and reading comprehension skills, if at all. Despite their modest expectations, their post-test mean scores were higher than on the first proficiency test, thus offering evidence of significant improvement in Group A.

Group B learners also expected to learn some English during the treatment period, and interestingly enough, they were more optimistic about the playful tasks benefiting their reading and listening comprehension skills than their peers in the first group. Despite their beliefs, according to the paired sample T-test, however, the difference between their two tests was not significant. These results may indicate that grammar-school students were more realistic about their own expectations and actual development than their vocational-school peers.

6.5 Conclusion

Participants in this study not only enjoyed playing and creating games, but they could also improve their reading and listening comprehension skills significantly in Group A. Although participants in the two groups were at different levels of proficiency, language aptitude had important differences in the amount of English instruction as well as in their opportunities to practice and to improve their English, the project proved to be beneficial for all of them. They learnt English by playing games and cooperating with their peers. As was proposed by Johnson and Johnson (1999), the combination of cooperative work format in pairs to create new games and competitive elements in the treatment period improved opportunities for learners to immerse themselves into playing games in English and to transform from the role of players into game creators, thus enhancing their autonomy and self-confidence.

6.6 Limitations

Limitations of this study are numerous: first of all, two very different groups of learners were compared to one another. Students in Group A were more proficient and self-confident users of English at the beginning of the project, whereas members of Group B were less successful learners of English with a significantly lower language aptitude. Moreover, Group B had a lot less opportunities to improve their English, as they had about of third of the time devoted to learning English than members of Group A.

The period of 12 weeks was limited; it is unclear how a longer project would have contributed to students' motivation and engagement.

Finally, although I was able to conduct quantitative analyses on the outcomes, these results cannot be generalized either to other periods in the process of English learning in these two groups or to other groups.

Despite these limitations, the study offered some valuable insights into how two groups of learners benefited from a CALL project: from playing and designing games, interacting and competing with one another, and becoming aware of what they can achieve by doing such tasks.

Chapter 7 -   Study 3

A longitudinal classroom-based study on the development of language aptitude,

music aptitude, and English learning in two groups

Figure 7.1

Data collection instruments and timeframe of study 3.

7.1 Introduction

Learning a foreign language is a never-ending quest. Looking for different ways to facilitate language learning and exploring potential possibilities of other disciplines may enhance processes which help students in achieving their goals in learning a new language. In this study I look at how language aptitude and music aptitude interact with each other and their relationships with Hungarian secondary-school students' English language proficiency.

Language learning is a complex process and among many other factors, individual differences (ID) play an important role. As early as in the early 70s Seliger (1978) emphasized the importance of ID in Second Language Acquisition (SLA). He believed that to understand the process of SLA research should be focus on ID. However, this is challenging, as Gardner and MacIntryre (1992, p. 122) proposed, "there are probably as many factors that might account for individual differences in achievement in a second language as there are individuals." In this study, I discuss some of the most important ID, and focus on the most relevant one for this research: two constructs of aptitude.

7.2 Method

7.2.1 Research questions

It this study I wanted to find answers to the following questions:

Q6: How did students' scores change over the years on the components of the language aptitude, music aptitude, and English language proficiency tests?

Q7: What are the relationships among participants' music aptitude, language aptitude, and their level of English language proficiency over the years?

Q8: What is the relationship between participants' extramural activities and their level of English language proficiency over the years?

Q9: How did students assess classroom and online tasks?

7.2.2 Participants

Participants in this longitudinal study were two groups of secondary school students. In Group A there were ten students: eight girls and two boys. All students attended an intensive English learning program between the ages of 14 and 18 at the secondary school described in section 6.2.2. They learnt English in seven lessons per week. Students in Group A were the same students I introduced in study 2 as Group A. Originally in study 2 there were twelve participants but two were eliminated from this study because their datasets did not include all tests results necessary for the analysis. One student changed school and the other one passed her final school-leaving exam when she was in her 10th grade. Out of the ten participants in Group A, three students did not learn English before entering secondary school. Five of the ten students played musical instruments. Group B (vocational school students) did not participate in study 3. In Group C there were eight students, seven girls and one boy, studying at the same school. They also had seven English lessons a week. They were between 14 and 16 years old during the period of the research. They all had learnt English in primary school and none of them played a musical instrument.

7.2.3 Data collection instruments

7.2.3.1 Aptitude tests. For measuring students' language aptitude Ottó's (2003) Hungarian Language Aptitude Test (MENYÉT) was used including all four subtests (see section 1.5.6). Music aptitude was measured with the three components of the Hungarian Music Achievement Test (Turmezeyné Heller, 2007). For details see section 2.3.3.

7.2.3.2 Questionnaires. A questionnaire of 8 items was designed in 2018 to find out more about students' previous language learning experience, and their opinion on listening to music, playing games and watching films in English. They evaluated their reading receptive skills in a 4-point Likert scale.

A 3-item questionnaire was designed to elicit data on how students thought about their learning experiences in the academic year of 2019/2020. I investigated how Group A and Group C evaluated tasks they did in the classroom and online. I also collected information on students' extramural activities at home and believed they improved their English.

7.2.3.3 English proficiency tests. The Hungarian Educational Authorities' proficiency tests were used to measure students reading and listening skills at level B1, for a detailed presentation see section 6.2.3.2.
https://www.oktatas.hu/pub_bin/dload/kozoktatas/meresek/celnyelvi_meresek/Celnyelvi_meres_tartalmi_keret.pdf

As I wanted to measure my students' speaking skills in English, and the proficiency tests did not include one, I chose a validated speaking test used in all secondary schools as the school leaving exam at B1 level. The oral exam consisted of three parts. In the first part, students are expected to have a conversation initiated by the examiner. The second part is called role-play: the examiner hands out the task sheet comprising a situation, the student is expected to perform their role with the examiner as their interlocutor. In the third part, called individual long turn, the candidate is given a task sheet and two pictures. They are expected to talk about them for about five minutes. Each task is worth 10 scores, plus a maximum of 3 additional scores can be given for pace, pronunciation, and intonation. Thus, the total score on the speaking test is 33.

7.2.3.4 Follow up interview. In a short interview I elicited information from Group A students in 2021. I wanted to know their reaction to their test scores and what they believed to cause these changes. The interview allowed me to clarify why certain scores decreased in their tests.

7.2.4 Procedures

Figure 7.2

Details of participants, data collection instruments, and timeframe of Study 3
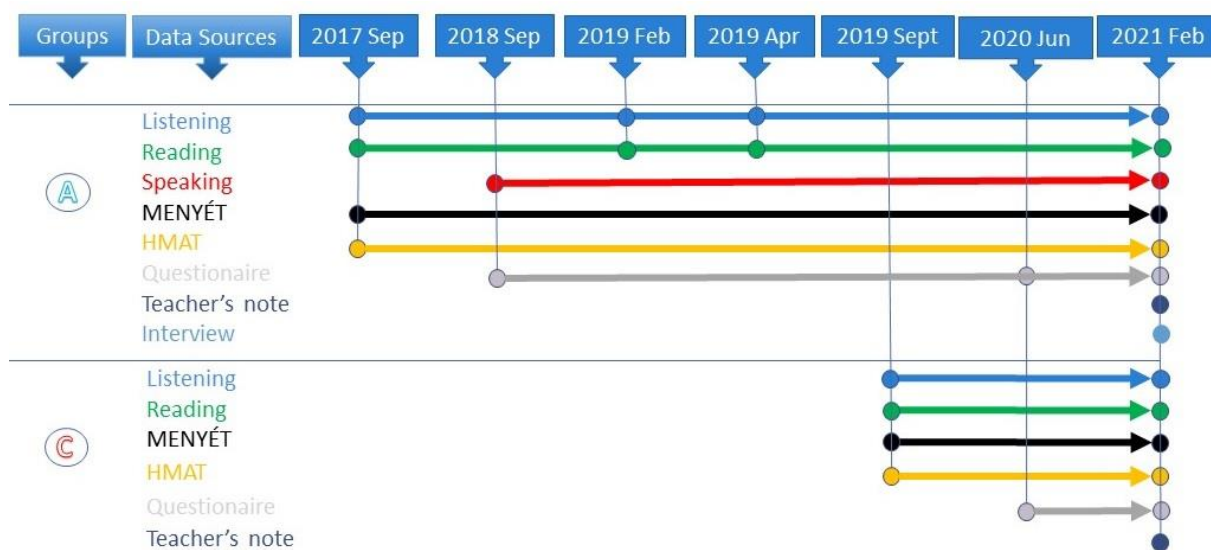
The study aimed to examine the relationships among music aptitude, language aptitude, and the level of English language proficiency of Group A (N=10) and Group C (N=8) over the years. All tests were taken at the secondary school in the same classroom where they learned English.

To Group A, the language aptitude test, the music aptitude test, and the listening and the reading parts of the English proficiency examination were administered in September 2017. Four years later, in February 2021, the ten participants completed the same aptitude and proficiency tests. Their speaking skill was measured first in September 2018, and the follow-up test was administered in February 2021. I also used the test results of the receptive skills conducted in study 2 in February and April of 2019.

Group C filled in the same aptitude and English proficiency tests at two points of measurement: first in September 2019 and second in February 2021. Listening and reading comprehension were tested in the proficiency test, and the speaking test was not administered

(see Figure 7.1). Questionnaires elicited data three times in Group A and two times in Group C.

The first questionnaire of Group A was conducted in 2018 in a paper and pencil format containing eight items. The other questionnaire was sent online for both groups and contained 10 items. Students completed this questionnaire once in June 2020 and the second time in February in 2021. It contained the same ten items and aimed to show how students' answers changed over the months.

The tests were standardised, for reliability reasons, and instructions were recorded into the wave file in the Hungarian language. The administration of the language aptitude test MENYÉT took 61 minutes, and the music aptitude test MAT took 25 minutes for both groups. The proficiency tests took a total of 75 minutes (30 minutes for reading comprehension, 30 minutes for listening comprehension, and 15 minutes for speaking for Group A). The two English tests took 60 minutes for Group C, as their speaking skill was not measured. I administered all tests in my English classes in the classroom familiar to all students.

As one of my research questions concerned the relationship between music aptitude and English speaking, more specifically, pronunciation, I added a new criterion to assess the students' pronunciation in English. The school leaving exam scoring sheet did not provide enough variance for marking pronunciation (0-3), so for scoring students' pronunciation, a validated language exam's descriptor was used (Euroexam, 2019), (see. Table 7.2) as the two raters were trained and tested on using these criteria in mock and actual exams. The minimum score was one, and the maximum score was five. For details
see: https://www.euroexam.com/sites/network/files/attachments/b1_speaking_scale.pdf

I needed reliable results for the speaking tests, so they were marked by two experienced assessors/interlocutors, who had worked at an accredited examination center for over five years. To keep the license active, they had to participate in an annual standardization training on the *Common European Framework of Reference* and pass an exam on assessment. In the assessment part, they marked a pair of mock exams, on each accredited state-recognized level (B1, B2, C1). To successfully renew the license, they had to pass the assessment part with a maximum two points off the grid. An English teacher from the secondary school and I marked the students' oral performances which were recorded in audio format at both measurement points: the first in September 2018 and the second February 2021 for group A.

The Krippendorff's alpha test was used (Haynes & Krippendorff, 2007) to estimate the inter-rater reliability between their scores. The results showed that the inter-rater reliability was high (α =0.8962), indicating that the two raters were in agreement with each other.

Calculating the common scale

As the English language proficiency tests and the aptitude tests used different scales, I needed to find a common scale which would provide comparable results on all tests and subtests. To compare the scores of these diverse variables, all point-based scores were converted to percentage scores for descriptive statistics.

For interferential statistics, all these raw scores resulting from these different scales were converted into standard scores, z scores. "A z-score describes the position of a raw score in terms of its distance from the mean, when measured in standard deviation units. The z-score is positive if the value lies above the mean, and negative if it lies below the mean" (McLeod, 2019, p. 2). Converting the observed scores into standard z-scores allowed me to apply parametric tests. In order to see if the dataset contains outliers, all data points were checked. If a data point in z score is more than 3, then that data point is indicated as an outlier. After investigating the tests, I did not find any outliers.

The listening and reading comprehension tests used a scale of a minimum 0 to a maximum 20, respectively, and the speaking test scores ranged from 0 to 33.

The speaking skill test consisted of three tasks, each worth a maximum of 10 scores. Each task was scored on three criteria: (1) the first task, conversation about a topic was worth a maximum 4 scores, vocabulary, and grammar 3 scores, (2) the second task, a role play, was scored on task achievement and reaching the communication aim for a maximum of 4 scores, and vocabulary and grammar 3 scores, respectively; the third task along continuous speech on a topic was worth 4 scores, whereas vocabulary and grammar were given a maximum of 3 scores, respectively. An additional criterion on all three tasks comprised fluency, intonation, and pronunciation at a total of 3 scores. Therefore, the total score on the speaking test was 33.

Table 7.1

Tasks and assessments of the final school leaving oral exam

	Criterion 1	Scores	Criterion 2	Scores	Criterion 3	Scores	Max
Task 1	Conversation about a topic	0-4	Vocabulary	0-3	Grammar	0-3	10
Task 2	Role play	0-4	Vocabulary	0-3	Grammar	0-3	10
Task 3	Continuous speech on a topic	0-4	Vocabulary	0-3	Grammar	0-3	10
Additional points for fluency, intonation, and pronunciation, 0-3.							3
Total score							33

Table 7.2

Euroexam Level B1: Pronunciation Mark Scheme (Euroexam test book, 2019)

Pronunciation	Scores
Pronunciation is clearly intelligible in spite of evident foreign accent. Occasional mispronunciations put some strain on the listener but rarely impede communication.	5
Pronunciation is clearly intelligible, can utilize intonation and stress. Accent and mispronunciation may impede the message.	4
Pronunciation is clearly intelligible, although mispronunciations and inability to produce certain sounds may sometimes impede communication of the message.	3
Pronunciation is generally understandable, but it is characterized by mispronunciations and the inability to produce certain sounds of the target language. There is a strong influence from other languages, which affects intelligibility.	2
Mispronunciations and inability to produce certain sounds significantly impedes communication of the message.	1
Insufficient language for assessment OR significantly below level criteria	0

To meet all ethical requirements, all participants' questionnaires and tests were coded; thus, their protection of personal rights and anonymity were ensured (Creswell, 2003, p. 66).

The SPSS version 26 statistical software package was used for statistical analysis.

7.3 Results and discussion

In this section, I present the results of the four-year longitudinal study of Group A (N=10) and Group C (N=8) following the sequence of the research questions.

Q6: How did students' scores change the over years on the components of the language aptitude, music aptitude, and English language proficiency tests?
Group A: Table 7.3 to Table 7.5 and Figure 7.3 to Figure 7.7 show the datasets based on descriptive statistics.
Group C: Table 7.18 to Table 7.20 and Figure 7.9 to Figure 7.9 show the datasets based on descriptive statistics.

Q7: What are the relationships among participants' music aptitude, language aptitude, and their level of English language proficiency over the years?
Group A: Table 7.7 to Table 7.17 show the datasets based on inferential statistics.
Group C: Table 7.22 to Table 7.32 show the datasets based on inferential statistics.

Q8: What is the relationship between participants' extramural activities and their level of English language proficiency over the years?
Group A and Group C: Table 7.40

Q9: How did students assess classroom and online tasks?
Group A and Group C: Table 7.41 and Table 7.42

7.3.1 Descriptive statistics of Group A: Proficiency test results

Table 7.3 comprises Group A's results in percentages on the English language tests. On the listening comprehension test in 2017, the mean score was 28.0 (SD=11.1); the minimum was 10 and the maximum was 50 percent, whereas at the second point of measurement, in 2021, the mean score was 80.0 (SD=12.7), the minimum was 60 and the maximum was 95 percent. The reading comprehension component was more difficult for the participants: their mean value was 23.5 (SD=10.8) in 2017 and 77.0 (SD=14.9) in 2021. On the first test, the minimum was 15 and the maximum was 45, whereas in 2021 the minimum was the same as on the listening comprehension test, the maximum was 100 percent, indicating a ceiling effect.

Participants' speaking abilities were first tested in 2018. The mean was the highest out of the three language skills at 34.2 percent (SD=14.2). The minimum achievement for students' speaking skill was 16.7 and the maximum was 65.2. Three years later, the mean increased to 77.3 percent (SD=14.1), the minimum value was 56.1, whereas the maximum was 93.9 percent. The ranges of percentages decreased on the listening and speaking components and increased on the speaking test.

Table 7.3

Descriptive statistics for Group A's (N=10) three English language skills at two points of measurement in percent

	Listening 2017 Sept	Listening 2021 Feb	Reading 2017 Sept	Reading 2021 Feb	Speaking 2018 Feb	Speaking 2021 Feb
Mean	28.0	80.0	23.5	77.0	34.2	77.3
Std. Error of Mean	3.5	4.1	3.4	4.7	4.5	4.4
Median	27.5	82.5	20.0	75.0	31.1	79.5
Std. Deviation	11.1	12.7	10.8	14.9	14.2	14.1
Range	40.0	35.0	30.0	40.0	48.5	37.9
Minimum	10.0	60.0	15.0	60.0	16.7	56.1
Maximum	50.0	95.0	45.0	100.0	65.2	93.9

These results characterize the ten members of Group A, but they say very little about the individual students and their development over time. Figure 7.3 to Figure 7.5 visualize the ten participants' English language data on the listening comprehension, reading comprehension and speaking tests at two points in time. When we take a look at the figures, we can see that Lia, Paula and Teo improved the most. Their listening comprehension test results increased by 70 percent from 2017 to 2021. It is an interesting point that it was Paula who scored the lowest in the group of ten students and improved the most during the period I investigated, even though she seemed to be the least motivated participant of the group. On the reading comprehension tests, Flora developed the most from 20 to 90 percent. Lia's second test score was 100 percent. On the speaking test, Csilla developed the most, namely 60 percent, from 30.3 to 92.4 percent.

All ten students were highly motivated, and they inspired one another as a group and as a class also in school programs. There were two boys (Kevin and Teo) and eight girls in this group. As for their background in music, Csilla played the flute for eight years and

regularly took part in school events but had no further plans with English. Dia was a National Champion wrestler in her weight group, she missed many classes because of her wrestling trainings and competitions, but she saw the importance of speaking a foreign language. Daniella spent a lot of her time watching films and series in English, she was very motivated, but had problems when she had to speak in English. The fourth student, Flora enjoyed watching tutorials on sewing in English, she was extraordinarily motivated, she was good at receptive skills. For April, English classes were a serious challenge, she aimed to just pass her school leaving exam and finally she barely achieved her goal, she was demotivated by her former English teacher. She enjoyed cooperative tasks and eventually she gained enough confidence to use longer English sentences in her speaking. Lia took English classes seriously, passed the advanced level school leaving exam, and she especially excelled in productive skills. Paula missed many classes because of her general state of health. She was a pessimist and required a lot of patience to help her overcome her shyness and get her to speak. Evelyn started learning English at secondary school, she gradually developed her skills and pleasantly surprised everyone by entering the British Autumn Poetry Recital Competition for secondary school students and won a special prize. She played the violin in the school band. Kevin played the drums from his early age and played in the school band but did not take English classes seriously. Teo did not learn English in his primary school but played a lot of computer games in English and was an extremely motivated and hardworking student. He never studied officially any musical instruments, but as a hobby he played the guitar.

Figure 7.3

Results of Group A's (N=10) listening skills at two points of measurement in percent
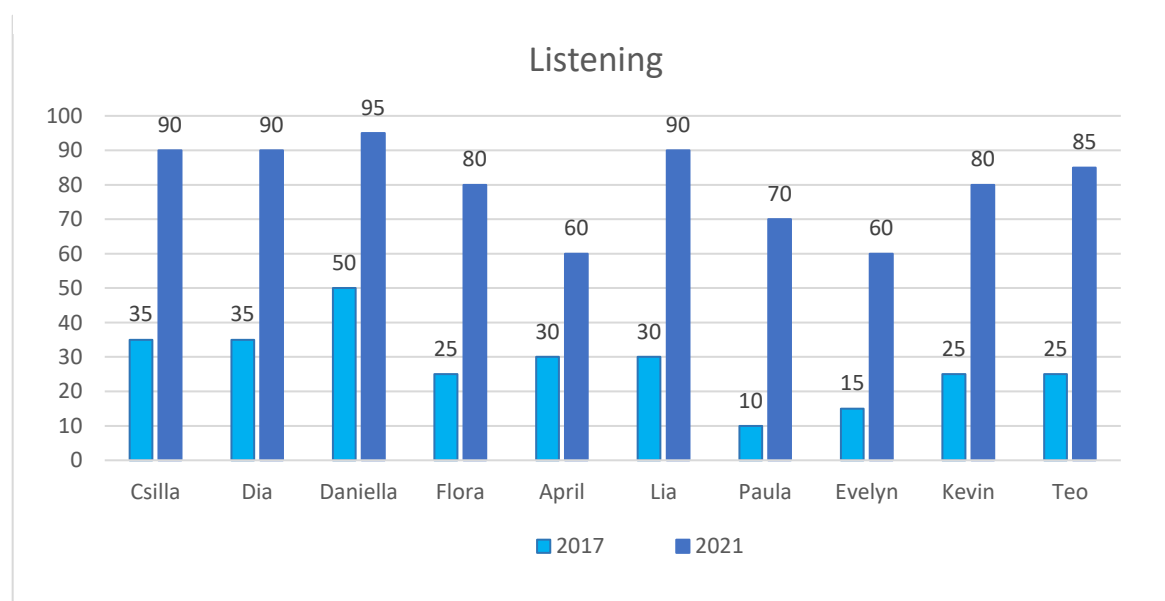
Figure 7.4

Results of Group A's (N=10) reading skills at two points of measurement in percent
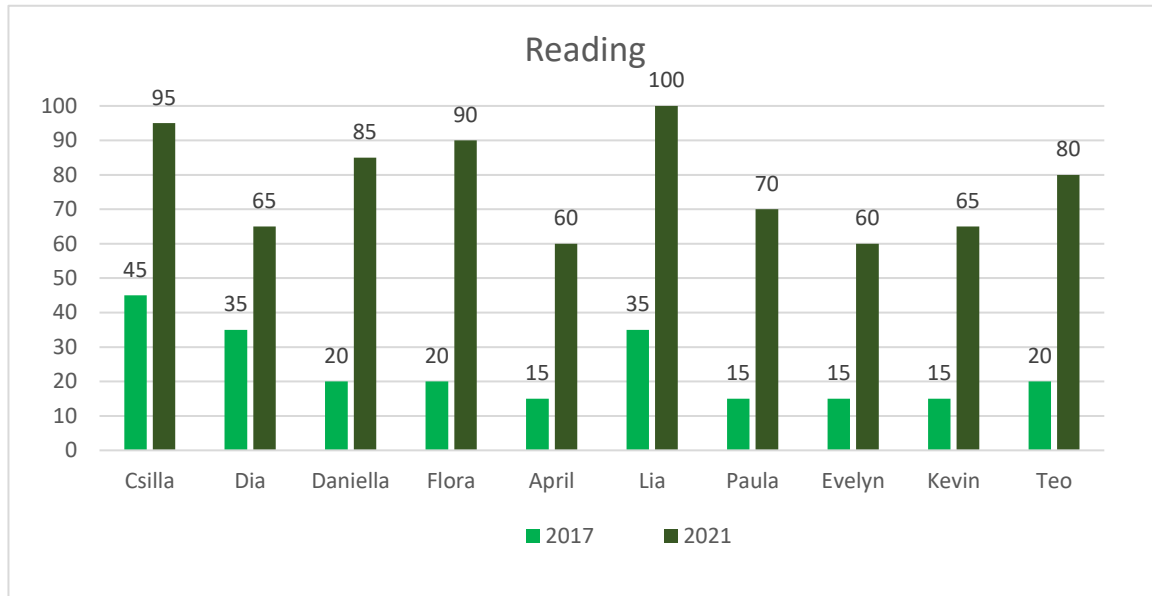
Figure 7.5

Results of Group A's (N=10) speaking skills at two points of measurement in percent
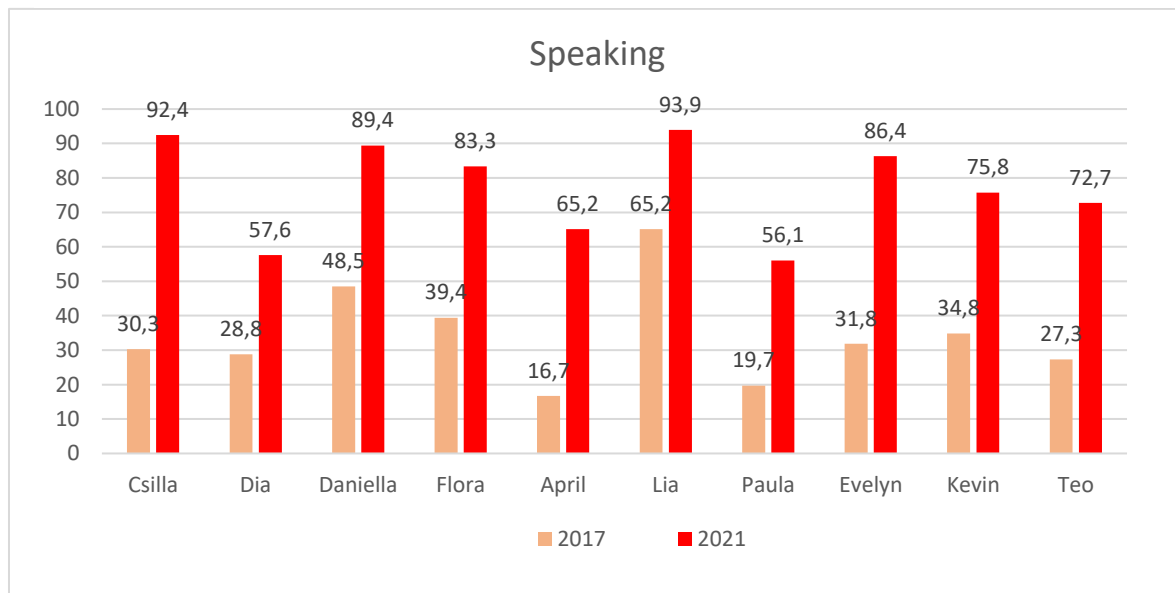
7.3.2 Descriptive statistics of Group A: Aptitude test results

In addition to comparing the students' achievements on the English proficiency tests, I also measured their language learning aptitude at two points in the study. As shows, the ten students' mean values on the four components of the language aptitude test increased over four years, although this increase was found to be at a different rate. Their mean on the phonetic coding ability test increased from 48.5 (SD=18.7) to 60 (SD=17.9) percent, the minimum values were 25 and 40 in 2017 and 2021, respectively; SD became somewhat smaller. The mean value on the inductive learning component increased from 53 (SD=13.9) to 70 (SD=19.1) percent; the maximum (90) changed between the two measurement points; the minimum value increased from 25 to 35 percent. The mean for grammatical sensitivity was the lowest among the components, 28.5 (SD=15.5) percent in 2017 and it increased by 10 (SD=18.1) percent in 2021. On the last component of language aptitude, rote learning ability, the mean value was 62 percent (SD=17.5) at the first measurement point, and it increased to 68.5 (SD=21.3) in 2021. The minimum value decreased from 40 to 15 percent and this component was the only one where the maximum value decreased: from 95 to 90 percent.

Table 7.4

Descriptive statistics for Group A's (N=10) language aptitude on MENYÉT's (Ottó, 2003) four subtests at two points of measurement in percent

	PC 2017 Sep	ILL 2017 Sep	GS 2017 Sep	RL 2017 Sep	PC 2021 Feb	ILL 2021 Feb	GS 2021 Feb	RL 2021 Feb
Mean	48.50	53.00	28.50	62.00	60.00	70.00	38.50	68.50
Std. Error of Mean	5.92	4.41	4.89	5.54	5.68	6.06	5.73	6.75
Median	40.00	57.50	27.50	60.00	57.50	72.50	35.00	72.50
Std. Deviation	18.72	13.95	15.47	17.51	17.95	19.15	18.11	21.35
Range	55.00	45.00	40.00	55.00	50.00	55.00	60.00	75.00
Minimum	25.00	25.00	10.00	40.00	40.00	35.00	5.00	15.00
Maximum	80.00	70.00	50.00	95.00	90.00	90.00	65.00	90.00

Note: PC=Phonetic coding, ILL=Inductive language learning, GS=Grammatical sensitivity, RL=Rote learning

Figure 7.6 shows that almost all participants' performances increased on the four language aptitude components. An odd pattern can be observed in the case of April:

Figure 7.6

Results of ten members in Group A (N=10) MENYÉT's (Ottó. 2003) on four subtests at two points of measurement in percent
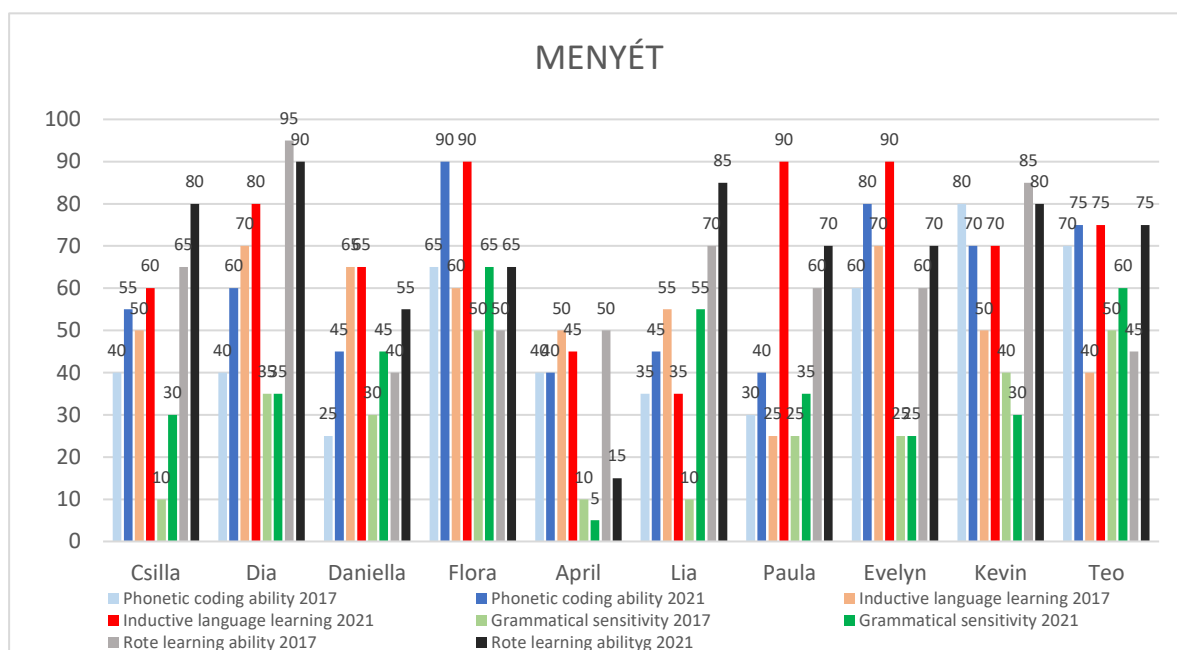
grammatical sensitivity and rote learning ability decreased from 10 to 5 and from 50 to 15, respectively. There were three other students, whose MENYÉT's subcomponent decreased between 2017 and 2021. Dia's rote learning ability from 95 to 90, Lia's inductive language learning from 55 to 35 and Kevin's phonetic coding ability from 80 to 70. Teo's rote learning ability showed the largest improvement, from 45 to 75.

The ten students' music aptitude data in Group A also showed improvement on all three components (Table 7.5). Pitch discrimination's mean was 62.8 percent in 2017 (SD=22.8) and 70 percent (SD=17.7) in 2021. The minimum value increased from 28 to 44 percent, but the maximum value remained 96 at the second point of measurement. The mean of interval discrimination was 47.5 (SD=15.5) in 2017 and it increased to 59.64 (SD=15.5) in 2021; both the minimum (28.00) and the maximum (82.10) values in 2017 increased in 2021: to 39.3 and 89.3, respectively. Meter discrimination's mean increased from 43.34 (SD=12.26) to 50 (SD=19.7) percent. The minimum value was 26.7 in 2017 and decreased to 20 in 2021. The maximum value increased from 60 to 86.7 at the second point of measurement.

Table 7.5

Descriptive statistics for Group A's (N=10) music aptitude on MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement in percent

	PD 2017 Sep	ID 2017 Sep	MD 2017 Sep	PD 2021 Feb	ID 2021 Feb	MD 2021 Feb
Mean	62.80	47.50	43.34	70.00	59.64	50.00
Std. Error of Mean	7.21	4.91	3.88	5.60	4.91	6.23
Median	56.00	44.65	43.35	64.00	57.10	53.30
Std. Deviation	22.79	15.51	12.26	17.71	15.51	19.70
Range	68.00	53.50	33.30	52.00	50.00	66.70
Minimum	28.00	28.60	26.70	44.00	39.30	20.00
Maximum	96.00	82.10	60.00	96.00	89.30	86.70

Note: PD= Pitch discrimination, ID=Interval discrimination, Meter discrimination

A closer look at the ten individuals' scores in Figure 7.7 shows that out of the 30 subtests, there were five instances where the second test's value was lower than that on the first one. Six tests' values remained the same and in 19 cases values on the second subtest increased. April's meter discrimination performance decreased from an above average 60 to well below 20 percent at the second point of measurement. In the other four instances the changes were marginal. The biggest increase was achieved by Csilla, whose interval discrimination improved from 50 to 89. The pitch discrimination results were among the highest in the groups of those participants, Csilla (88, and 88 percent) and Kevin (88 and 80 percent), who played musical instruments. However, the best pitch discrimination results were achieved by Teo (96 and 96), who had never played any musical instruments officially, but self-taught himself to play the guitar.

Figure 7.7

*Results of Group A's (N=10) MAT's (Turmezeyné Heller, 2007) three subtests at two points
of measurement in percent*
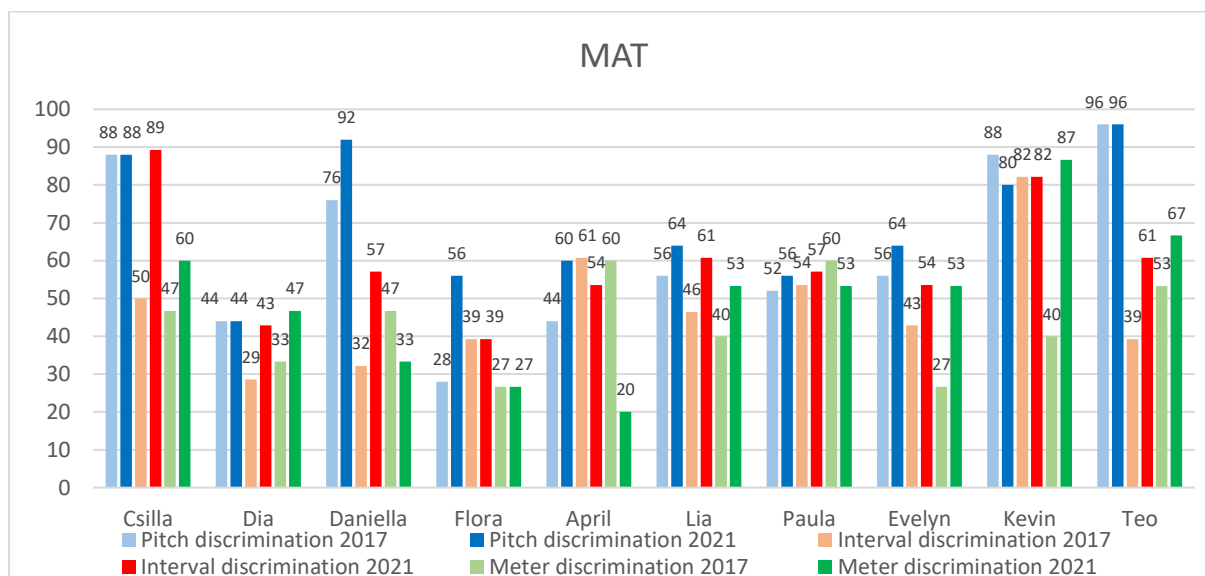
7.3.3 Inferential statistics for Group A

In the previous section, I presented descriptive statistics for Group A. In order to answer the
research question related to the changes over time, paired sample t-tests were run to determine
if there were significant differences between the ten students' scores at the two points of
measurement on the English language proficiency tests and the two aptitude tests. Results in
Figure 7.6 indicate that all differences in the datasets on the English proficiency tests were
significant at the level of 0.00. Reading comprehension showed the second largest difference
(M=53.5, SD=12.03), whereas the pronunciation subtest showed the largest difference
(M=62.5, SD=20.41). I found significant differences between the two language aptitude
measurements only in students' phonetic coding ability at the 0.01 level. The differences on
the other three subtests were not significant. Out of the three music aptitude subtests only the
results on the interval discrimination test were significant at the level of 0.02 (SD=13.9).
These results indicate that although some of the changes in the students' aptitudes were
significant, showing that their phonetic coding ability and interval discrimination developed,
the differences were not significant on the other components.

Table 7.6

Group A paired-sample T-tests of English three language skills and pronunciation tests, four subtests of language and three subtests of music aptitudes at two points of measurement

		Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Listening 2017 Sept Listening 2021 Feb	52.00	9.49	3.00	-58.79	-45.21	-17.33	9	0.00**
Pair 2	Reading 2017 Sept Reading 2021 Feb	53.50	12.03	3.80	-62.11	-44.89	-14.06	9	0.00**
Pair 3	Speaking 2018 Sept Speaking 2021 Feb	43.03	10.50	3.32	-50.54	-35.52	-12.96	9	0.00**
Pair 4	Pronunciation 2018 Sept Pronunciation 2021 Feb	62.50	20.41	6.45	-77.10	-47.89	-9.68	9	0.00**
Pair 5	PC 2017 Sep PC 2021 Feb	11.50	10.81	3.42	-19.24	-3.76	-3.36	9	0.08*
Pair 6	ILL 2017 Sep ILL 2021 Feb	16.00	23.69	7.49	-33.47	0.44	-2.20	9	0.055
Pair 7	GS 2017 Sep GS 2021 Feb	10.00	15.63	4.94	-21.18	1.18	-2.02	9	0.074
Pair 8	RL 2017 Sep RL 2021 Feb	6.50	17.80	5.63	-19.24	6.24	-1.15	9	0.28
Pair 9	PD 2017 Sep PD 2021 Feb	7.20	10.46	3.31	-14.69	0.29	-2.18	9	0.058
Pair 10	ID 2017 Sep ID 2021 Feb	12.14	13.90	4.40	-22.09	-2.19	-2.76	9	0.022*.
Pair 11	MD 2017 Sep MD 2021 Feb	6.66	23.53	7.44	-23.49	10.17	-0.90	9	0.394

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

In order to answer the research question concerning the relationships across Group A's English proficiency test results measured in 2017/18 and 2021, Spearman correlation was used in SPSS statistic program version 26.

At the first point of measurement in 2017, English listening skills and reading skills were moderately correlated, but this correlation was not significant. (Table 7.7). None of the correlations for speaking assessed first in 2018 was significant with data collected in 2017; however, speaking scores were strongly correlated with data collected in 2021 on reading as well as on speaking. In addition to these, analyses found strong and significant correlations

between listening skills in 2021 and reading skills in 2021, at the .05 level, listening skills in 2017 and 2021 at the .05 level, reading in 2021 and speaking in 2018 at the .05 level, and reading in 2021 and speaking in 2021 at the .05 level.

Table 7.7

Inferential statistics for Group A's (N=10) three English language skills at two points of measurement

	Listening 2021_Feb	Reading 2017_Sept	Reading 2021_Feb	Speaking 2018 Sep	Speaking 2021 Feb
Listening 2017 Sept	.690[*]	.435	.378	.403	.361
Listening 2021 Feb		.648[*]	.688[*]	.581	.344
Reading 2017 Sept			.605	.329	.338
Reading 2021 Feb				.682[*]	.673[*]
Speaking 2018 Sep					.723[*]

*. Correlation is significant at the 0.05 level (2-tailed).

There was only one instance where SPSS indicated a medium correlation across MENYÉT's four subtests the first time students took it: between grammatical sensitivity and phonetic coding, but it was not significant (Table 7.8). The other correlations were weak and non-significant across phonetic coding and inductive language learning, inductive language learning and grammatical sensitivity, grammatical sensitivity and rote learning. Interestingly, four years later, in 2021, two of the correlations between MENYÉT's (Ottó, 2003) four subtests were significant (Table 7.9), phonetic coding and inductive language learning, phonetic coding and grammar sensitivity at the .05 level indicating a special role of phonetic coding in establishing meaningful relationships among the students' scores on the four aptitude measures.

Table 7.8

Inferential statistics for Group A's (N=10) four MENYÉT subtests (Ottó, 2003) in 2017

	ILL 2017 Sep	GS 2017 Sep	RL 2017 Sep
PC 2017 Sep	-.081	.581	.130
ILL 2017 Sep		-.060	.158
GS 2017 Sep			-.196

*. Correlation is significant at the 0.05 level (2-tailed).

Note: PC=Phonetic coding, ILL=Inductive language learning, GS=grammatical sensitivity, RL=Rote learning,

Table 7.9

Inferential statistics for Group A's (N=10) four MENYÉT subtests (Ottó, 2003) in 2021

	ILL 2021 Feb	GS 2021 Feb	RL 2021 Feb
PC 2021_Feb	.489*	.530*	.011
ILL 2021_Feb		.243	-.409
GS 2021 Feb			-.058

Note: PC=Phonetic coding, ILL=Inductive language learning, GS=Grammatical sensitivity, RL=Rote learning

As a next step, I examined the relationships between the ten students' scores on the four aptitude test components in 2017 and four years later. Table 7.10 shows the correlations between students' scores on the four tests assessed in 2017 and 2021. Three correlations were significant: phonetic coding in 2017 and 2021 was found to be significantly (at the 0.01 level) and strongly correlated. Phonetic coding in 2021 and grammatical sensitivity in 2017 showed a somewhat weaker but significant relationship at the .05 level. Rote learning in 2017 strongly and significantly correlated with rote learning in 2021 at the .01 level. The significant relationship between scores on the same subtests were phonetic coding ability and rote learning ability. As for the relationships among the three subtests of MAT in 2017, no significant correlation was found. Correlations ranged between weak and moderate (Table 7.11). The picture is very different in the dataset of 2021 (Table 7.12), as two of the relationships were significant: between interval discrimination and pitch discrimination, and between interval discrimination and meter discrimination moderately strong positive correlations were found at the .05 level.

Table 7.10

Inferential statistics for Group A's (N=10) four MENYÉT subtests (Ottó, 2003) at two points of measurement

	PC 2021 Feb	ILL 2021 Feb	GS 2021 Feb	RL 2021 Feb
PC 2017_Sep	.765**	.267	.006	.154
ILL 2017_Sep	.378	.143	-.022	.084
GS 2017_Sep	.680*	.575	.562	.006
RL 2017 Sep	.012	-.062	-.279	.822**

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Note: PC=Phonetic coding, ILL=Inductive language learning, GS=Grammatical sensitivity, RL=Rote learning

Table 7.11

Inferential statistics for Group A's (N=10) MAT results (Turmezeyné Heller, 2007) on three subtests in 2017

	ID 2017 Sep	MD 2017 Sep
PD 2017 Sep	.259	.313
ID 2017 Sep		.285

Note: PD= Pitch discrimination, ID=Interval discrimination, MD=Meter discrimination

Table 7.12

Inferential statistics for Group A's (N=10) MAT's (Turmezeyné Heller, 2007) three subtests in 2021

	ID 2021	MD 2021
PD 2021	.637*	.395
ID 2021		.679*

*. Correlation is significant at the 0.05 level (2-tailed).

Note: PD= Pitch discrimination, ID=Interval discrimination, MD=Meter discrimination

Table 7.13

Inferential statistics for Group A's (N=10) MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement

	PD 2021	ID 2021	MD 2021
PD 2017 Sep	.896**	.790**	.710*
ID 2017 Sep	.106	.598	.463
MD 2017 Sep	.294	.285	-.032

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Note: PD= Pitch discrimination, ID=Interval discrimination, MD= Meter Discrimination

As a final step in the analysis of music aptitude data, I compared correlations among scores on the three MAT components in 2017 and 2021 (see Table 7.13). I found significant and strong correlations between scores of pitch discrimination in 2017 and 2021 at the .01 level, pitch discrimination in 2017 and interval discrimination in 2021 at the .01 level, and pitch discrimination in 2017 and meter discrimination in 2021 at the .05 level.

One of the key research questions in applied linguistics concerns the link between language learning aptitude and proficiency in a foreign language. In order to establish if there was a significant relationship between students' language learning aptitude and their English proficiency, I calculated correlations across the components of these two tests measured in 2017/18 and in 2021. As Table 7.14 shows, only grammar sensitivity (2021) correlated significantly with listening and reading comprehension scores measured in 2021 at the 0.01 and 0.05 level respectively. Inductive language learning measured in 2021 and listening comprehension scores showed a significant but negative correlation at the 0.05 level.

Table 7.14

Inferential statistics for Group A's (N=10) scores on three English language skill tests, MENYÉT's (Ottó, 2003) four subtests at two points of measurement

	PC 2017 Sep	ILL 2017 Sep	GS 2017 Sep	RL 2017 Sep	PC 2021 Feb	ILL 2021 Feb	GS 2021 Feb	RL 2021 Feb
Listening 2017 Sept	-.394	-.367	-.233	.016	-.273	-.638[*]	.025	.134
Listening 2021 Feb	-.369	.229	.057	.071	.169	-.116	.613[**]	.115
Reading 2017 Sept	-.212	.226	-.110	.233	.061	-.360	.425	.560
Reading 2021 Feb	-.272	-.124	-.059	-.061	.082	-.124	.640[*]	.048
Speaking 2018	-.080	.499	.099	.073	.299	-.178	.433	.177
Speaking 2021	-.117	.320	-.315	-.037	.165	-.472	.146	.116
Pronunciation 2018	-.288	-.217	-.072	.072	-.179	-.144	.322	.036
Pronunciation 2021	.312	-.104	.278	-.233	.359	-.241	.220	.084

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Note: PC=Phonetic coding, ILL=Inductive language learning, GS=Grammatical sensitivity, RL=Rote learning

Along similar lines to the calculations on the MENYÉT scores, correlations were calculated across English language proficiency test scores assessed in 2017/18 and 2021 and the three components of the MAT test. Pronunciation in 2021 and pitch discrimination in 2017 and 2021 showed significant and very strong correlation at the 0.01 level, but none of the other MAT (Turmezeyné Heller, 2007) subtests and the English tests showed a significant relationship at the two points of measurement (Table 7.15).

Table 7.15

Inferential statistics for Group A's (N=10) three English language skills, MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement

	PD 2017 Sep	ID 2017 Sep	MD 2017 Sep	PD 2021 Feb	ID 2021 Feb	MD 2021 Feb
Listening 2017 Sept	.075	-.384	.034	.214	.106	-.288
Listening 2021 Feb	.327	-.542	-.069	.188	.145	.164
Reading 2017 Sept	.125	-.497	-.196	.118	.205	.051
Reading 2021 Feb	.203	-.208	-.040	.054	.369	.246
Speaking 2018	.110	-.267	-.607	.226	.110	.031
Speaking 2021	.349	-.079	-.356	.506	.391	.129
Pronunciation 2018	.108	.249	.000	.107	.394	.144
Pronunciation 2021	.836[**]	-.035	-.055	.892[**]	.667[*]	.579

[**]. Correlation is significant at the 0.01 level (2-tailed).

[*]. Correlation is significant at the 0.05 level (2-tailed).

Note: PD= Pitch discrimination, ID=Interval discrimination, MD=Meter discrimination

To examine if there was any overlap in the two aptitude tests, I calculated correlations across scores (Table 7.16). I did not find significant positive correlations among MENYÉT's (Ottó, 2003) four subtests in 2017 and MAT's (Turmezeyné Heller, 2007) three subtests in 2017 and 2021. As can be seen in the table, in twelve instances the correlations were negative and phonetic coding and meter discrimination measured in 2021 indicated a meaningful but negative relationship between the two aptitude measures in 2017 and four years later.

Table 7.16

Inferential statistics for Group A's (N=10) MENYÉT's (Ottó, 2003) four subtests in 2017 and MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement

	PD 2017 Sep	ID 2017 Sep	MD 2017 Sep	PD 2021 Feb	ID 2021 Feb	MD 2021 Feb
PC 2017 Sep	.223	.160	-.360	.142	.050	.429
ILL 2017 Sep	-.357	-.617	-.782[**]	-.245	-.543	-.417
GS 2017 Sep	.065	-.427	-.322	.053	-.252	.150
RL 2017 Sep	-.074	.229	-.358	-.414	.175	.358

Note: PD= Pitch discrimination, ID=Interval discrimination, MD=Meter discrimination

The picture is similar based on the 2021 MENYÉT data in Table 7.17. One significant correlation was found at the 0.05 level between phonetic coding in 2021 and meter discrimination in 2017, at the .05 level. It is unclear what this finding may mean and how it can be explained. Findings in the other group may shed light on this outcome.

Table 7.17

Inferential statistics for Group A's (N=10) MENYÉT's (Ottó, 2003) four subtests in 2021 and MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement

	PD 2017 Sep	ID 2017 Sep	MD 2017 Sep	PD 2021 Feb	ID 2021 Feb	MD 2021 Feb
PC 2021 Feb	.092	-.367	-.753[*]	0.224	.062	.276
ILL 2021 Feb	-.297	-.283	-.366	-.433	-.395	.005
GS 2021 Feb	-.009	-.563	-.176	.171	.140	.140
RL 2021 Feb	.268	-.098	-.309	.288	.209	.093

*. Correlation is significant at the 0.05 level (2-tailed).

Note: PD= Pitch discrimination, ID=Interval discrimination, MD=Meter discrimination, PC=Phonetic coding, ILL=Inductive language learning, GS=Grammatical sensitivity, RL=Rote learning

As a next step, I wanted to examine the relationships between data on students' auditory abilities as measured by tests tapping into phonetic coding, pitch discrimination, and English listening comprehension abilities at the level of individuals (Figure 7.8)

Figure 7.8 presents the results of the auditory skills of the ten participants at two points of measurement. Inferential statistics showed that the relationship between phonetic coding in 2017 and 2021, pitch discrimination in 2017 and 2021 and listening comprehension scores at the two points of measurement are significant at the 0.01, 0.05 and 0.05 level (2-tailed), respectively, and the correlations range between very strong r=.827, .896 and moderate .690, respectively. From this perspective we can see that all students' auditory skills improved in four years. Out of the ten students, scores indicating students' auditory abilities, five showed an increase. The results did not change in the case of four students (three pitch discrimination and one phonetic coding test), and Kevin's phonetic coding decreased by 10 and pitch discrimination by 8 percent.

Figure 7.8

Results of Group A's (N=10) MENYÉT's (Ottó, 2003) phonetic coding, MAT's (Turmezeyné Heller, 2007), pitch discrimination and listening skills at two points of measurement in percent
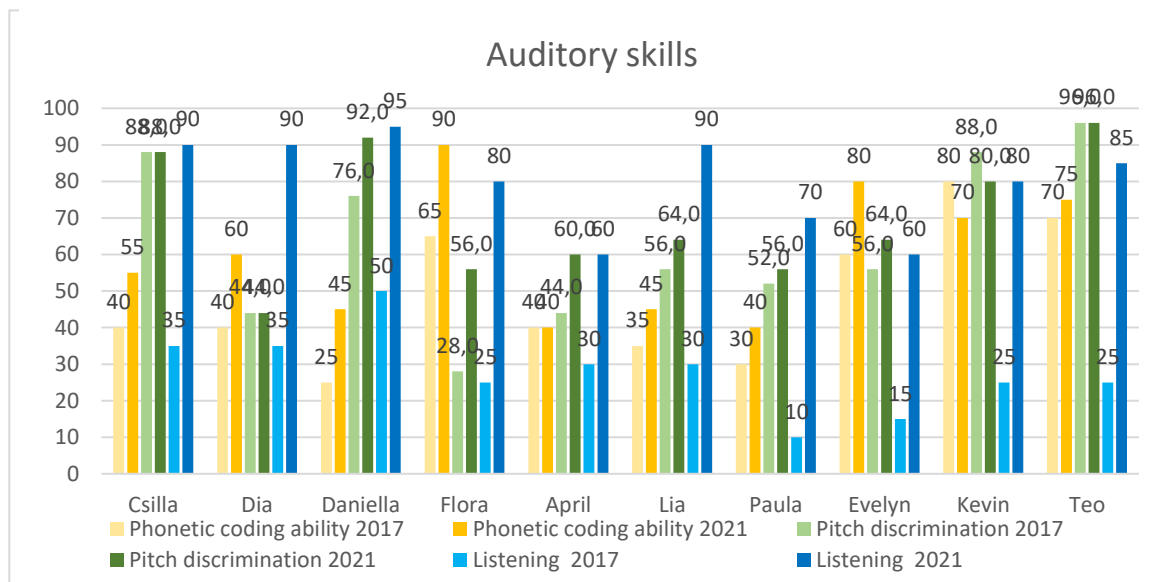
7.3.4 Descriptive statistics of Group C: Proficiency test results

Table 7.18 shows the result of Group C in percentage on English language skills tests. On the listening comprehension test in 2019, the mean score was 74.38 (SD=11.16); the minimum was 60 and the maximum was 90 percent, whereas at the second point of measurement, in 2021, the mean score was 85.0 (SD=9.26), the minimum was 75 and the maximum was 100 percent. The reading component was more difficult for the participants: their mean value was 52.5 in 2019 (SD=21.38) and 69.38 (SD=25.7) in 2021. On the first test, the minimum was 25 and the maximum was 80, whereas in 2021 the minimum was 35.0 (SD=25.7), the maximum participants achieved was 95 percent. If I compare the two language skill results, participants developed significantly both in their listening comprehension (by 10.62 %) and in their reading comprehension (by 16.88 %) at the .01 level.

Table 7.18

Descriptive statistics for Group C's (N=8) two English language skills at two points of measurement in percent

	Listening 2019_Sept	Listening 2021_Feb	Reading 2019_Sept	Reading 2021_Feb
Mean	74.38	85.00	52.50	69.38
Std. Error of Mean	3.95	3.27	7.56	9.08
Median	72.50	82.50	55.00	72.50
Std. Deviation	11.16	9.26	21.38	25.70
Range	30.00	25.00	55.00	60.00
Minimum	60.00	75.00	25.00	35.00
Maximum	90.00	100.00	80.00	95.00

Just like in Group A, these results need to be complemented with some more data to reveal how participants developed over the two years. Figure 7.9 and Figure 7.10 visualize the eight participants' English performance on the listening comprehension and reading comprehension tests at two points in time. We can see that Viki improved the most. Her listening comprehension test scores increased 20 percent between 2019 and 2021. It is an interesting point out that the listening performance of Nelli did not change over two years. On the reading comprehension test, Lili's score dropped the most: from 85 to 30 percent, but

Figure 7.9

Results of Group C's (N=8) listening comprehension at two points of measurement percent
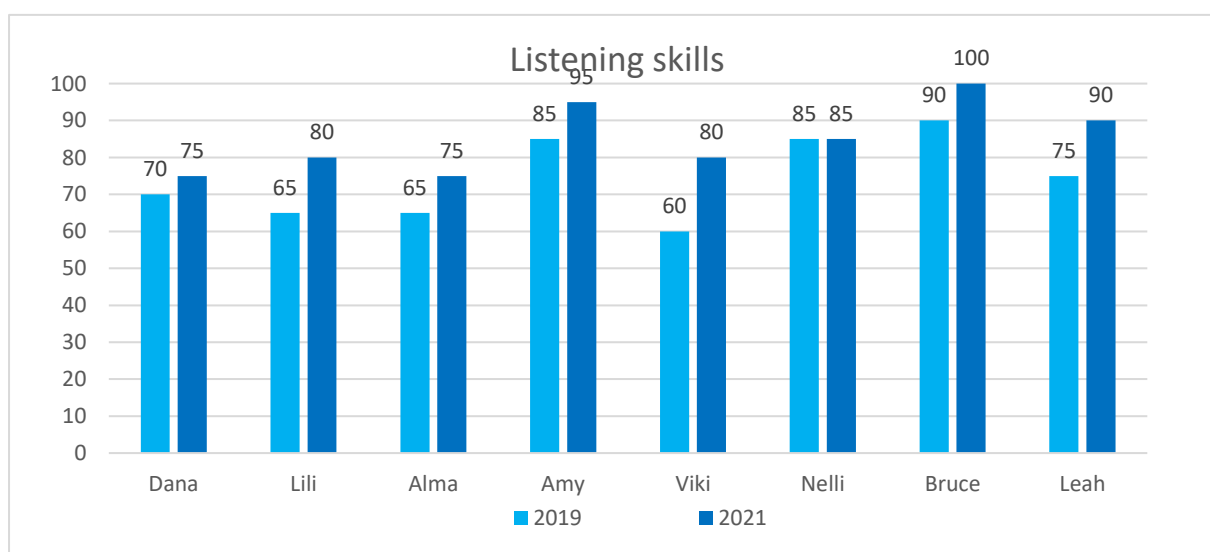
there were two other students, Dana and Viki, whose tests results showed 5 percent decrease. Amy's second test increased from 65 to 90 percent.

Nelli's and Bruce's reading scores did not change over the 2-year period and remained the same 95 percent. Even though all students were highly motivated, according to my observation notes, classroom activity in Group C was less group dynamic than in Group A. Their student-student and student-teacher interactions were less prominent than I experienced in Group A. Students seemed to be more introverted and less willing to communicate. All students started learning English in primary school. There were seven girls and one boy (Bruce) in this group. Based on the data they filled in on their extramural activities, Dana liked watching series and listening to music in her free time. Lili enjoyed watching series and talking to her Turkish exchange friend. For Alma, English was a failure at primary school, and she liked quizzes the most. Amy passed a B1 level complex English language proficiency exam in grade 8, she and Alma were the most motivated ones. Viki sang for a short time at primary school but chose not to at secondary school, she was also fond of watching series in English at home. Nelli and Bruce were siblings, Nelli was very shy in grade 9 and watched series as an extracurricular activity. Bruce, the only boy, spent 5-6 hours playing online computer games in English, and he also enjoyed watching movies in English. Leah liked listening to music in English and watching films with English subtitles.

As Figure 7.9 illustrates, seven students' scores increased over two years on the listening comprehension tests, one did not show any improvement, whereas the others' increase in scores ranged between five and 20 percent. The columns in Figure 7.10 paint a very different picture of the results in reading comprehension. Three students achieved lower scores after two years, two got the same scores, therefore, a ceiling effect may have impacted their results, and three students' scores increased. Alma's scores remained very low, showing hardly any development.

Figure 7.10

Results of Group C's (N=8) reading skills at two points of measurement in percent
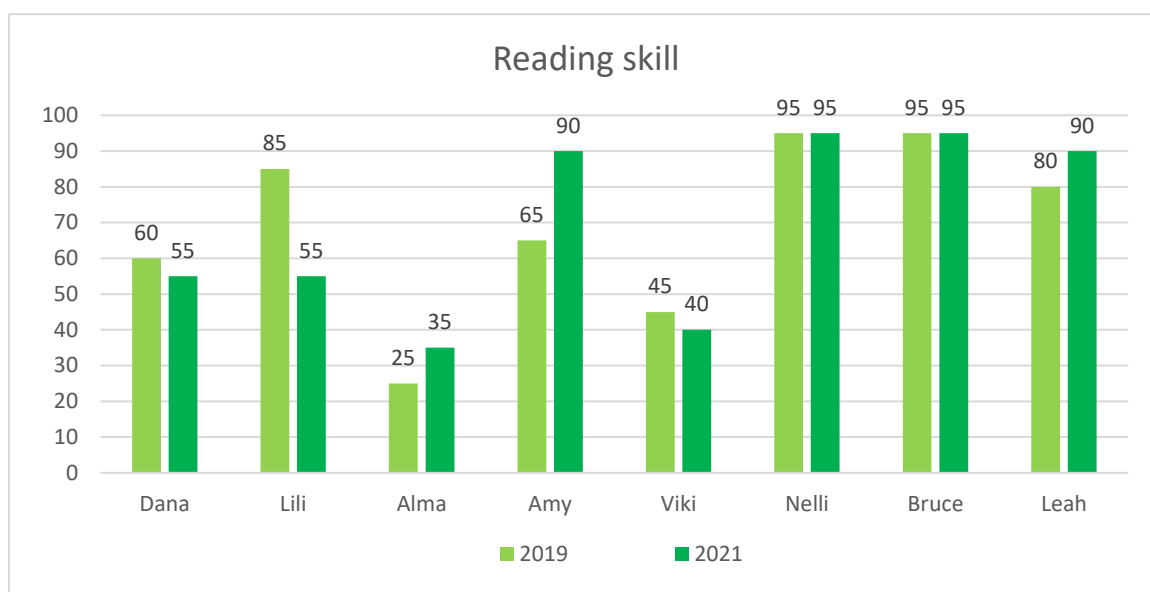
My research questions aimed to compare participants' results on the language learning aptitude tests at two points of measurement. As Table 7.19 shows, the eight students' mean values on the four components of the language aptitude test increased over two years, although this increase was uneven among the test components. Their mean on the phonetic coding ability test scores increased from 43.75 (SD=14.33) to 47.5 (SD=12.82) percent with a minimum of 25 and 35 in 2017 and 2021, respectively; SD became somewhat smaller, decreasing from 14.33 to 12.82. The mean on the inductive reasoning component increased from 58.13 (SD=20.86) to 65 (SD=16.9) percent; the minimum increased from 20 to 40 at the two measurement points; however, the maximum value decreased from 90 to 85 percent. Similarly to Group A's results, the mean for grammatical sensitivity was the lowest among the four components: 20.0 (SD=15.5) percent in 2019 and it increased to 29.38 (SD=14.25) percent in 2021. On the last component of language aptitude, rote learning ability, the mean value was 54.38 percent (SD=21.45) at the first measurement point, and it increased to 69.38 (SD=24.12) in 2021. The minimum value increased from 25 to 30 percent and this component was the only one where the maximum value did not change, it was 95 percent both times.

Table 7.19

Descriptive statistics for Group C's (N=8) language aptitude on MENYÉT's (Ottó, 2003) four subtests at two points of measurement in percent.

	PC 2019 Sep	ILL 2019 Sep	GS 2019 Sep	RL 2019 Sep	PC 2021 Feb	ILL 2021 Feb	GS 2021 Feb	RL 2021 Feb
Mean	43.75	58.13	20.00	54.38	47.50	65.00	29.38	69.38
Std. Error of Mean	5.07	7.38	2.67	7.59	4.53	5.98	5.04	8.53
Median	40.00	62.50	17.50	45.00	42.50	67.50	30.00	70.00
Std. Deviation	14.33	20.86	7.56	21.45	12.82	16.90	14.25	24.12
Range	40.00	70.00	20.00	70.00	35.00	45.00	45.00	65.00
Minimum	25.00	20.00	10.00	25.00	35.00	40.00	5.00	30.00
Maximum	65.00	90.00	30.00	95.00	70.00	85.00	50.00	95.00

Note: PC=Phonetic coding, ILL=Inductive language learning, GS=Grammatical sensitivity, RL=Rote learning

7.3.5 Descriptive statistics of Group C: Aptitude test results

Figure 7.11 shows the eight students' scores: most of the participants' performances on the four language aptitude components increased. Out of the eight students only three participants' scores increased on all four MENYÉT's components: those of Alma, Nelli and Leah. There were 32 subtest pairs with the eight participants; 20 pairs indicated improvement, 9 pairs showed decrease and there were two pairs, rote learning ability and inductive learning, where the percentage did not change over the two-year period. An odd pattern can be observed in the case of Viki: grammatical sensitivity and phonetic coding decreased from 10 to 5 and from 65 to 35, respectively. There were four other students, whose MENYÉT subcomponent decreased from 2019 to 2021. Dana's phonetic coding from 40 to 35, grammatical sensitivity from 30 to 20, Lili's rote learning ability from 65 to 60, Amy's phonetic coding from 65 to 45 and rote learning from 45 to 30, Bruce's inductive language learning from 55 to 45, grammatical sensitivity from 40to 15 and rote learning from 80 to 25. Leah's rote learning ability showed the largest improvement, from 45 to 90. These outcomes may indicate that some students did not take the tests seriously, they may have tried to guess their choices, and these could be the reasons why the results seem to be unreliable.

Figure 7.11

Results of ten members in Group C (N=8) MENYÉT's (Ottó, 2003) on four subtests at two points of measurement in percent
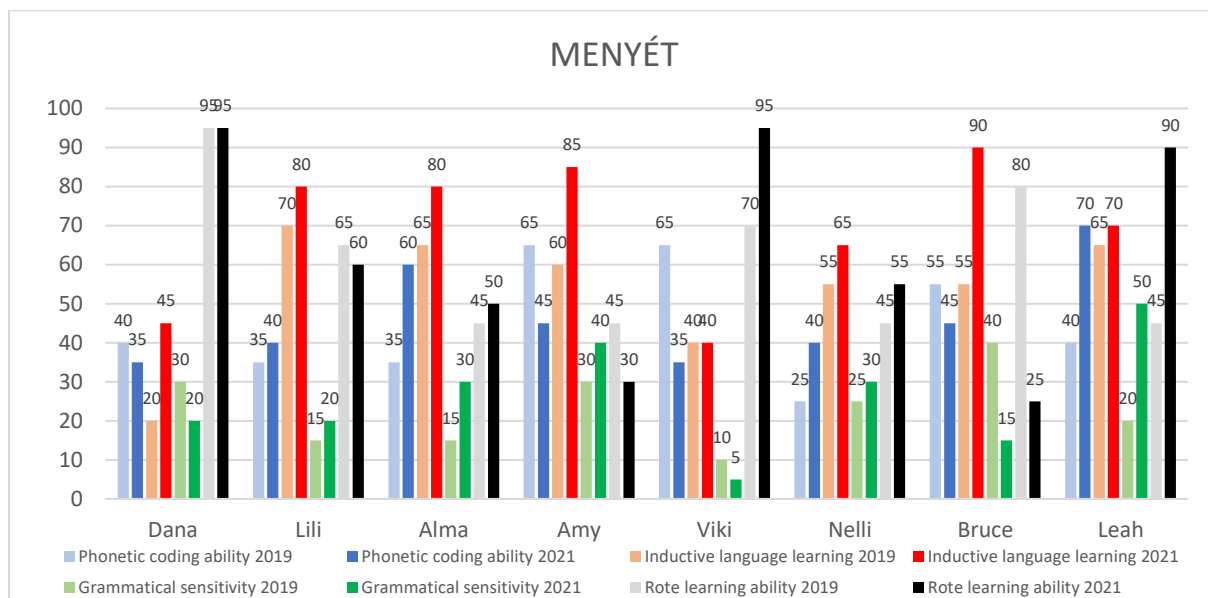
The eight students' music aptitude data in Group C also showed improvement on two components in Table 7.20. Pitch discrimination's mean was 41.0 percent in 2019 (SD=13.56) and 46 (SD=15.57) in 2021. The minimum value increased from 24 to 28 percent, and the maximum value increased from 64 to 72 percent. The mean of interval discrimination was 50.75 (SD=10.48) in 2019 and it increased to 61.75 (SD=9.79) in 2021; both the minimum, 39 and the maximum, 71 values increased in 2021, to 50 and 82, respectively. The third subtest, the meter discrimination's mean decreased from 52.50 (SD=16.42) to 45.75 (SD=21.74). The minimum was 40 in 2019 and decreased to 20 percent in 2021. The maximum value, 80 percent, did not change at the second point of measurement.

Table 7.20

Descriptive statistics for Group C's (N=8) music aptitude on MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement in percent

	PD	ID	MD	PD	ID	MD
Mean	41.00	50.75	52.50	46.00	61.75	45.75
Std. Error of Mean	4.83	3.71	5.81	5.50	3.46	7.69
Median	40.00	48.00	43.50	42.00	61.00	40.00
Std. Deviation	13.65	10.48	16.42	15.57	9.79	21.74
Variance	186.29	109.93	269.71	242.29	95.93	472.79
Range	40.00	32.00	40.00	44.00	32.00	60.00
Minimum	24.00	39.00	40.00	28.00	50.00	20.00
Maximum	64.00	71.00	80.00	72.00	82.00	80.00

Note: PD= Pitch discrimination, ID=Interval discrimination, MD=Meter discrimination

The eight individuals' scores in Figure 7.12 shows that out of the 24 subtests, there were six instances where the second test's value was lower than that on the first one. One test value remained the same, and in 18 cases the second subtest values increased. According to Figure 7.12, the meter discrimination subtest decreased the most (five out of the eight participants). The biggest increase was achieved by Alma whose interval discrimination improved from 43 to 61.

Figure 7.12

Results of Group C's (N=8) MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement in percent
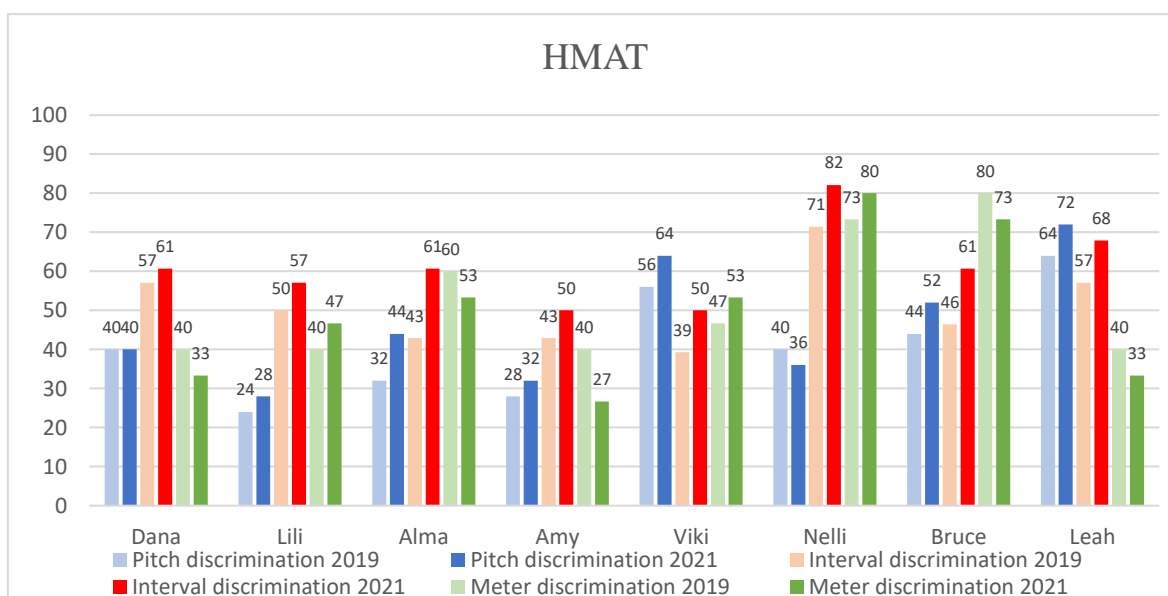
7.3.6 Inferential statistics of Group C

In the previous section, I presented descriptive statistics for Group C. In order to answer the research question related to the changes over time, paired samples t-tests were run to determine if there were significant differences between the eight students' scores at the two points of measurement on the English language proficiency tests and the two aptitude tests. Results in Table 7.21 show that all English proficiency test differences were significant at the level of 0.01. Reading comprehension scores showed the largest difference (M=16.85, SD=6.51). The language aptitude test's four subtests did not indicate significant differences between the two tests. Out of the tree music aptitude subtests, the results on the interval discrimination and meter discrimination tests were significant at the level of 0.03 (SD=5.13) and 0.00 (SD=4.81), respectively.

Table 7.21

Group C paired sample T-tests of English two language skills, four subtests of language and three subtests of music aptitudes at two points of measurement

Paired Differences		Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Listening 2019 Sept Listening 2021 Feb	10.63	6.23	2.20	-15.84	-5.41	-4.82	7	0.00**.
Pair 2	Reading 2019 Sept Reading 2021 Feb	16.88	6.51	2.30	-22.32	-11.43	-7.33	7	0.00**.
Pair 3	PC 2019 Sep – PC 2021 Feb	3.75	21.00	7.43	-21.31	13.81	-0.51	7	0.629
Pair 4	ILL 2019 Sep ILL 2021 Feb	6.88	19.07	6.74	-22.82	9.07	-1.02	7	0.342
Pair 5	GS 2019 Sep – GS 2021 Feb	9.38	13.74	4.86	-20.86	2.11	-1.93	7	0.095
Pair 6	RL 2019 Sep – RL 2021 Feb	15.00	24.64	8.71	-35.60	5.60	-1.72	7	0.129
Pair 7	PD 2019 Sep – PD 2021	5.00	5.13	1.81	-9.29	-0.71	-2.76	7	0.028*
Pair 8	ID 2019 Sep – ID 2021	11.00	4.81	1.70	-15.02	-6.98	-6.47	7	0.00**.
Pair 9	MD 2019 Sep – MD 2021	6.75	10.87	3.84	-2.34	15.84	1.76	7	0.123

*. Correlation is significant at the 0.05 level
**.Correlation is significant at the 0.01 level

Note:PC= Phonetic coding, ILL= Inducting language learning, GS= Grammatical sensitivity, RL= Rote learning, PD= Pitch discrimination, ID= Interval discrimination, MD= Meter discrimination

Research question 6 was concerned with the relationships across Group C's English proficiency test results measured in 2019 and 2021, therefore, Spearman correlation was used with SPSS statistic program version 26.

Table 7.22 indicates that all English language skill scores had strong relationships with one another, and the differences were significant at the 0.01 level: listening skill and reading skill in 2019 $r(8) = .950$, listening comprehension in 2019 and reading comprehension in 2021 $r(8) = .920$ and listening and reading in 2021 $r(8) = .841$. In addition to these, analyses found strong and significant correlations at the 0.05 level between listening comprehension in 2019 and listening comprehension in 2021, $r(8) = .830$; listening comprehension in 2021 and reading comprehension in 2021, $r(8) = .830$. These findings indicate that the students whose scores were high in 2019, also tended to score high two years later on both their listening and reading comprehension tests.

Table 7.22

Inferential statistics for Group C's (N=8) two English language skills at two points of measurement

	Listening 2021 Feb	Reading 2019 Sept	Reading 2021 Feb
Listening 2019 Sept	.830*	.950**	.920**
Listening 2021 Feb		.830*	.841**
Reading 2019 Sept			.978**

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

In Table 7.23 SPSS marked only one significant and negative correlation across the four language aptitude test scores at the first point of measurement in 2019: between inductive language learning and rote learning $r(8) = -.881$. In Table 7.24, we can find that the same subtest pair showed significant and negative correlation at the second time of measurement in 2021, $r(8) = -.832$, whereas a strong, significant and positive relationship was revealed between phonetic coding and grammar sensitivity.

Table 7.23

Inferential statistics for Group C's (N=8) MENYÉT's (Ottó, 2003) four subtests in 2019

	ILL 2019_Sep	GS 2019_Sep	RL 2019_Sep
PC 2019_Sep	-.140	-.066	.067
ILL 2019_Sep		-.408	-,881**
GS 2019_Sep			.220

**. Correlation is significant at the 0.01 level (2-tailed).

Note:PC= Phonetic coding, ILL= Inducting language learning, GS= Grammatical sensitivity, RL= Rote learning, PD= Pitch discrimination, ID= Interval discrimination, MD= Meter discrimination

Table 7.24

Inferential statistics for Group C's (N=8) MENYÉT's (Ottó, 2003) four subtests in 2021

	ILL 2021 Feb	GS 2021 Feb	RL 2021 Feb
PC 2021_ Feb	.412	.792*	-.029
ILL 2021_ Feb		.519	-.832*
GS 2021_ Feb			-.282

*. Correlation is significant at the 0.05 level (2-tailed).

Note:PC= Phonetic coding, ILL= Inducting language learning, GS= Grammatical sensitivity, RL= Rote learning, PD= Pitch discrimination, ID= Interval discrimination, MD= Meter discrimination

Table 7.25 presents the eight participants' score relationships between the MENYÉT's four subtests in 2019 and 2021. The statistical analysis software did not find any significant and meaningful relationship between the test components. This is surprising, as language learning aptitude is supposed to be a stable trait and it is not even expected to change much over time. Most probably, the students did not take the tests seriously, they must have guessed the answers, and this may be why I found no consistent relationship.

Table 7.25

Inferential statistics for Group C's (N=8) MENYÉT's (Ottó, 2003) four subtests at two points of measurement

	PC 2021_Feb	ILL 2021_Feb	GS 2021_Feb	RL 2021Feb
PC 2019_Sep	-.194	-.192	-.179	.028
ILL 2019_Sep	.594	.506	.572	-.350
GS 2019_Sep	-.184	.168	.331	-.294
RL 2019_Sep	-.643	-.443	-.691	.420

Note:PC= Phonetic coding, ILL= Inducting language learning, GS= Grammatical sensitivity, RL= Rote learning.

I used inferential statistics to examine the significance of the relationships in the MAT test battery. At the first time of measurement in 2019, there was no significant correlation among the MAT's three subtests (see Table 7.26). There was no significant and meaningful relationship among Pitch discrimination, interval discrimination and meter discrimination. However, at the second point of measurement, shown in Table 7.27, there was a moderately positive correlation at the .01 level between interval discrimination and meter discrimination r(8)=.640.

Table 7.26

Inferential statistics for Group C's (N=8) MAT's (Turmezeyné Heller, 2007) three subtests in 2019

	ID 2019 Sep	MD 2019 Sep
PD 2019 Sep	.110	.008
ID 2019 Sep		.200

Note: PD= Pitch discrimination, ID=Interval discrimination, Meter discrimination

Table 7.27

Inferential statistics for Group C's (N=8) MAT's (Turmezeyné Heller, 2007) three subtests in 2021

	ID 2021 Sep	MD 2021 Sep
PD 2021 Sep	.306	.026
ID 2021 Sep		.640**

Note:PD= Pitch discrimination, ID=Interval discrimination, Meter discrimination

Finally, I compared the correlations among the three MAT's subtests at two points of measurements and found that all corresponding subtests showed significant, positive correlations: pitch discrimination in 2019 and 2021, interval discrimination in 2019 and 2021 and meter discrimination in 2019 and 2021 showed strong correlation at the .01 level. (see Table 7.28)

Table 7.28

Inferential statistics for Group C's (N=8) MAT's (Turmezeyné Heller. 2007) three subtests at two points of measurement

	PD 2021 Feb	ID 2021 Feb	MD 2021 Feb
PD_ 2019_ Sep	.947**	.263	-.222
ID 2019_ Sep	-.158	.890**	.498
MD_ 2019_ Sep	-.002	.505	.874**

**. Correlation is significant at the 0.01 level (2-tailed).

Note: PD= Pitch discrimination, ID= Interval discrimination, MD= Meter discrimination

Along similar lines with Group A, I compared language learning aptitude and English language proficiency scores (Table 7.29), and music aptitude and English language proficiency scores (Table 7.30) at two points of measurement. As Table 7.29 indicates, SPSS found three significant correlations out of the 32. Listening comprehension scores achieved in 2021 and rote learning scores in 2019 showed a strong negative and significant relationship at the .05 level. Listening comprehension and grammatical sensitivity scores at the second time of measurement proved to be also significant at the .05 level and reading skill in 2021 and grammatical sensitivity in 2021 at the .01 level. Table 7.30, however, shows no significant correlations at all among the three language skills and the three music aptitude subtests.

Table 7.29

Inferential statistics for Group C's (N=8) two English language skills, MENYÉT's (Ottó, 2003) four subtests at two points of measurement

	PC 2019 Sep	ILL 2019 Sep	GS 2019 Sep	RL 2019 Sep	PC 2021 Feb	ILL 2021 Feb	GS 2021 Feb	RL 2021 Feb
Listening 2019_Sep	-.073	.454	.466	-.643	.212	.170	.693	-.320
Listening 2021_Feb	.296	.647	.102	-.737*	-.040	-.128	.514*	.260
Reading 2019_Sep	-.105	.388	.420	-.572	.235	.030	.686	-.093
Reading 2021 Feb	-.090	.424	.441	-.584	.168	-.034	.675**	.013

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Note:PC= Phonetic coding. ILL= Inducting language learning, GS= Grammatical sensitivity, RL= Rote learning, PD= Pitch discrimination, ID= Interval discrimination, MD= Meter discrimination

Table 7.30

Inferential statistics for Group C's (N=8) two English language skills, MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement

	PD 2019 Sep	ID 2019 Sep	MD 2019_ Sep	PD 2021 Feb	ID 2021 Feb	MD 2021 Feb
Listening 2019_Sep	-.052	.346	.536	-.240	.325	.547
Listening 2021_Feb	.158	-.059	.343	.002	.161	.175
Reading 2019_Sep	.196	.478	.462	-.091	.443	.486
Reading 2021 Feb	.157	.477	.331	.011	.408	.409

Note:PC= Phonetic coding. ILL= Inducting language learning, GS= Grammatical sensitivity, RL= Rote learning, PD= Pitch discrimination, ID= Interval discrimination, MD= Meter discrimination

I examined the relationships between the subtests of language aptitude and music aptitude test scores at two points of measurements. SPSS indicated two significant relationships, as shown in Table 7.31. A strong significant negative correlation was found

between interval discrimination (2019, 2021) and phonetic coding (2019). The possible explanation for negative correlations is discussed in section 7.3.9.3.

Table 7.31

Inferential statistics for Group C's (N=8) MENYÉT's (Ottó, 2003) four subtests in 2019 and MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement

	PD 2019 Sep	ID 2019 Sep	MD 2019 Sep	PD 2021 Feb	ID 2021 Feb	MD 2021 Feb
PC 2019 Sep	.153	-.734[*]	-.361	.243	-.781[*]	-.703
ILL 2019 Sep	-.133	-.179	.493	.022	.029	.522
GS 2019 Sep	-.249	.487	-.236	-.437	.164	-.056
RL 2019 Sep	-.037	.063	-.634	-.141	-.212	-.552

*. Correlation is significant at the 0.05 level (2-tailed).

Note:PC= Phonetic coding. ILL= Inducting language learning. GS= Grammatical sensitivity. RL= Rote learning. PD= Pitch discrimination. ID= Interval discrimination. MD= Meter discrimination

Table 7.32 comprises inferential statistics data for Group C to find out if any of the relationships were significant. A strong and significant correlation was detected between pitch discrimination in 2019 and rote learning in 2021.

Table 7.32

Inferential statistics for Group C's (N=8) MENYÉT's (Ottó, 2003) four subtests in 2021 and MAT's (Turmezeyné Heller, 2007) three subtests at two points of measurement

	PD 2019 Sep	ID 2019 Sep	MD 2019 Sep	PD 2021 Feb	ID 2021 Feb	MD 2021 Feb
PC 2021 Sep	.343	-.053	.146	.501	.165	.138
ILL 2021 Sep	-.570	-.028	-.142	-.456	-.060	.122
GS 2021 Sep	.121	.228	.175	.148	.255	.271
RL 2021 Sep	.749[*]	.061	-.093	.689	.081	-.236

*. Correlation is significant at the 0.05 level (2-tailed).

Note:PC= Phonetic coding, ILL= Inducting language learning, GS= Grammatical sensitivity, RL= Rote learning, PD= Pitch discrimination, ID= Interval discrimination, MD= Meter discrimination

It would make sense to find positive relationships between students' listening comprehension skills and their phonetic coding, and pitch discrimination abilities. Therefore, similarly to Group A, these correlations were also calculated for Group C. Figure 7.13 presents the results of the auditory skills of the eight participants at two points of measurement. Inferential statistics showed that the relationships between pitch discrimination in 2019 and 2021 and listening skill scores at the two points of measurement are significant at the 0.01 and 0.05 level (2-tailed), respectively, and the correlations are strong and positive (r=.947, .830, respectively) , see Table 7.13 and Table 7.28. SPSS did not find a significant correlation between phonetic coding at the two points of measurement. Figure 7.13 reveals that not all students' auditory skills improved in two years. Out of the eight participants, the scores of only two increased, as measured by these tests. While English listening comprehension scores improved in the case of all eight participants, pitch discrimination improved in six cases, whereas phonetic coding only for four students. The results did not change in the case of Dana (pitch discrimination).

Figure 7.13

Results of Group C's (N=8) MENYÉT's (Ottó, 2003) phonetic coding, MAT's (Turmezeyné Heller, 2007), pitch discrimination, and listening skills at two points of measurement in percent
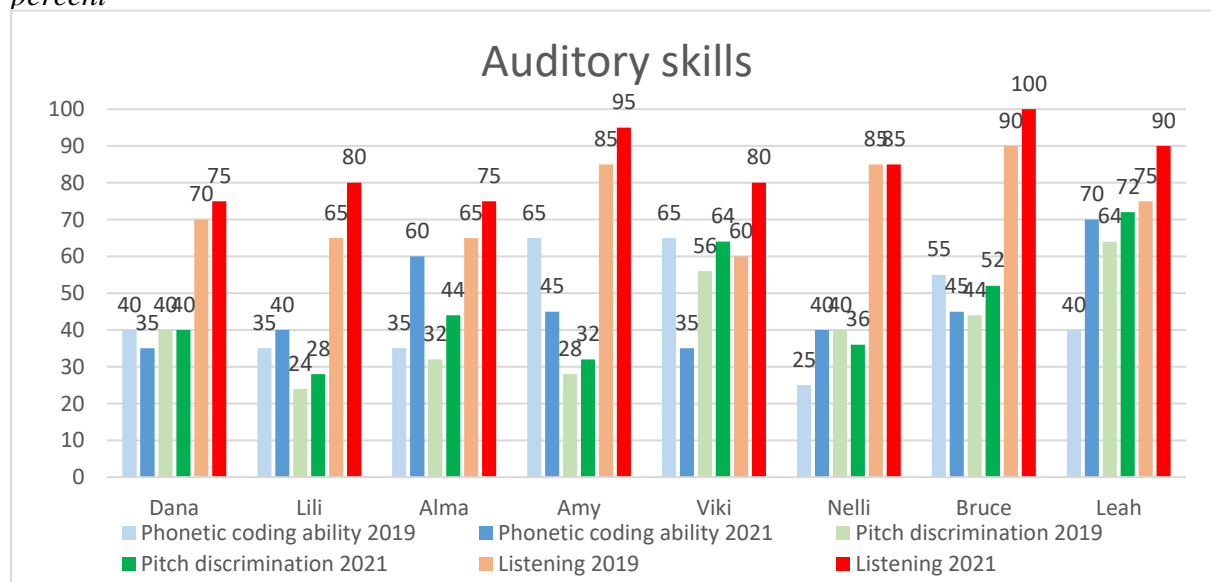
7.3.7 Profiles of students in Group A

In the previous sections I presented the results of descriptive and inferential statistics for Group A (N=10) and Group C (N=8) on four subsets of MENYÉT (Ottó, 2003), three subtests of MAT (Turmezeyné Heller, 2007), and the scores on the English tests. In this part, I aim to share the students' profiles I was able to establish based on various datasets and my experience as their teacher of English.

Each profile is built on students' language aptitude, music aptitude and English language proficiency test results at the beginning and at the end of the four-year period. Additionally, they also include the following end of term grades for the period of 2017-2021 in five school subjects: Hungarian literature, Hungarian grammar, mathematics, second foreign language, and music. The subject music was in the curriculum only for their first and second academic years in secondary school. I was also interested to see the students' overall school achievements over the academic years, so I examined their grade point average values for each academic year. To gain more insight into the scores in the datasets, I elicited some background information about the students' opinion about their tests results and how they evaluated their skills. Where necessary, I asked them for more information to clarify their answers where I was not sure about interpreting them. For the evaluation I used a 4-point Likert scale. As for the qualitative dataset, I translated their extended answers from Hungarian into English. All values were converted to percent.

7.3.7.1 Profile 1: Csilla

Figure 7.14

Csilla's achievements (%) on the language and music aptitude subtests in 2017 and 2021
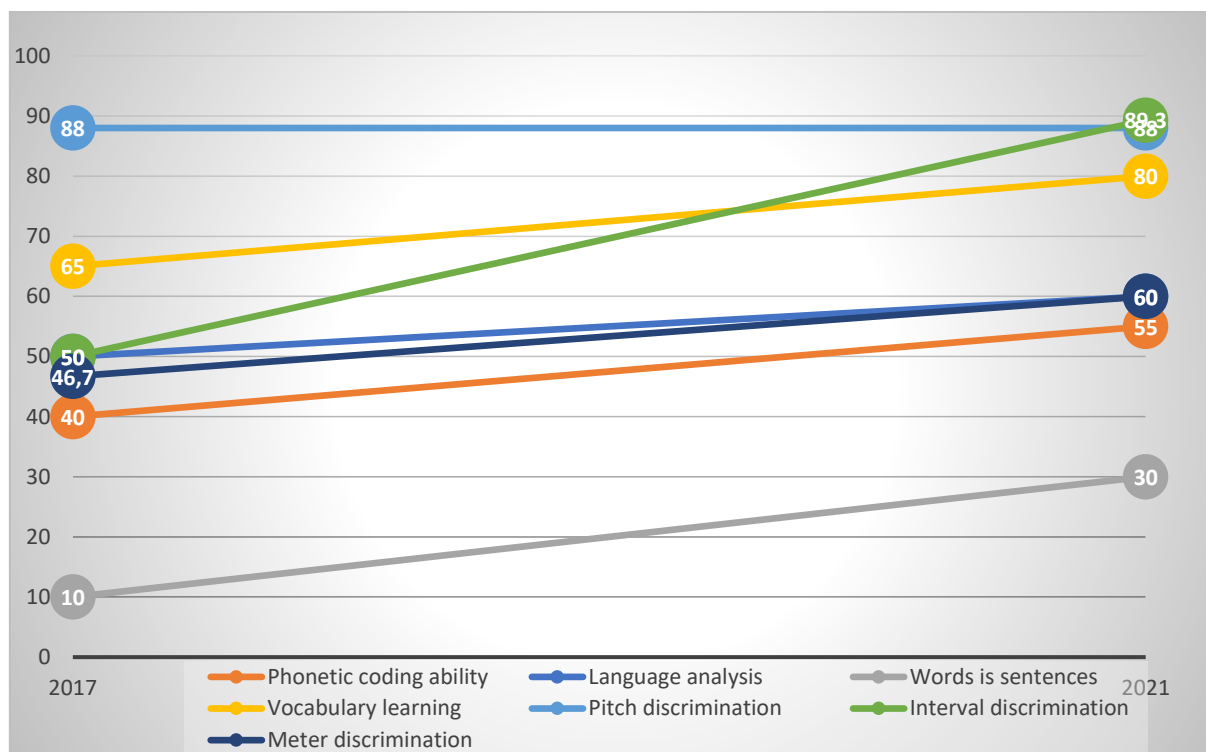
The line graph in Figure 7.14 illustrates the seven components of Csilla's language and music aptitudes at two points of measurement: in 2017 and 2021. All language and music aptitude subtests showed a steady increase over the period, whereas her pitch discrimination scores showed no change, most probably because it was very high in 2017.

As for her language aptitude test results, we can see that in 2017, her score on the words in sentences subtest was 10 percent, the lowest of all seven tests, whereas all her other tests scores were above 40 percent. A 15 percent increase is indicated in her phonetic coding ability, and her language analysis and vocabulary learning scores increased from 40 to 55, 50 to 60 and 65 to 80, respectively. Meter discrimination increased from 46.7 to 60 percent. Interval discrimination improved the most: from 50 percent to 88.3 percent. Pitch discrimination was at 88 percent level in 2017 and this score did not change in four years.

Figure 7.15

Csilla's English language proficiency scores in % at four points of measurement
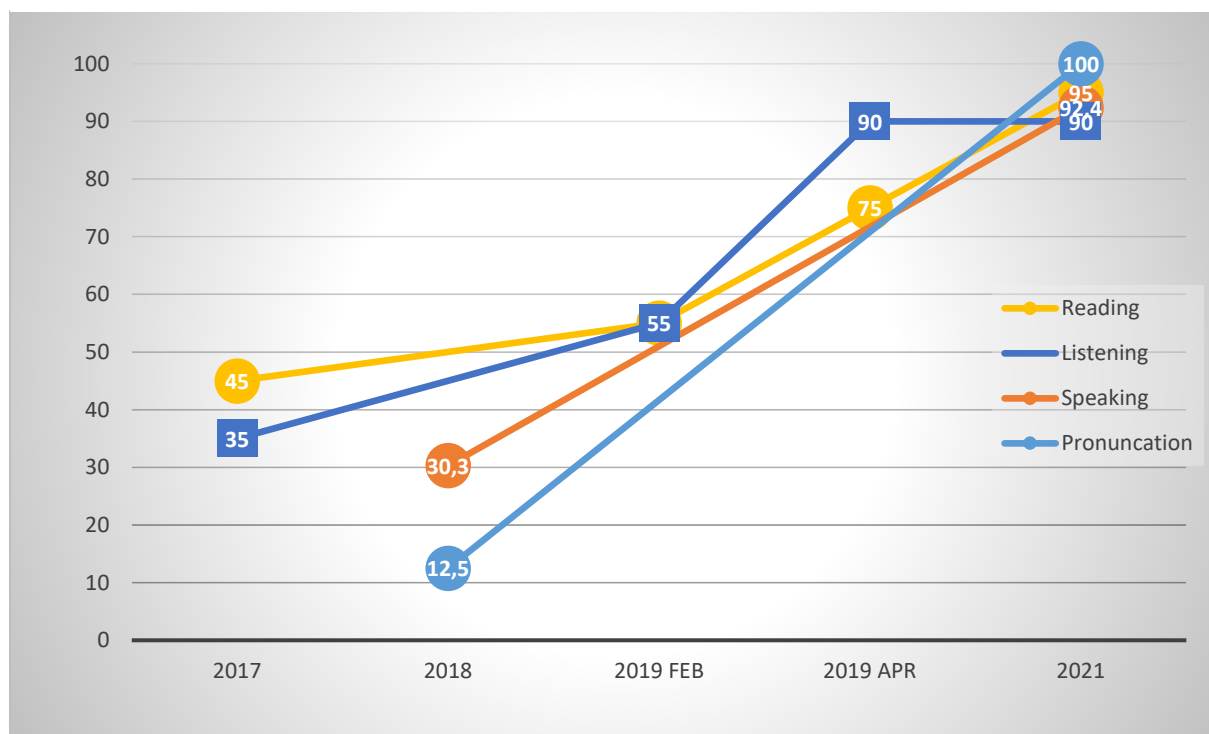
This line graph in Figure 7.15 presents Csilla's English language test results at two points of measurement in speaking skills, including pronunciation, and at four points of measurement in reading comprehension and listening comprehension.

All language test results indicate a steady increase in Csilla's scores. Pronunciation was the lowest among the other three tests (12.5 percent) in 2018 and it peaked at a 100 percent in 2021 resulting in a remarkable increase of 87.5 percent. Her speaking skill was scored at 30.3 percent in 2018 and increased to 92.4 percent in 2021. Her achievement on the listening comprehension test was 35 percent in 2017, it increased to 55 percent in 2018, and dramatically improved further by April 2019 to 90 percent, and it did not change in 2021. Csilla's reading comprehension scores were the highest among the other three tests, 45 percent, in 2017 and they reached 95 percent in 2021.

Additional facts about Csilla's interests and skills revealed that she played the flute for nine years and studied music theory for four. In her 11th grade she stopped playing music formally, although she was a member of the school's music band. She characterized herself like this in 2018:

> *I have not got good voice but learning how to play the flute was easy for me. I learnt how to dance for 10 years.*

I found Csilla to be a lively, openminded girl with a good sense of humor. By the end of her secondary study years, she even cracked jokes in English. She started learning English at her primary school and learnt it from 2011 for 8 years. She shared her unpleasant memories related to her English teacher's methodology in primary school.

> *I didn't like English classes, because we used only Student's Books and textbooks. We had to learn texts by heart. We didn't speak English and I didn't dare to speak. We had to learn grammar rules. I did not understand the teacher's explanations and instructions. (2018)*

Her speaking test score was 30.3 percent in 2018, and this low score must have resulted from her fear of speaking. I noted in my diary what I noticed: when I used other teaching materials than the usual student's books and textbooks, she seemed to feel insecure. This reaction must have been related to her previous eight years of classroom experience.

In the survey in 2018, after the second proficiency test, she evaluated herself on a 4-point Likert scale as follows: her choices are in bold.

> Reading skill: *poor, fair, **good**, excellent*
>
> Listening skill: *poor, fair, **good**, excellent*
>
> Speaking skills: *poor, **fair**, good, excellent*

How often do you listen to music in English? never, rarely, often, **always**

How often do you play games? never, rarely, often, **always**

How often do you watch films in English? never, rarely, **often**, always

What are the effects of songs, games, films used in English classes?

> *I will understand lyrics in English and spoken language. It helps me to form my sentences in English.*

She evaluated her listening and reading skills as good in 2018, even though her listening comprehension score was only 4.7 percent better than her speaking skill, which she found poor. What stands out from her extramural activity is her habit of listening to music in English as often as possible. When I asked her about the amount of time she devoted to listening to music, she said she woke up and went to bed with music.

Every year I asked my students about the activities they liked. As many other students also liked listening to English songs, I used music related online tasks to supplement the audio materials of the students' books. One such online teaching platform was lyricstraning.com. In

this online language learning platform students can choose their favorite songs and while listening to it, they fill in the gaps of the lyrics. This task type proved to be highly motivating for her and was fully in line with her interest. I believe this can be one of the reasons why her listening comprehension scores changed from 35 to 90 percent.

Figure 7.16

Csilla's end of term grades and graded point average in % at four times of measurement
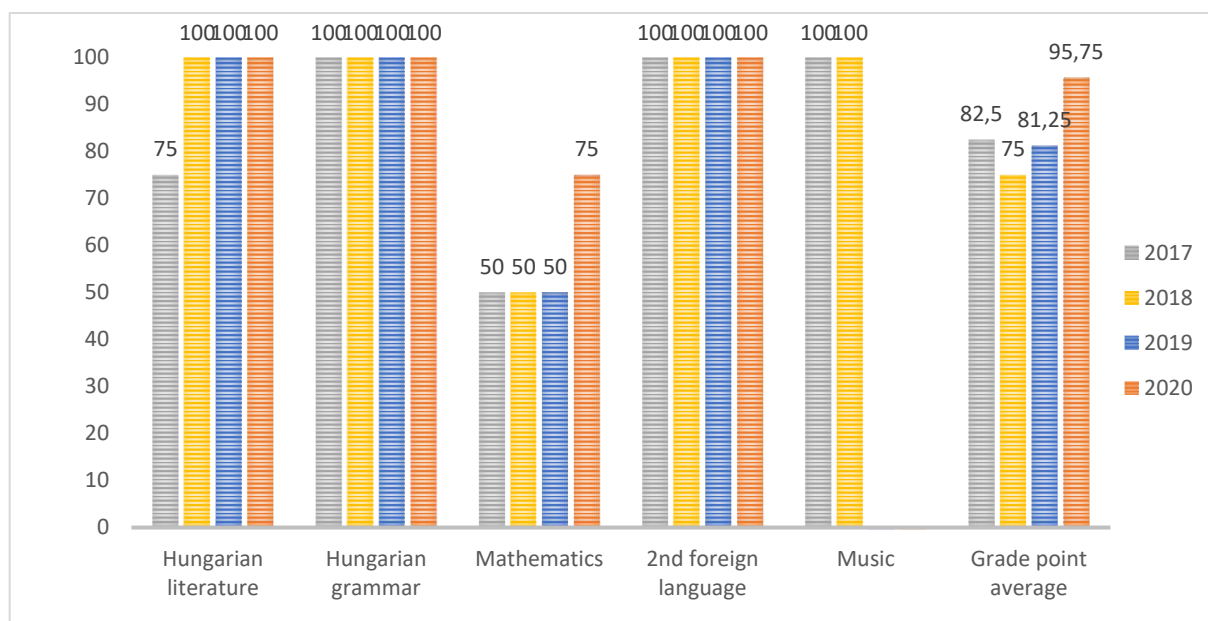
When I asked her opinion about her results, she said she felt she was developing in her reading, listening and speaking skills, although she was surprised to see the degree of her improvement especially in speaking. She said besides listening to music she started listening to podcasts while doing exercises. She felt that as an extracurricular activity, watching Tik-Tok videos helped her the most in her English, because she watched them every day in English from 2020.

I expected to find a positive relationship between her phonetic coding ability and pitch discrimination, but while the latter was at a very high level and then did not change, her phonetic coding ability increased considerably (to 55 percent), this level was lower than her pitch discrimination (88 percent) in 2021. She loved English quiz games, and she engaged in creating new games in Kahoot. She did not mind working in the student books and workbooks during her secondary school studies. According to the survey results, besides listening to music in English, she spent most of her time free time watching films, film series and YouTube videos in English. She liked to work alone in the English classes. When I asked her about this, she reasoned that she did not have to make compromises. The advantages of

working in pairs for her included finding better ideas for creative tasks. She enjoyed working in a group because she found it more entertaining. Out of the three learning activities she found the best was group work.

Figure 7.16 shows Csilla's results in Hungarian literature, Hungarian grammar, mathematics, her second foreign language (Italian) and music in her four academic years. Her grades reflect a stable performance over the four years compared to her English results. Her first language and her second foreign language results did not change. Out of the examined subjects, mathematics was the most difficult for her; however, at the end of her last academic year she managed to improve her grade. Csilla's cognitive skills slightly improved and are in line with her scores on language analysis test and her math development, 10 and 25 percent, respectively.

Overall, Csilla's English language skills improved a lot over the years, and her tests results showed a steady increase: all her test scores were 90 percent or above at the last time of measurement. In her case, I believe, the most important factors improving her English proficiency included her love of music, the tasks she was given resonated with her, and her high level of motivation maintained over time and engagement with extramural English activities contributed to her English language development.

7.3.7.2 Profile 2: Dia

Figure 7.17

Dia's achievements (%) on the language and music aptitude subtests in 2017 and 2021
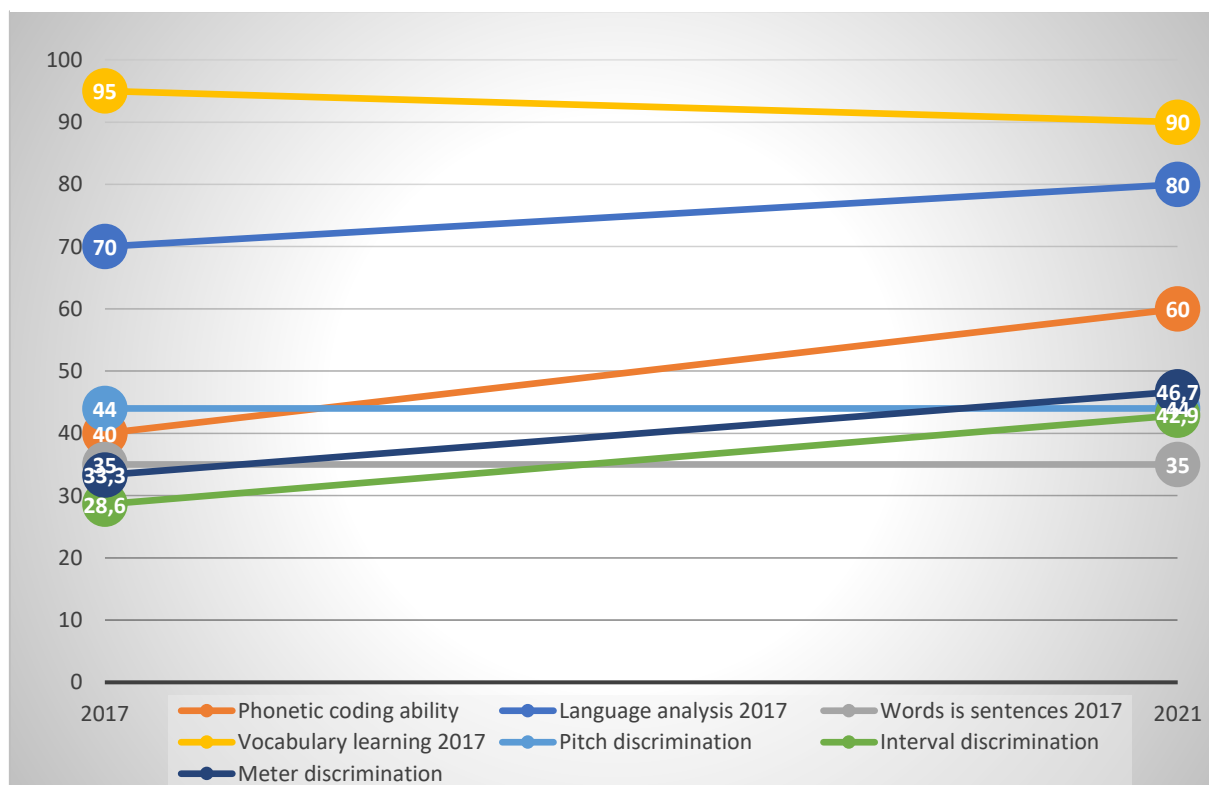
Figure 7.17 shows that almost all Dia's scores on the language and music aptitude subtests increased in the period of 2017-2021. Words in sentences and pitch discrimination did not change, whereas her performance on the vocabulary learning task decreased slightly.

As for her language aptitude test results, we can see that in 2017, her score on the words in sentences subtest was 35 percent, the lowest among the other aptitude tests and it did not change. Her vocabulary learning was high in 2017 (95 percent) and this one was the only test result which decreased by 5 percent, still her highest test result in 2021. Dia's phonetic coding ability and language analysis increased from 40 to 50 and 70 to 80, respectively.

Out of the three music aptitude subtests, her scores on interval discrimination and meter discrimination improved by 14.3 and 13.4 percent, respectively. Pitch discrimination was at 44 percent level in 2017 and this score did not change in four years.

Figure 7.18

Dia's language proficiency scores in % at four times of measurement
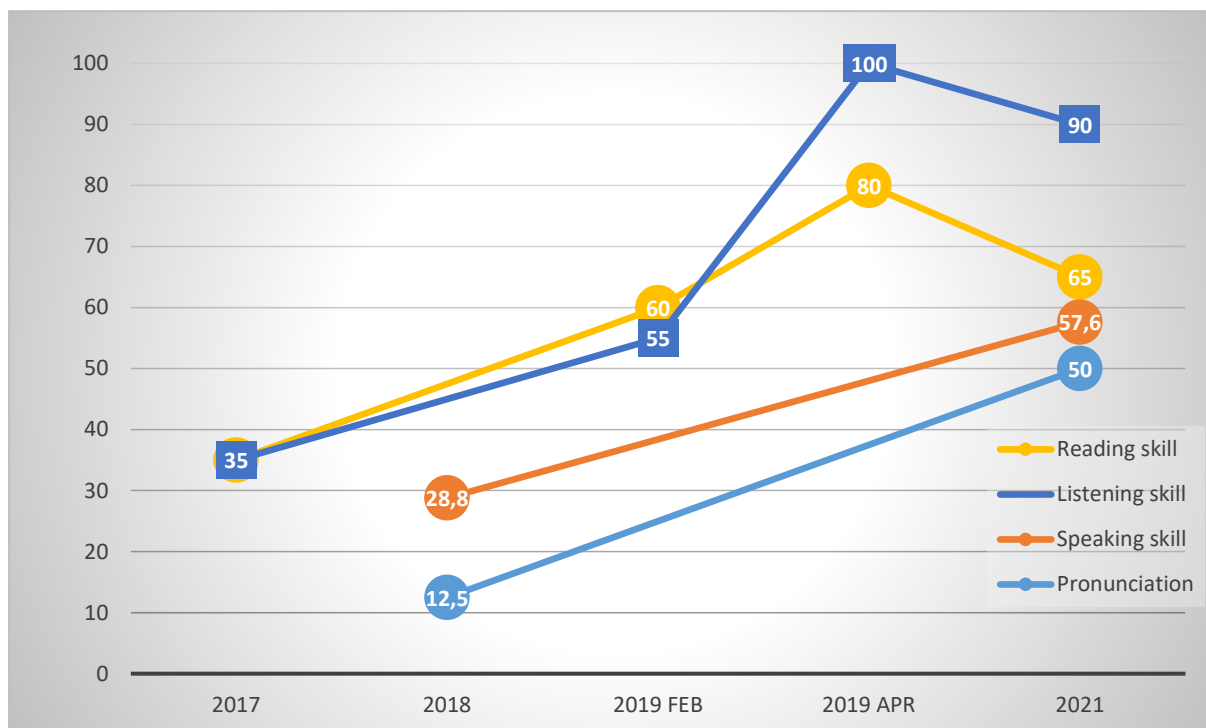
In Figure 7.18 the line graphs show Dia's English test results at two points of measurement in English speaking skills, including pronunciation, and at four points of measurement in reading comprehension and listening comprehension.

Two language test results indicate a steady increase in Dia's scores. Pronunciation was the lowest among the other three tests (12.5 percent) in 2018 and it increased to 50 percent in 2021. Her speaking skill was scored at 28.8 percent in 2018 and it increased to 57.6 percent in 2021. Her achievement on both the listening comprehension and reading comprehension tests was 35 percent in 2017. Both tests reached their highest percent in April 2019, when her listening comprehension scores peaked at 100 percent whereas her reading comprehension level reached 80 percent. However, in 2021 both of her proficiency test results decreased: her score on the listening component by 10 and on the reading test by 15 percent.

Dia did not play any musical instrument and she did not learn English in primary school. She was a Hungarian champion in wrestling and participated in many international championships, so she realized that speaking English would be more useful for her than German. Thus, as a sportswoman, her strong motivation was instrumental: to be able to use English in international competitions.

When I go to championships in Hungary or abroad, I would like to communicate in English, I can speak German, so-so, but most of the wrestlers use English.

Her previous foreign language learning experience was positive. She was good at German, that was the reason why she chose German as her second foreign language at the secondary school. Even though she was a beginner learner of English, this fact did not stop her from participating in speaking tasks in classroom activities. Her competitive spirit from her sport career was one of her characteristics. Her main motto was, no pain, no gain. She was fully aware that she had to invest work into learning English.

Her speaking test and pronunciation scores were 28.8 and 12.5 percent in 2018, respectively. These low scores indicated that she was a beginner English learner and speaking, a productive skill, posed quite a challenge for her. In the survey in 2018, after the second proficiency test, she evaluated herself on a 4-point Likert scale as follows: her choices are in bold.

Reading skill: *poor, fair, **good**, excellent*

Listening skill: *poor, fair, **good**, excellent*

Speaking skills: ***poor**, fair, good, excellent*

How often do you listen to music in English? never, rarely, **often**, always

How often do you play games? never, **rarely**, often, always

How often do you watch films in English? never, **rarely**, often, always

What are the effects of songs, games, films used in English classes?

If I like the music and I know the meaning of the lyrics I can learn new words easier. for me it is important to understand the words first.

Dia self-assessed her listening comprehension as good in 2018 and it peaked at 100 percent before the Covid break, and so did her scores on the reading test. The sudden drop in her receptive skills was the result of Covid-19 (see Figure 7.18). After the third point of measurement in April 2019, schools were locked down, first from March 2020 till the end of the academic year, then the second time between November 2020 and May 2021. When I asked her about her experience of that period she replied:

For me the lockdown period was a lot more difficult, there was less instruction for the materials and studying was less fun. There isn't any better way to learn than in school.

Her initially 60 percent language aptitude level still helped her in language learning, especially her memory reflected in her vocabulary learning subtest score (90 percent) which must have contributed to her fast progress and high scores in English language learning over

the years. Questions aimed to find out more about her extramural activities revealed that she liked watching series and films in English and translating lyrics from English to Hungarian.

> *Nowadays I don't listen to music in Hungarian. I have always liked listening to English songs. What I do is when I find a new song first, I don't listen to it, but check out the lyrics, and try to translate it for myself, and mostly I choose to listen to it if I like the lyrics. The closer the lyrics is to my mood or my actual problems, like I'm a bit depressed, or bursting with joy, the more likely I will listen to the song.*

When I asked her how much she understood the lyrics she replied:

> *First, I read the lyrics, then I try to understand as much as possible, then I check if the lyrics had been translated to Hungarian and I can spot errors, or there are better ways to translate it, I try to retranslate it in a better way.*

She didn't play computer games, but she started playing games in English on her mobile phone with her cousins and friends, clearly showing a high level of interest in the language and in learning it. She watched films in English.

> *On Netflix I watch films in English, there are times I try to watch them without Hungarian subtitles, but I'm not too good at that, I try to find out the meaning from the context.*

She was surprised to realize how much easier it was to understand English, and she did not expect to improve this much in her speaking skill. She mentioned that she used snapchat to communicate with foreigners in English. She added an interesting point on her extended use of English:

> *There are times I switch to English when I talk to my parents. With my mum it is easier, because she studied English, but my father didn't. I try to spend as much free time as possible with English, I even help my cousin or my friends with their English homework. I am preparing to take a B2 language exam this year.*

Dia was an absolute beginner when she started learning English in 2017. Her high score on the language analysis test (80 percent) explains her learning method: analyzing texts and their context and figuring out their meaning by herself. Her attitude to English, the way she uses it in her everyday life in her accounts and her enthusiasm make her a good example of an autonomous learner. When I asked her about her poorer performance, she could not find any other explanation to her 10-15 percent receptive skills decline but the lack of in-class English lessons because of the Covid-19. She loved working in pairs and groups, because:

> *We can talk a lot and I have classmates I like, and we can learn a lot from each other.*

She liked using the student books and workbooks and work with lyrics during English lessons. Dia excelled at two of her language aptitude subtests: language analysis (80 percent) and vocabulary learning (80 percent). If we take into account that she started learning English in secondary school, her language proficiency results are in line with the aptitude tests' predictive power: her listening comprehension score was 90, her reading comprehension score was 65 percent at the last point of measurement.

Figure 7.19

Dia's end of term grades and graded point average in % at four times of measurement
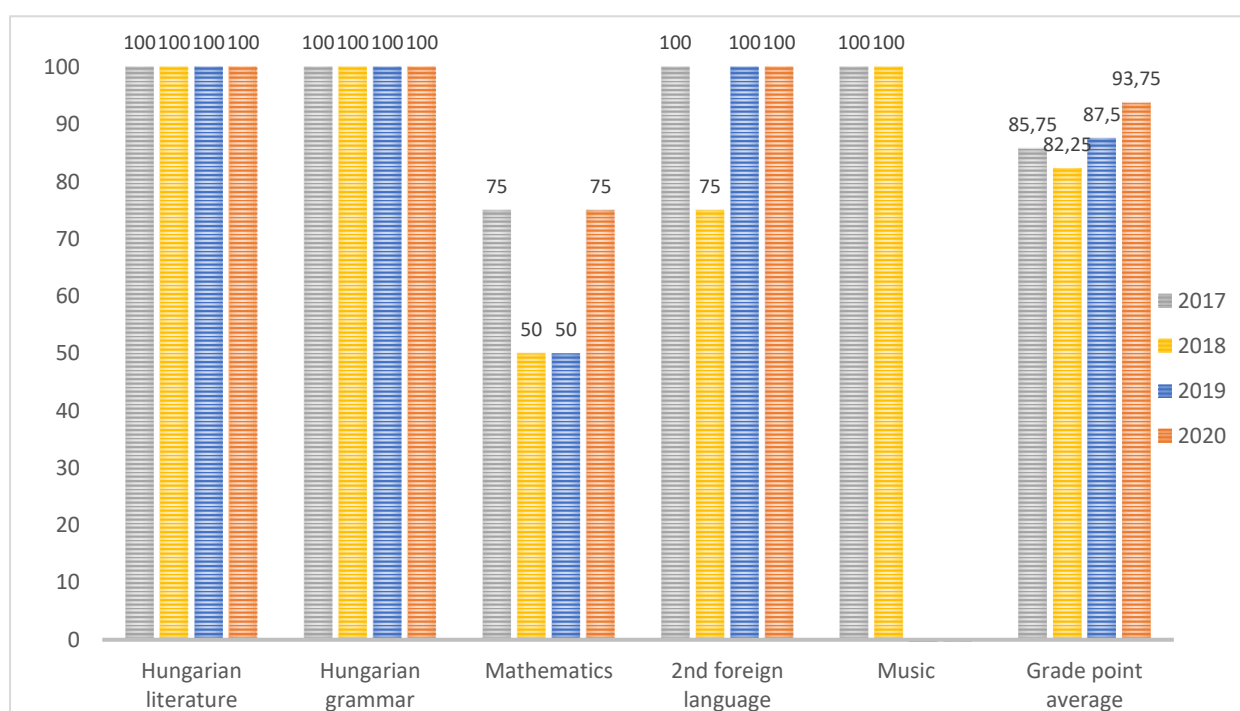
Figure 7.19 shows Dia's school results in Hungarian literature, Hungarian grammar, mathematics, her second foreign language, German, and music in her four academic years. Her grades reflect the performance of an able and hard-working student. Her first language and her second foreign language results, with the exception of 2018, were maximum during her four years. Mathematics was the most difficult subject for her; however, she managed to improve it by the end of her last academic year. Dia's scores on the vocabulary learning subtest in the aptitude test were very high. As this ability is connected to memory, her cognitive skills slightly improved and are in line if we compare her language analytic tests and her math development, 10 and 25 percent, respectively. In other words, her remarkable language aptitude scores indicated her general learning abilities and were manifested not only

in her English scores but also must have contributed to her math scores.

Overall, Dia's English language skills improved a lot over the four years, and her test results showed a steady increase. As a follow up to my assessment project, I asked Dia to help me with checking of her profile. She reflected on her profile I drew for her based on her scores over the years. She told me that eventually she had passed the B2 language proficiency exam in English. Dia's case was important for me, because she was a fine example of an able and hardworking beginner who was able achieve her goals, use the English language for her needs and become a motivated autonomous learner of English.

7.3.7.3 Profile 3: Daniella

Figure 7.20

Daniella's achievements (%) on the language and music aptitude subtests in 2017 and 2021
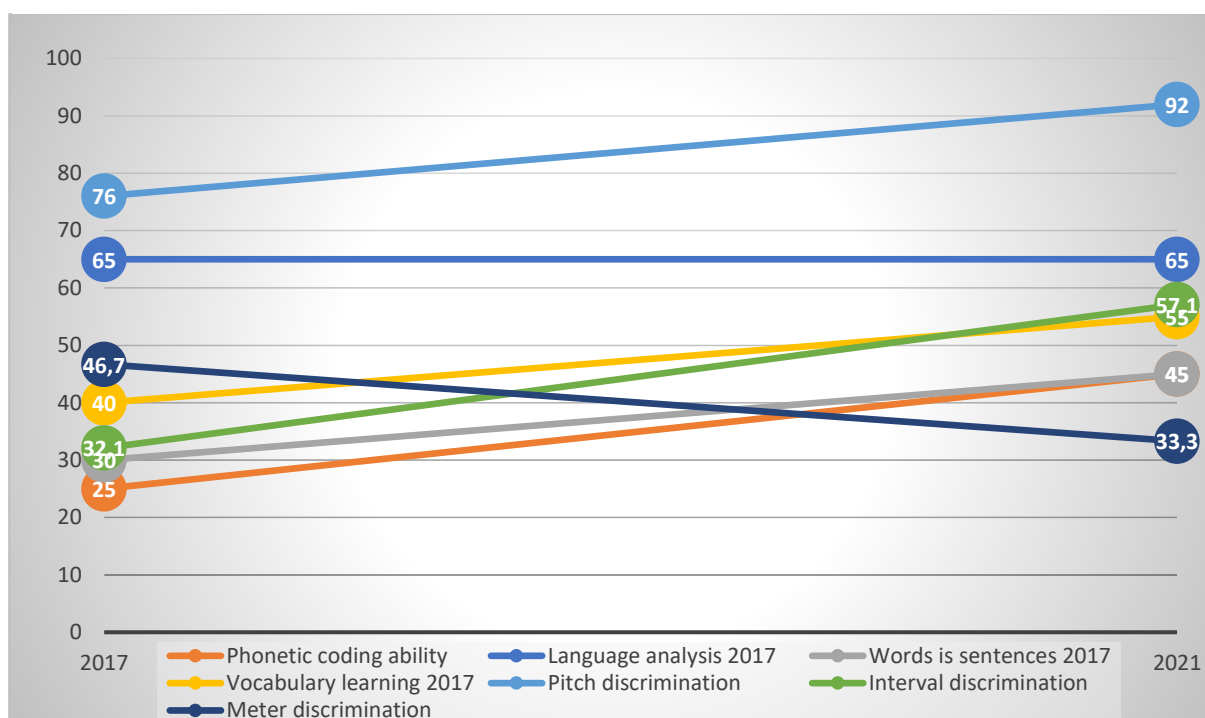
Figure 7.20 shows that Daniella's language aptitude subtest results were modest when first measured; they improved with the exception of the language analysis subtest score during the period of 2017-2021. Her music aptitude showed a different pattern, the pitch discrimination and interval discrimination scores improved, but her meter discrimination results decreased. Daniella's language aptitude test results on all her subtests were at or below 65 percent. The highest score on the language analysis subtest was 65 percent in 2017 and it did not change

over the four-year period. The lowest score on the other three language aptitude tests was phonetic coding which improved from 25 to 45 percent. Her vocabulary learning test results also increased from 40 to 55 percent.

Out of all music aptitude tests, pitch discrimination subtest scores were the highest initially, 76 percent, and they improved further to 92 percent. Interval discrimination improved the most from 32.1 to 57.1 percent. In contrast with these improvements, meter discrimination results decreased from 46.7 to 33.3 percent.

Figure 7.21

Daniella's language proficiency scores in % at four times of measurement
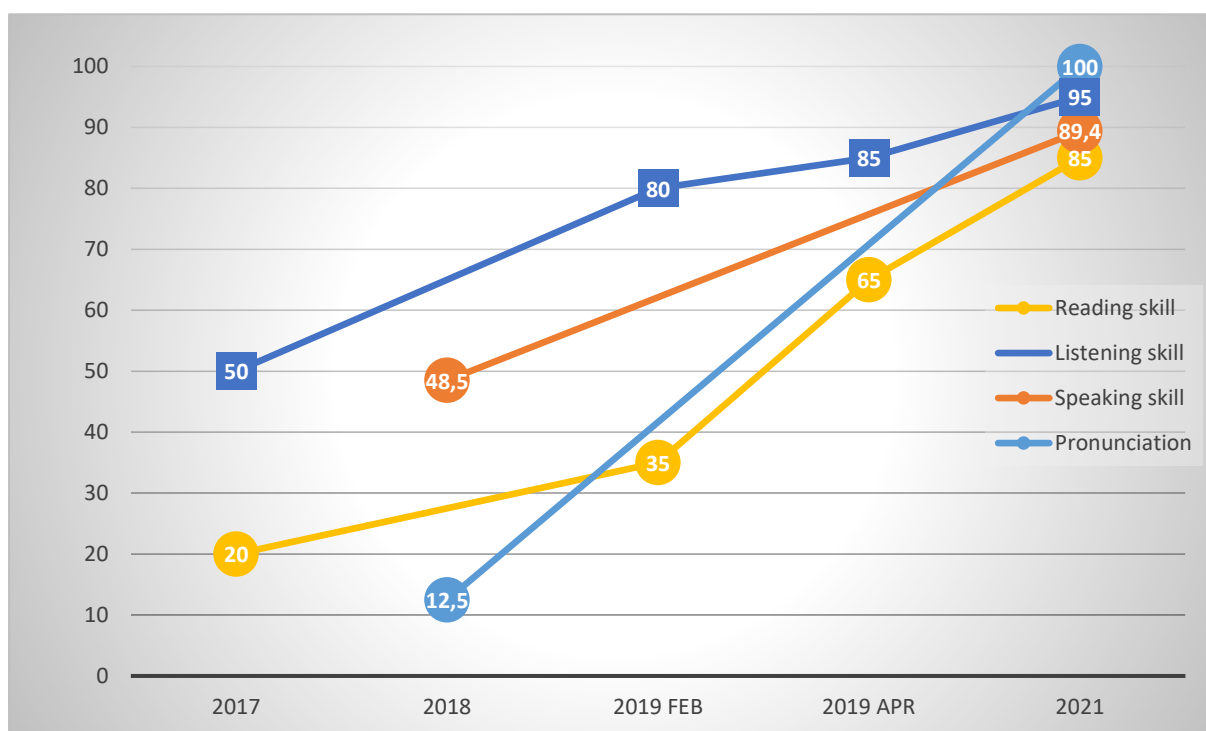
Daniella's language proficiency test results are shown in the line graph in Figure 7.21 at two points of measurement; her level of speaking skills, including pronunciation, and at four points of measurement, her achievements on the reading comprehension and listening comprehension tests. Her pronunciation score was the lowest of all the English language test results (12.5 percent) in 2018 and it improved the most by 87.5 percent, reaching 100 percent in 2021. Her second lowest score was found on the reading comprehension test: she started from 20 percent and reached 85 percent in 2021. Daniella's speaking and listening comprehension scores were similar at their first point of measurement, 48.5 in 2018 and 50 in

2017, respectively; their rate of increase was also similar, her speaking scores increased by 40.9, whereas her listening comprehension results increased by 45 percent.

Daniella did not play any musical instrument; she had learnt English in primary school for eight years. She had mixed feelings about that period, as she shared her experiences.

> *I liked English up till a point when we had a certain English teacher. I loved English because the classes were good, and I felt I improved. Unfortunately, it did not last for long, because a new teacher came.*

After her new English teacher took over her class, she felt neglected and believed the group did not study English the way they should have.

> *We had plenty of vocabulary tests, but we did not speak in English. Almost all instructions were in Hungarian.*

She planned to take the advanced level final school leaving exam in her 12th grade. She believed that the best way to improve her English proficiency was to practice as much as possible.

> Examining all her tests' results Daniella's listening comprehension scores (92 percent) and pitch discrimination stand out at 95 percent. I assume her high music aptitude score must have contributed to her high listening comprehension result, but I need to explore a little deeper to reveal other potential factors in her dataset. In the survey in 2018, after the second proficiency test, Daniella evaluated herself on a 4-point Likert scale as follows: her choices are in bold, similarly to her responses to the questions on frequency of using English.

> Reading skill: *poor, **fair**, good, excellent*

> Listening skill: *poor, fair, **good**, excellent*

> Speaking skills: ***poor**, fair, good, excellent*

How often do you listen to music in English? never, rarely, often, **always**

How often do you play games? never, rarely, often, **always**

How often do you watch films in English? never, rarely, **often**, always

Her response to the question "What are the effects of songs, games, films used in English classes?" reveals what she enjoys doing and why.

> *Mostly I can learn English from music because I'm interested in the lyrics. Games also help me a lot, but films, series can help me even better. Mostly I watch films in English with Hungarian subtitles, but many times because I'm so interested, I rewatch the films I like the most with English subtitles. I dare to do so because we have talked about it in English classes. So, eventually music has a good impact on me. I like learning English this way.*

Daniella marked her listening skills as good in 2018 and it was 85 percent before the Covid break, her reading comprehension score was only 65 percent before the Covid period, and it increased by 20 percent. In her case, homeschooling did not break her development in English, on the contrary, it boosted her scores. Here is what she said about her experience about it.

> *I listened to music all day, when I listened to music, I did not check the lyrics. I talked to my friends in English. I watched plenty of series in English, like Riverdale (TV series on Netflix, categorized as crime, drama and mystery). I started watching series intensely from grade 10, but especially during the lockdown period I watched several series a day in English. There were days I did not do anything else but watched films. Usually, I watched 2 films every day. One film is about 60 minutes. I watched them with English subtitles.*

Therefore, her interest and intensive practice in watching films must have contributed to her dynamic improvement in her listening comprehension and probably also in her reading comprehension test results. It is remarkable that she devoted so much time to activities which were not only intrinsically motivating, but also served her goal to improve her English.

Her other favorite extramural activity was playing computer games.

> *I started playing computer games from primary school grade 8. Sometimes I arrived home from school and played till midnight. I played on average 5 hours a day. There was one strategy game I liked the best, where I played in groups, I played mostly with foreigners, there were only a few times when I played online with other Hungarians. I talked in English during the online game and learned the game's language plus slang from my fellow players. The name of the game was" League of Legends" (a team-based online game).*

As her answer shows, in addition to watching authentic film series extensively she also played online multiplayer team-based computer games regularly during those months when students did not have English classes face to face at school just online form.

When I asked her to reflect on her tests results, she said the following:

> *I was surprised to see how much I improved in my music aptitude. I didn't feel I improved at all. I think the reason for my English improvement is that I got accustomed to using English outside school. I was not really surprised at my test results. I feel that during the Covid break my listening skill improved the most.*

The questionnaire revealed more details about her preferences of learning English. She liked Quiz style online games like Kahoot and lyricstraining.hu. She also enjoyed tasks requiring

writing messages to her Turkish pen friend, but she did not like tasks and exercises in her student books. Her most liked English-related activities were rank ordered like this: playing online games, watching series and listening to music. She loved working in pairs and groups, because:

> We can solve the problems together and we can share the tasks.

Figure 7.22

Daniella's end of term grades and grade point average in % at four times of measurement
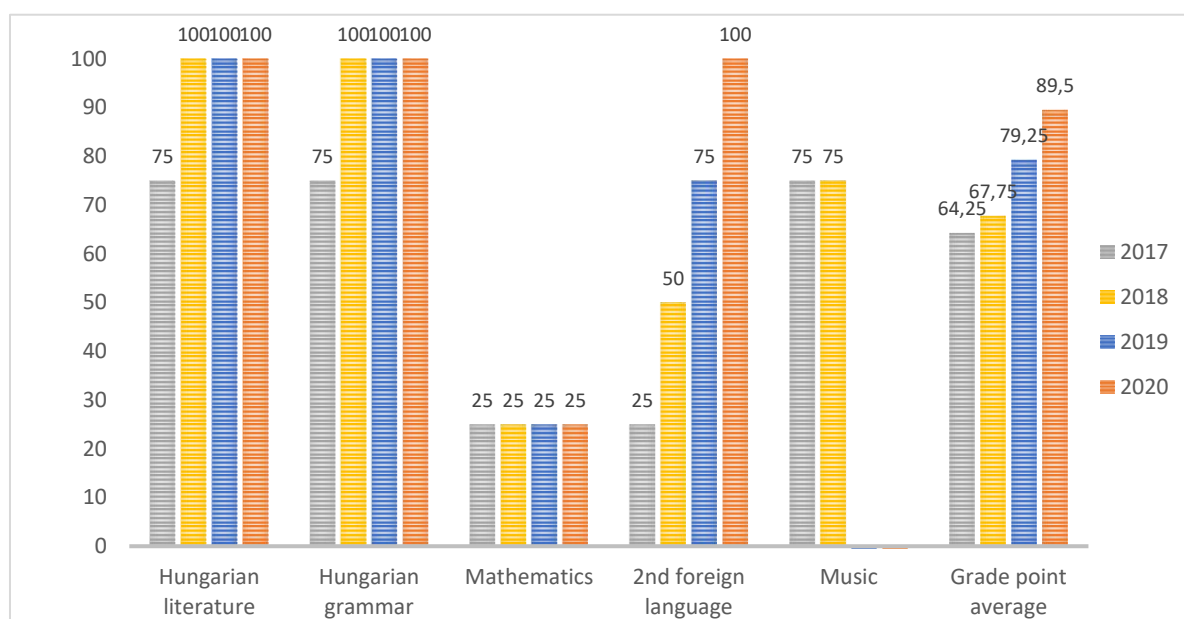
Figure 7.22 shows Daniella's results in Hungarian literature and grammar, mathematics, her second foreign language and music over four academic years. At the end of her four years at secondary school, Daniella's grades reflected a solid performance of a student improving her achievements in most subjects, the only exception was Math. Her first language scores maxed out from grade 10 and her grade in her second foreign language, Italian, also peaked by grade 12.

Daniela' s language aptitude score on the phonetic coding component was mediocre (45 percent); however, her music aptitude's pitch discrimination subtest was very high (92). Thus, out of the two auditory skills tests, for Daniela's high 96 percent listening comprehension test results, her pitch discrimination skill might have contributed more to her improvement. In her case her varied and intensive English-related extramural activities must have affected her high listening and speaking scores in highly favorable ways.

Overall, Daniella's English language skills improved steadily from 2017 to 2021, and

her tests results showed impressive increase. After the data collection period she passed the advanced level school leaving exam over 60 percent. According to the Hungarian Education Law, this level equals level B2. Daniela's case is an example for an autonomous student, who felt joy using the English language in her free time and achieved her goal to pass the B2 language exam during her secondary school years. She clearly benefited from the Covid 19 period, as she used all opportunities to enjoy content and interactions in English.

7.3.7.4 Profile 4: Flora

Figure 7.23

Flora's achievements (%) on the language and music aptitude subtests in 2017 and 2021

Figure 7.23 illustrates the seven components of Flora's language and music aptitudes in 2017 and 2021. All language aptitude subtests showed a steady increase over the period, whereas out of the three music aptitude subtests only pitch discrimination scores showed an increase.

Flora's words in sentences and vocabulary learning subtest scores increased from 50 percent in 2017 to 65 percent in 2021. Her phonetic awareness and language analysis scores improved even more spectacularly from 60 percent to 90 and from 65 to 90, respectively, at the two times of measurement.

In her music aptitude interval discrimination and meter discrimination tests her scores remained the same 39.3 and 26.7, whereas Flora's pitch discrimination scores increased from 28 percent in 2017 to 56 in 2021.

Figure 7.24

Flora's language proficiency scores in % at four times of measurement
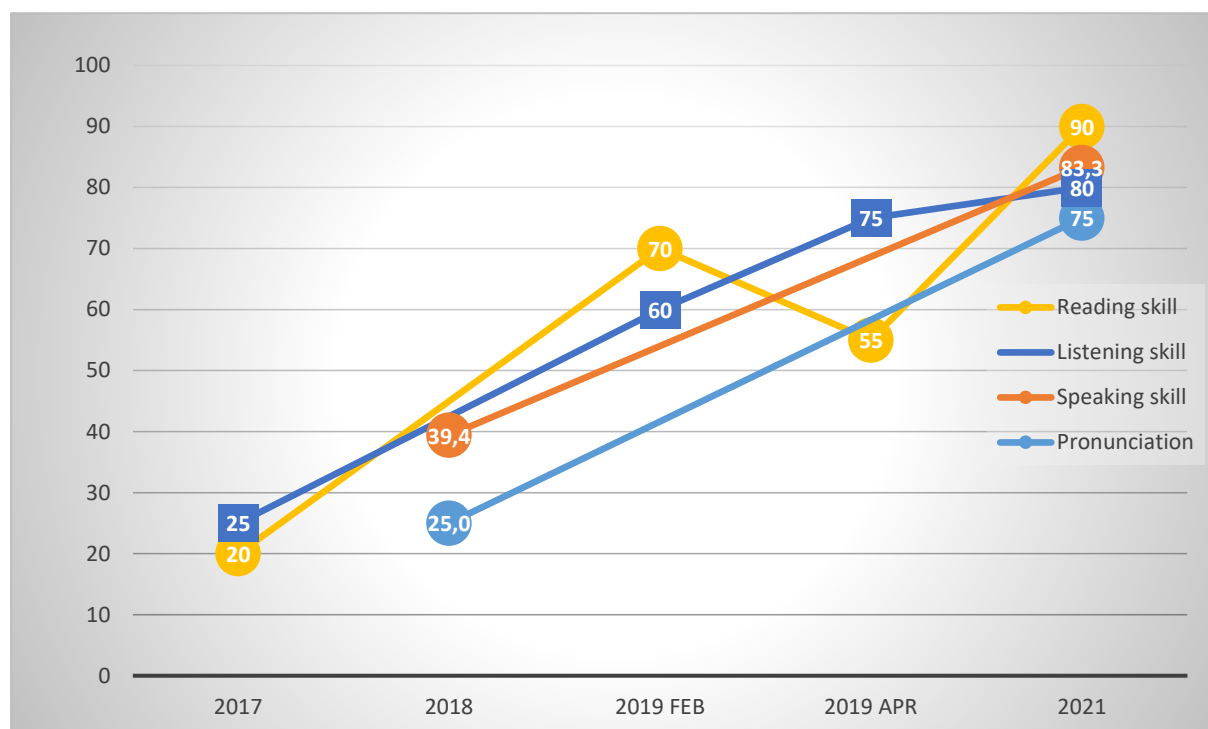
The line graphs in Figure 7.24 visualize Flora's language proficiency test results at two points of measurement in speaking skills, including pronunciation, and at four points of measurement in reading comprehension and listening comprehension. All language test results indicate an increase in Flora's achievements. Her reading score was the lowest among the other three tests (20 percent) in 2018 and it increased to 70 percent in February 2019, then by April 2019 it declined to 55. From this date her scores showed an upward trend to 90 percent in 2021 resulting in the biggest increase of 70 percent. Her speaking skill was scored at 39.4 percent in 2018 and her result increased to 83.3 percent in 2021. Her achievement on the listening comprehension test was the second lowest at 25 percent in 2017, and it increased by 55 percent in 2021. Flora's pronunciation comprehension score was 25 percent in 2018 and gradually increased to 75 percent in 2021.

As for Flora's language learning history, she studied English for eight years in primary school and this is how she remembered it.

> *I liked when the teacher used rhymes in English classes and we studied words by themes, but I did not like it when we had to learn dialogues word by word. There must have been a reason for it, but I felt it unnecessary.*

She played the piano and studied music theory for two years. She gave them up because she did not like the theory part, although she enjoyed playing the instrument. Flora was an optimistic, happy, and enthusiastic girl. She was also hard working and willing to do extra homework for better grades.

In the survey in 2018, after the second proficiency test, she evaluated herself on a 4-point Likert scale as follows: her choices are in bold. Her responses to how often she used English are shared in a similar manner.

Reading skill: poor, fair, **good**, excellent

Listening skill: poor, **fair**, good, excellent

Speaking skills: poor, **fair**, good, excellent

How often do you listen to music in English? never, **rarely**, often, always

How often do you play games? **never**, rarely, often, always

How often do you watch films in English? **never**, rarely, often, always

What are the effects of songs, games, films used in English classes?

> *I believe when I watch films in English and play games, I will improve my English knowledge. So far, I have not used the English language outside the classroom, but I'm willing to speak English during summer holidays abroad.*

Her reading score changed from 20 (2017) to 90 percent (2021). In a follow up interview, I asked her opinion about her test results over the years and if she had changed her extramural activities since 2018.

> *I was surprised to see my reading score. I did not expect it to be 90 percent. I did not feel I was good at it. I have no idea how I improved that much. I watched series and I tried to learn vocabulary from the back of my student's book. I still don't listen to English music, as a matter of fact, I don't listen to any music. I play games like once in two months.*

Flora's language aptitude subtests, namely the phonetic discrimination (65 percent in 2017, and 90 percent in 2021) and language analysis (60 in 2017 and 90 in 2021) were among the highest results in her group. A steady improvement characterized her listening comprehension, it increased from 25 to 80 percent between 2018 and 2021. In answer to the question how she used English outside the classroom, she said:

> *When I watch series, I only watch it with Hungarian subtitles because of my boyfriend. Nowadays I started watching tutorial videos on sewing, embroidery, because I only finds this instruction in English. I started to watch series on a daily basis since Covid-19. I watch 2-3 films a day (a film is about 45 minutes).*

Here I noticed important changes in her extramural activity: she started to use English for her new hobby: sewing. This clearly indicates that she has become an autonomous user of English, as this line of interest is her own choice, and she is keen on learning more about sewing in English. She also started watching films regularly while in the 2018 survey she marked this activity as never on the Likert scale. Therefore, I must assume that her new habits of using English for learning more about her hobby and using it for entertainment must have contributed to her improvement in listening comprehension.

Flora marked her speaking skills fair in the survey in 2018. Her speaking test results indicated a 43.7 percent increase between 2018 and 2021. This was her account about her remarkable practice:

> *I talk to myself in English aloud, and before going to sleep I think over the day in English, I've been doing this almost every night in the past two years.*

In my diary I made notes that she preferred working alone and enjoyed playing with Kahoot. The survey in 2021 revealed that she did not like to do tasks in the student book and in the textbook.

Figure 7.25

Flora's end of term grades and grade point average in % at four times of measurement
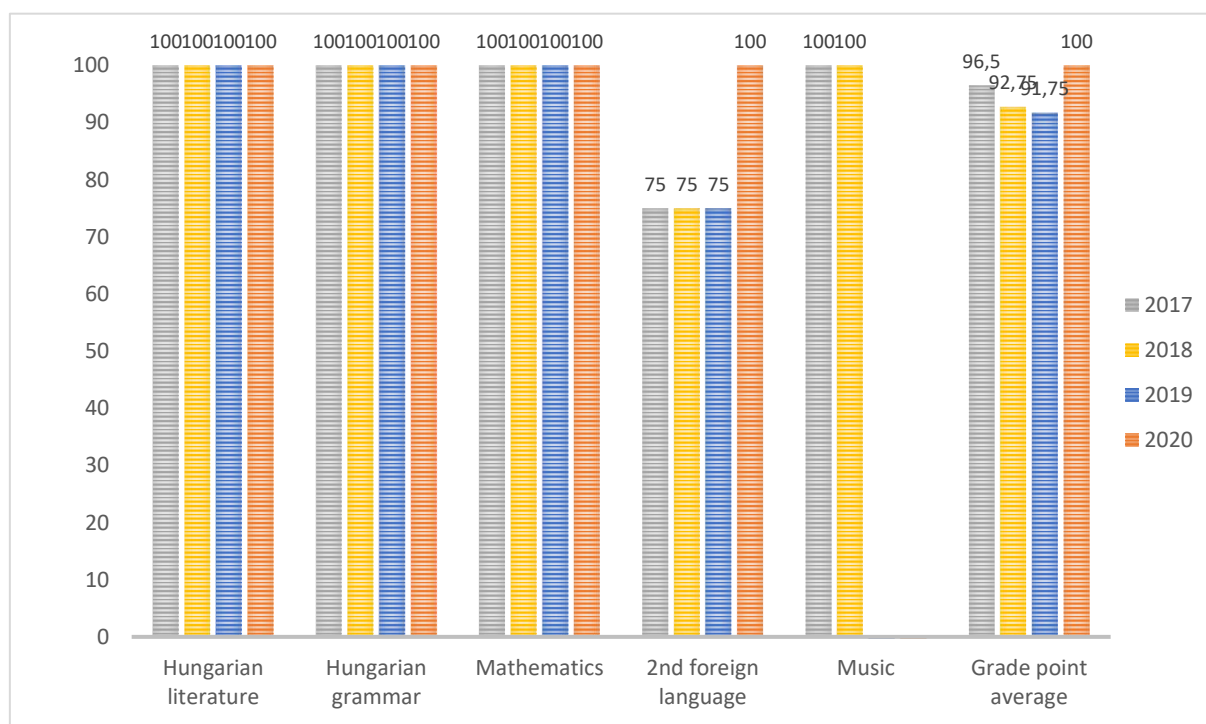
Figure 7.25 shows Flora's results in Hungarian literature, Hungarian grammar, mathematics, her second foreign language (Italian) and music in her four academic years. According to her grades Flora was a high achieving student. Her first language grade did not change during her academic years, it was consistently at 100 percent. Flora's second foreign language (Italian) score reached 100 percent in her 12th grade. She was also a high achiever in Mathematics and Music and her final grade point average was 100 percent, which means all her final grades were 100 percent, a remarkable achievement. Flora's cognitive skills, as measured on the aptitude tests, were outstanding. Her language analytic tests score reached 90 percent at the last measurement point and her mathematics results were 100 percent.

Overall, Flora's English language scores greatly improved over the years. She did not plan to pass an English proficiency exam; her tests results showed a steady increase so that all her tests were 90 percent or above at the last time of measurement. In her case, I believe, the most important factors improving her English proficiency included her love of watching tutorial videos, most of the assignments she was given resonated with her, and her strong motivation contributed to her English language development.

7.3.7.5 Profile 5: April

Figure 7.26

April's achievements (%) on the language and music aptitude subtests in 2017 and 2021
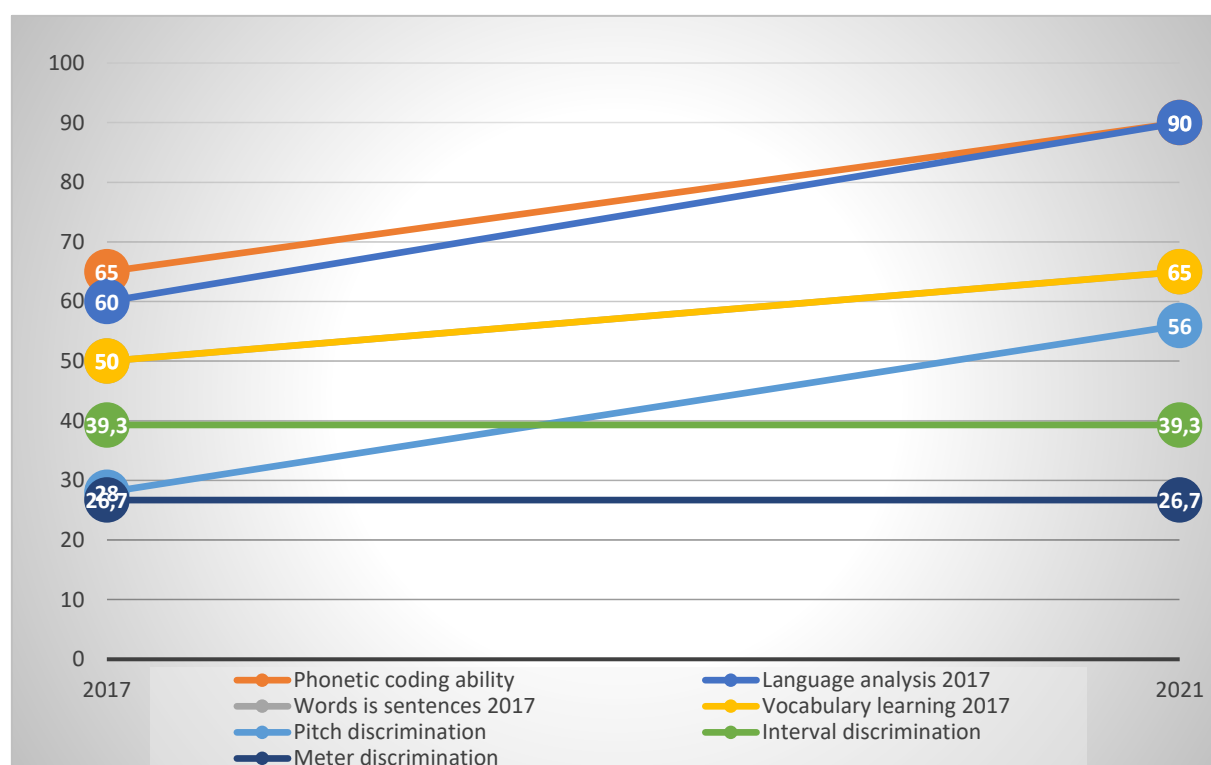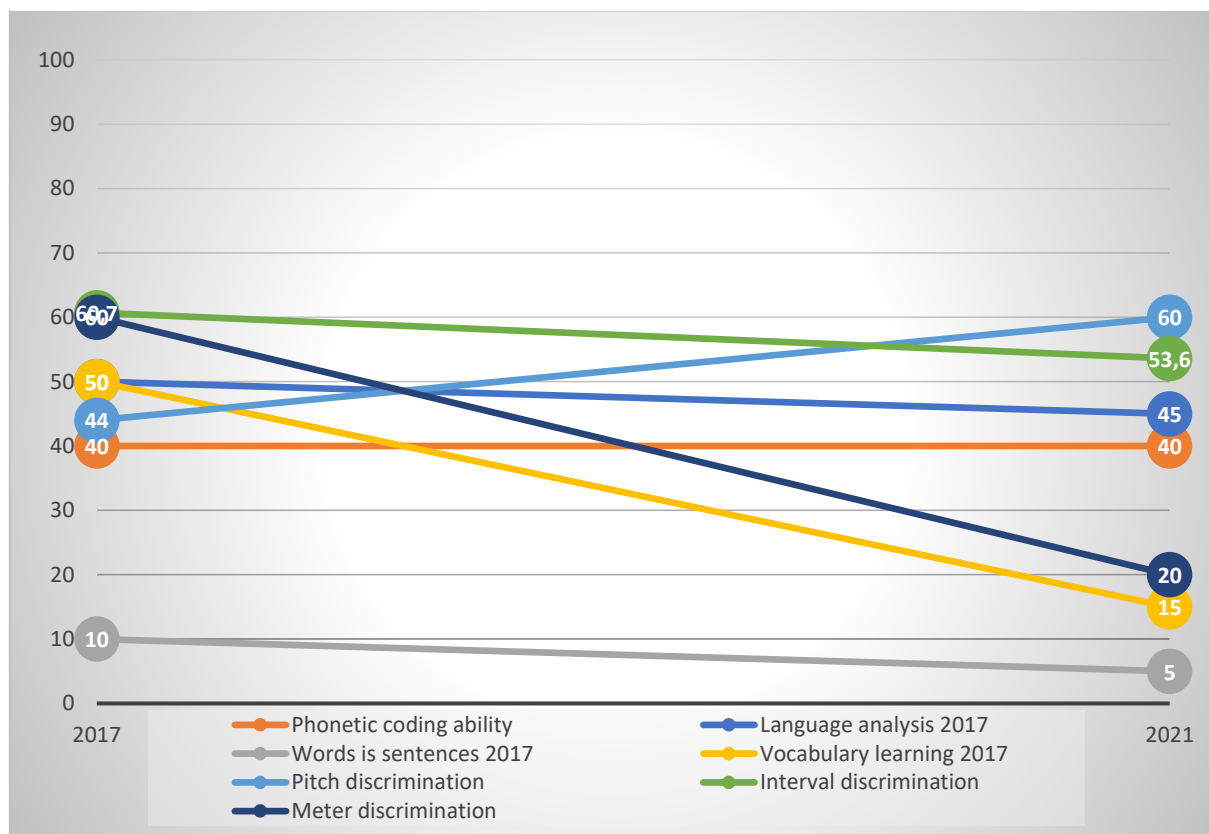

This line graph in Figure 7.26 shows the seven components of April's language and music aptitude tests in 2017 and 2021. April's language aptitude subtests showed a decrease over the period, only her phonetic coding scores were at the same level. Her music aptitude subtest scores showed a very similar tendency, interval and meter discrimination decreased and only her pitch discrimination scores increased between the two points of measurements. Her profile is very different than those of her peers analyzed earlier.

In April's language aptitude test results in 2017, her score on the words in sentences subtest was 10 percent, the same percent Csilla achieved. However, Csilla's subtest results improved to 30 percent, whereas April's words in sentences scores showed a 5 percent decrease. Vocabulary learning also decreased from 50 to 15 percent, and a 5 percent decrease was also found in her language analysis subtest results. The only subtest which did not decrease was her phonetic coding ability: it was at 40 percent both times. Her scores on

interval and meter discrimination decreased from 60 to 53 and 60 to 20, respectively. Pitch discrimination was at 44 percent in 2017 and it increased to 60 percent in 2021.

Figure 7.27

April's language proficiency scores in % at four times of measurement

Figure 7.27 presents April's language proficiency test results at two points of measurement in speaking skills, including pronunciation, and at four points of measurement on reading comprehension and listening comprehension tests. All language test results show an increase in April's scores. Pronunciation was the lowest among the other three tests (12.5 percent) in 2018 and it only increased to 30 percent in 2021 resulting the smallest increase of 20.8 percent. Her speaking skill was scored at 16.7 percent in 2018 and it increased to 65.2 percent in 2021. This 45.8 increase was the largest one among all her improvement on various subtests. Her achievement on the listening comprehension test was 30 percent in 2017, it increased to 40 percent in 2019, and improved further to 60 percent in 2021. April's reading comprehension score peaked at 65 percent in 2019 Feb and decreased somewhat to 60 percent in 2021.

April did not play any musical instrument. She started learning English at her primary school and learnt it for 8 years. She did not have pleasant memories about it.

> *We had so many English teachers during those 8 years that it was hard to remember. I studied English in a small village, 10 kilometers from Szigetvár. I didn't like English classes. I think the biggest problem was that the teachers couldn't discipline us, we progressed very slowly, and classes were boring.*

In my notes I described her to myself as a hectic, disorientated girl. There was always something she was not satisfied with, for example, she disliked the games we played, the music we listened to, or the tasks the group was to do. She often did not understand on which page the home assignment was or the task students did in the classroom. Despite all of these warning signs, she was polite and popular among the other students. She did not like individual or group work, but she enjoyed pair work. When we checked solutions together, she often did not know where we were. Her aptitude tests reflected her lack of concentration, it is hard to explain why her vocabulary learning test results decreased from 50 to 15 percent. Most probably she gave up doing the test. It is also hard to believe that she lost her metric sense from 60 to 20 percent between the two points of measurement. The results must have been impacted by something beyond her abilities, most probably caused by negative attitudes. Besides her general lack of attention there could be other plausible reasons for her unusual results. She might have had a bad day. Her inconsistent scores on the aptitude tests made me wonder how I could understand her case better and find out more about the validity of her results.

In the survey in 2018, after the second proficiency test, she evaluated herself on a 4-point Likert scale as follows: her choices are in bold.

Reading skill: *poor, **fair**, good, excellent*

Listening skill: *poor, **fair**, good, excellent*

Speaking skills: *poor, fair, **good**, excellent*

How often do you listen to music in English? never, **rarely**, often, always

How often do you play games? **never**, rarely, often, always

How often do you watch films in English? **never**, rarely, often, always

What are the effects of songs, games, films used in English classes?

> *I think they develop my speaking, listening and writing skills.*

She evaluated her listening and reading comprehension abilities as good in 2018, even though her listening comprehension score was twice as high as her reading comprehension score. In 2018, the frequency of her extramural activities was lower compared to the other students. In the semi structured interview, I found out that she started to watch films in English with Hungarian subtitles. She started such activities during the Covid-break, and this

could explain why her listening comprehension scores improved from 40 percent in 2019 April (before the Covid 19 -break) to 60 percent. She also started translating short quotes from English to Hungarian for her own pleasure. She found them in a Facebook group called "I like English". Among the classroom activities she liked tasks related to lyricstraning.com and did not mind working on tasks in the student book and textbook. However, she did not like playing or creating Kahoot games.

When I asked her opinion about her results, she was surprised to see how much she improved in her speaking skills. She believed it was because she started watching films in English during the Covid 19 period. She was satisfied with her overall language performance. She could however not give any reasons for her odd aptitude tests results.

Figure 7.28

*April's end of term grades and graded point average in % at four times of measurement*
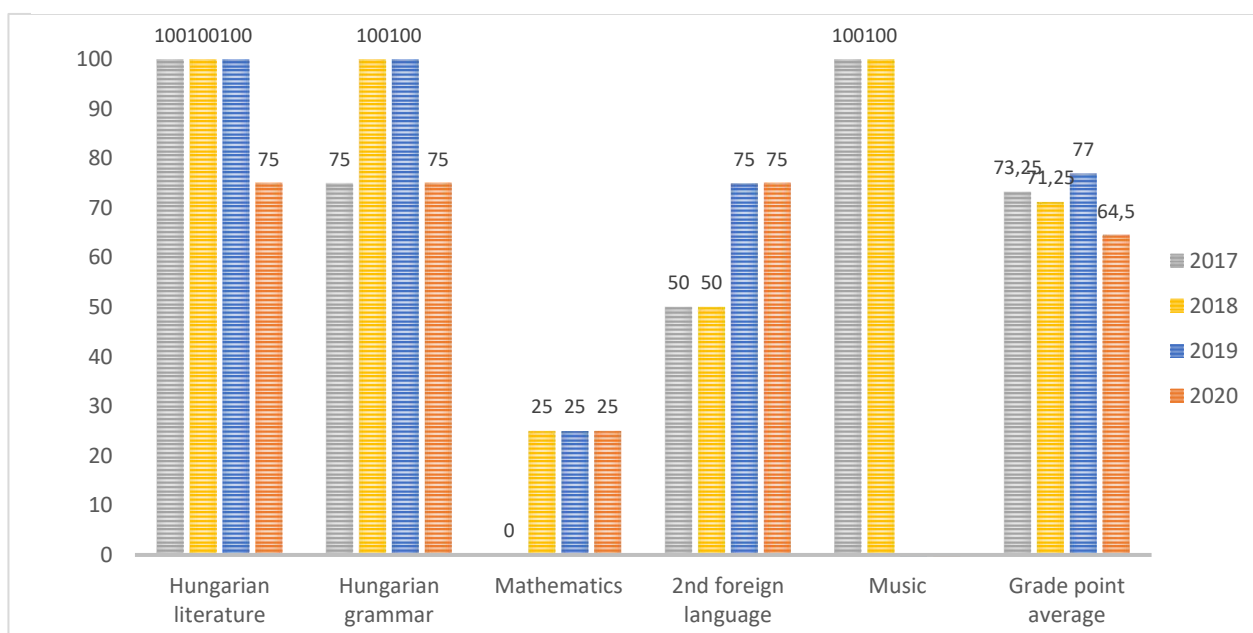
Figure 7.28 shows April's results in Hungarian literature, Hungarian grammar, mathematics, her second foreign language (Italian) and music at the end of the four academic years. Her grades reflect a less linear performance over the 4 years than those of her peers. Her first language results decreased but her German achievement increased by the end of her fourth year. Out of the examined subjects, mathematics was the most difficult for her; she failed the first year, so she had to retake her math exam to continue her studies. She excelled only at music as a subject; however, her grade point average showed a gradual decrease over her four years.

Overall, her language proficiency increased, although her development was modest. I think that the reason for this increase was that she finally started to complement her studies in class with extramural activities and became more autonomous than earlier. I believe she was partially motivated, and her motives became important enough to impact her behavior a bit late. She did not want to continue her studies and she did not have any specific goals for learning the English language. The other reasons why her progress was slow may be related to her low language aptitude scores indicating certain learning difficulties, as were shown in her low scores on the words in sentences test tapping into her memory. Her case is in line with the predicative power of language aptitude tests: lower scores tended to indicate a slower rate of learning. A student whose abilities are low, slow development may impact how motivated they can be. If they do not experience success during the learning process and they would have to make extra effort to catch up with their peers, they may not be able to do their best.

7.3.7.6 Profile 6: Lia

Figure 7.29

Lia achievements (%) on the language and music aptitude subtests in 2017 and 2021
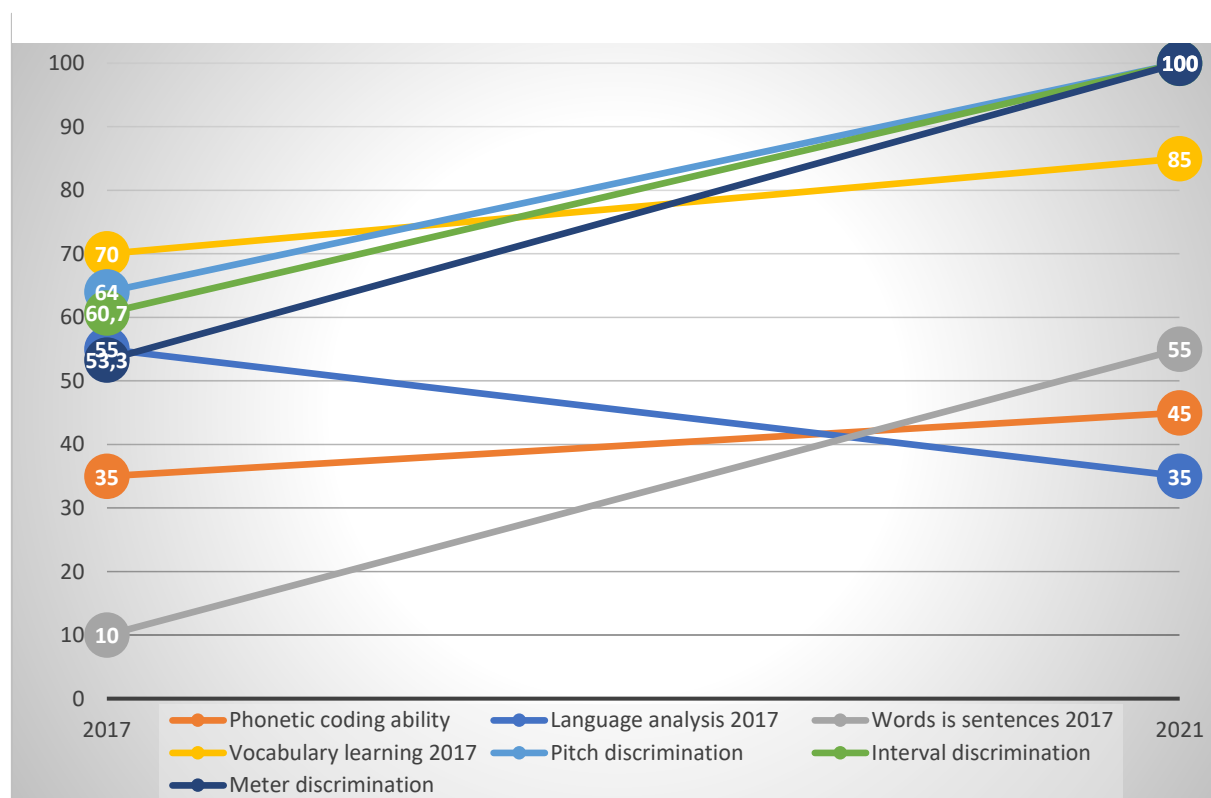
The line graph in Figure 7.29 illustrates the seven components of Lia's language and music aptitude tests at two times of measurement. Between 2017 and 2021, Lia's three language

aptitude subtest scores showed an increase; however, her language analysis scores declined. Her music aptitude subtest scores showed an upward trend between the two points of measurement.

In Lia's 2017 language aptitude test results, her score on the words in sentences subtest was 10 percent and it improved to 55 percent. Her vocabulary learning scores also increased from 70 to 80 percent, and a 15 percent increase was found in her phonetic coding ability subtest results. The only subtest which did not increase was her language analysis: it decreased from 55 percent to 35 percent between the two points of measurement. These changes in her scores are inconsistent and they may have been caused by her lack of attention at the times when her scores were low, and she must have been more focused on the subtests where she scored higher. I asked her about it but she did not know what had caused the changes. Her scores on pitch interval and meter discrimination increased from 64, 60 and 53 to 100, respectively. Her improvement on the meter discrimination test was the most substantial: 47 percent.

Figure 7.30

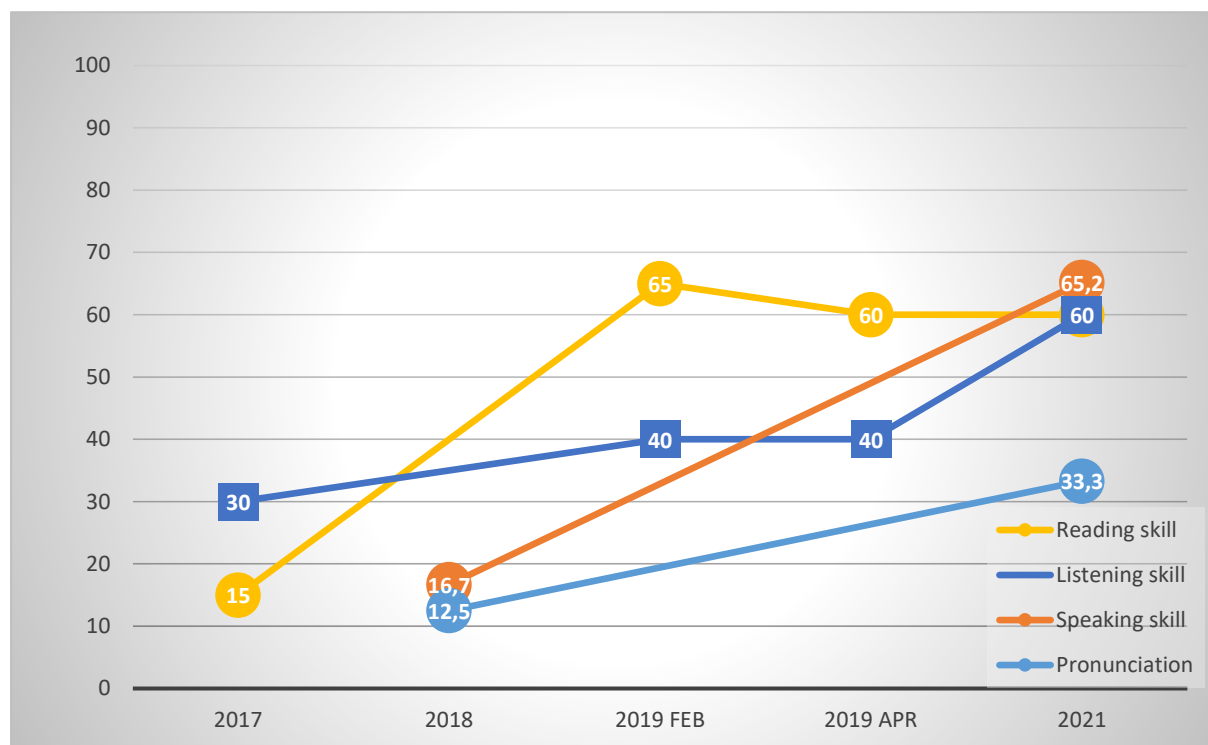*Lia's language proficiency scores in % at four times of measurement*
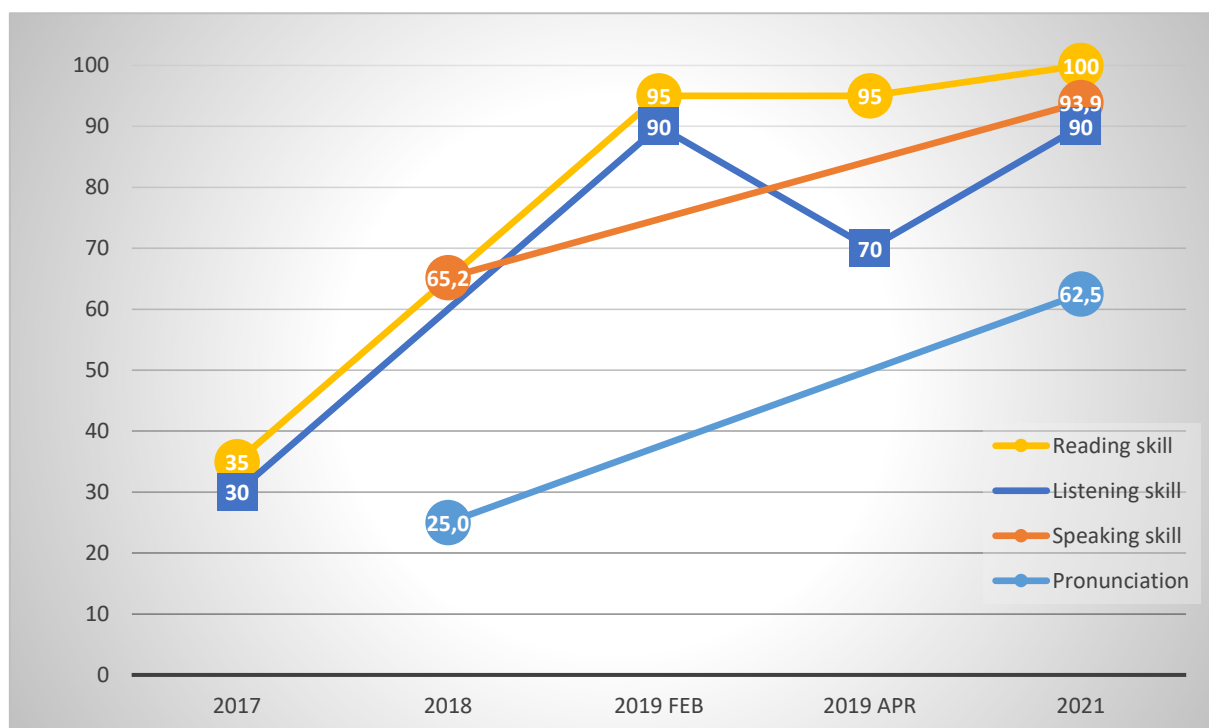
Figure 7.30 presents Lia's English language test results at two points of measurement in speaking skills, including pronunciation, and at four points of measurement on reading

comprehension and listening comprehension tests. All language test results show an increase in Lia's scores. Pronunciation was the lowest among the three tests (25 percent) in 2018 and it increased to 62.5 percent in 2021, resulting in an increase of 37.5 percent. Her speaking scores were quite high in 2018 (65 percent) and they increased to 94.22 percent in 2021. Her achievement on the listening comprehension test was 30 percent in 2017, whereas it increased to 90 percent in 2021. This 60 percent increase was the largest one among all her various subtests. Lia's reading comprehension score was 35 percent in 2017, it reached 95 percent in February 2019 and improved to 100 percent in 2021. Lia's reading and listening comprehension score patterns show similar tendencies. Both halted or even decreased in April 2019; then, they showed and upward tendency by 2021. These results show that her abilities developed dynamically, ups and downs were typical in her test scores due to unclear reasons.

Lia did not play any musical instrument, but she danced for five years. This information is useful, because dancing is closely related to rhythm which was measured very high in 2021 on her meter discrimination subtest (100 percent). She started learning English at her primary school and learnt it for eight years. According to her own account, she enjoyed her primary school English classes.

> *The teacher was very good. We learnt a lot from her, but I didn't like when we had to learn content by heart and these oral exams were graded. They were always scary for me. Since 5th grade I've been watching YouTube videos, I've adored American youtubers and have been following them since then. I started watching series in English in 7th grade. I seldom play computer games. I listen to English music nonstop. Mostly I can understand the lyrics, but I have difficulties with rap lyrics. I found a good site where I can look up slang to find out the meaning.*

She found that the best way of learning English was if she could connect grammar to examples from her favorite lyrics.

She had definite goals with her English knowledge:

> *I would like to pass a state language exam by my 11th grade and by 12th grade I want to take the advanced level school leaving exam.*

She was a polite, hard-working, and happy girl, who enjoyed drawing small figures, mostly animals, after she finished her tasks well before her classmates, indicating that her rate of learning was fast. She enjoyed listening to music and one of her favorite activities was related to the platform lyricstraining.com. She was the leader in her group. Oftentimes the atmosphere was so positive that she started singing with her friends along the songs in tasks on lyrics. Over the years she became more and more involved with extracurricular activities:

these included corresponding with Turkish students, watching films in English and listening to and singing along with music in English. All these activities indicated her enhanced level of motivation and engagement over the years.

In the interview she mentioned a special way of using English home.

> *I believe I developed this much, and this may sound weird, but I talk to myself in English when I'm alone in front of the mirror. My mom believes I'm a psychiatric case, but I don't mind.*

When I asked her about specific situations of these occurrences, she revealed that she definitely relied on repetition a lot and also used English as a coping strategy when she was anxious:

> *There was a series I enjoyed the most and some parts I liked so much that they got stuck in my mind, so I repeated them on an on. When I feel somebody hurts me, I feel I have to express my feelings in English in front of my mirror.*

In my notes I recorded that she liked individual and group work, but her favorite was pair work. She enjoyed tasks in which students acted in situations. Lia was always first to answer my questions. In the survey in 2018, after the second proficiency test, she evaluated herself on a 4-point Likert scale as follows: her choices are in bold.

> Reading skill: *poor, fair, **good**, excellent*
>
> Listening skill: *poor, fair, **good**, excellent*
>
> Speaking skills: *poor, fair, **good**, excellent*

How often do you listen to music in English? never, rarely, often, **always**

How often do you play games? never, **rarely**, often, always

How often do you watch films in English? never, rarely, often, **always**

What are the effects of songs, games, films used in English classes?

> *I'm positive that songs, films help my overall English.*

She evaluated her listening, speaking and reading skills as good in 2018, even though she had been watching YouTube videos and films in her free time; in her primary school years her proficiency results did not reflect this much practice in 2017. One underlying reason could be her language aptitude results in 2017. Her words in sentences and phonetic coding ability were very modest: 10 and 35 percent, respectively. These results must have predicted a longer time for her improvement in her English skills; however, as was mentioned earlier, she tended to finish tasks earlier than her peers, so she seemed to be a fast learner on certain types of tasks.

In the Covid-break she had more time for her extramural activities, and this could be a reason why she improved so much between 2019 and 2021 in her English language skills. Her favorite classroom activity was Kahoot and lyricstraning.com, but she also liked to work in pairs. She did not like working on the student book and textbook tasks. When I shared her results with her, she was not surprised to see how much her English had improved. She believed her impressive development happened because she used English daily at home. In other words, she managed to find her own strategies for extensive practice beyond the classroom and she knew they were helpful and enjoyed using them over the years.

Figure 7.31

Lia's end of term grades and graded point average in % at four times of measurement
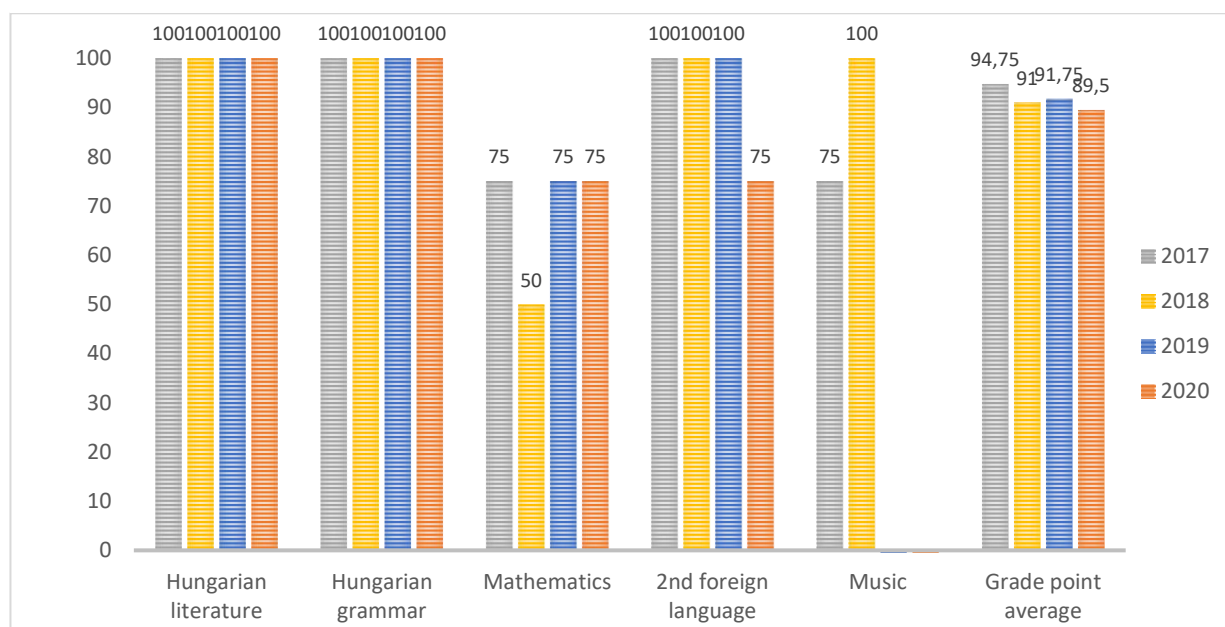
In Figure 7.31 Lia's results are shown in Hungarian literature, Hungarian grammar, mathematics, Italian, and music at the end of the four years. Her grades provide a slightly uneven performance: her outstandingly high first language results were constant, but her second foreign language (Italian) performance decreased by the end of her fourth year. Out of the examined subjects, mathematics was the most difficult for her, but she achieved 75 percent in three years, including the last year. Her grade point average showed a small decrease over her four years.

Lia's English listening, speaking and reading comprehension scores were 90 or over 90 percent in 2021. I believe her intrinsic motivation underpinned by her comprehensive

extramural activities, and her extrinsic motivation, her own goal set high in her English language studies can explain her great results. From her language aptitude subtests, the words in sentences ability stands out 85 percent in 2021. Therefore, her motivation plus the notable improvement of her pitch discrimination together must have helped her to achieve her outstanding performance. In 2021 she passed her advanced level school leaving exam with 60 percent. According to Education Authority, this result is an equivalent of a B2 CEFR. With her well established extramural activities related to the English language, she has become an autonomous and self-confident user of English and she will most probably excel even more in the coming years.

7.3.7.7 Profile 7: Paula

Figure 7.32

Paula's achievements (%) on the language and music aptitude subtests in 2017 and 2021
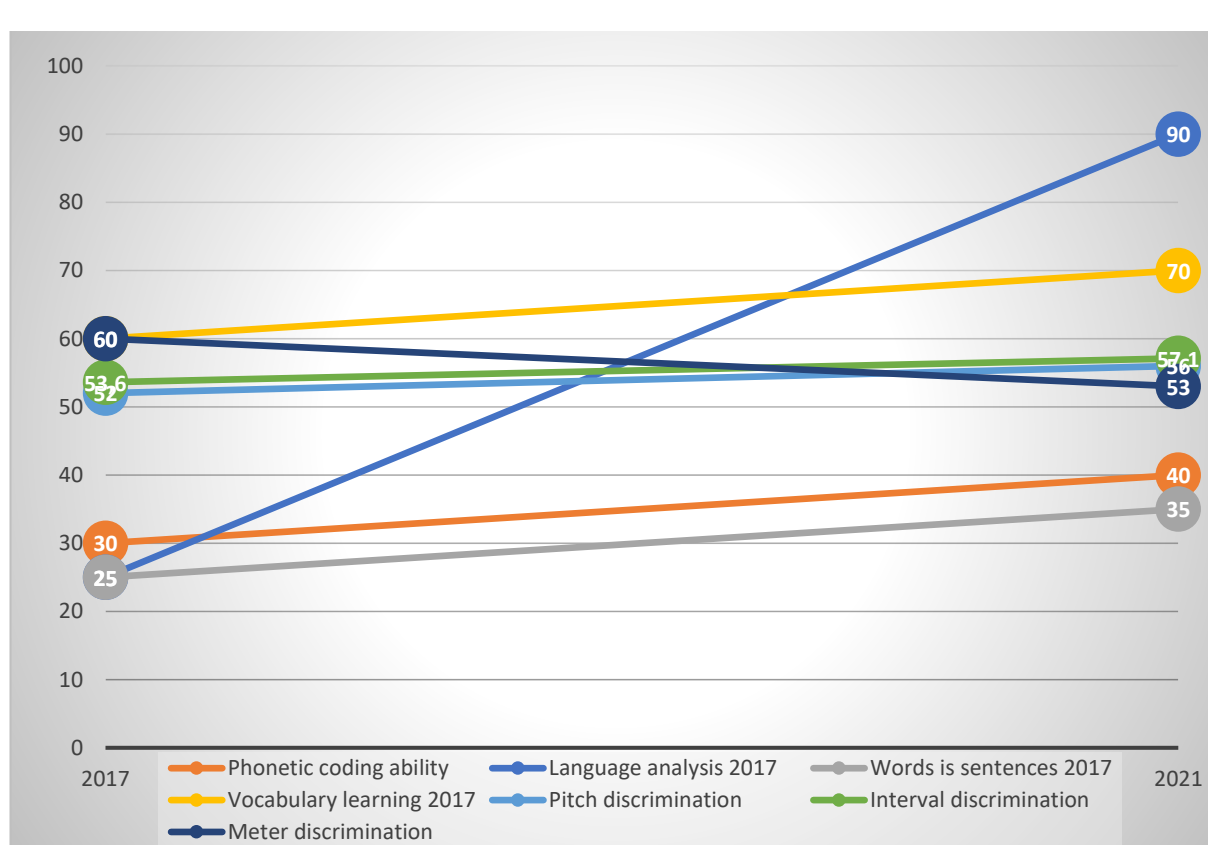
This line graph in Figure 7.32 illustrates the seven components of Paula's language and music aptitude test scores four years apart in 2017 and 2021. Paula's language aptitude subtests showed a slight but steady improvement over the period, her language analysis indicating a dramatic improvement. The other three subtest results, phonetic coding, words in sentences

and vocabulary learning show modest changes in her profile. Her language aptitude test results on the words in sentences subtest was 25 percent in 2017 and they increased to 35 percent, still low, by 2021. A very similar trend is indicated in her phonetic coding and vocabulary learning. They increased from 30 in 2017 to 40 percent and from 60 percent to 70 percent, respectively.

Her music aptitude subtest scores showed a lot more modest change. While her pitch discrimination and interval discrimination results increased slightly, her meter discrimination test scores decreased a bit between the two points of measurement. Her scores on interval and pitch discrimination slightly increased from 53.6 and 52 in 2017 to 57.1 and 56 in 2021, respectively. However, her meter discrimination decreased from 60 to 53 percent between the two points of measurement.

Figure 7.33

Paula's language proficiency scores in % at four times of measurement
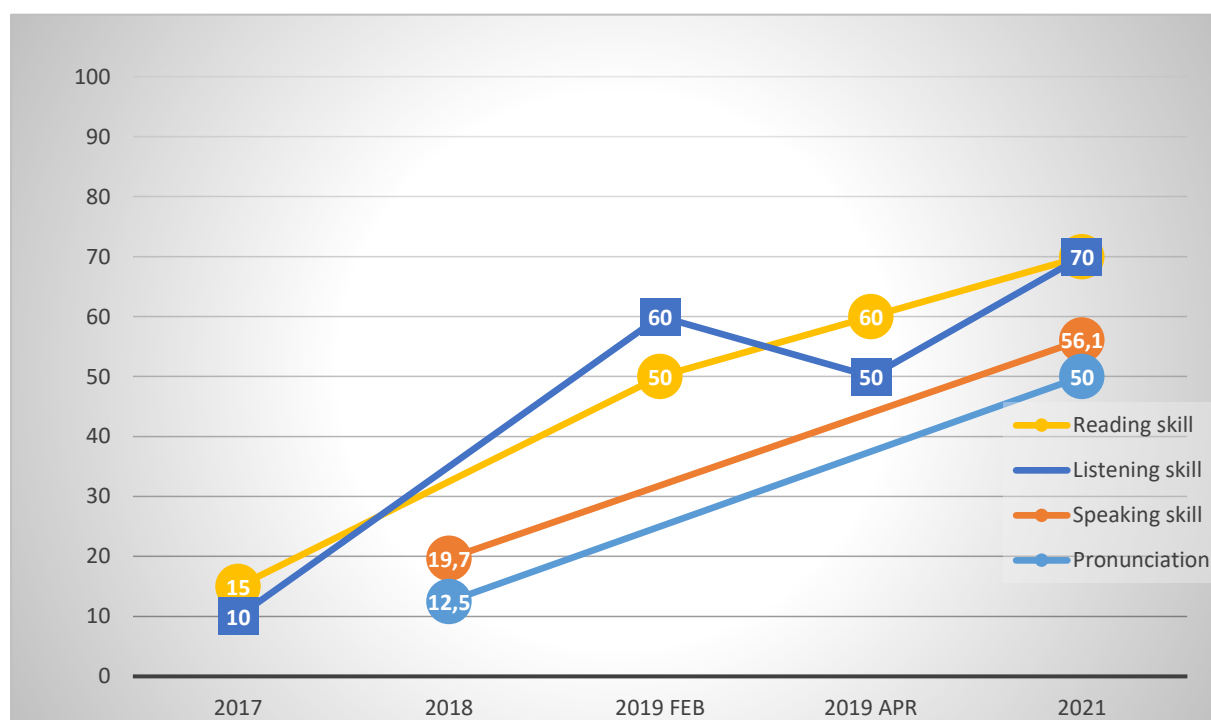
Figure 7.33 presents Paula's scores on the English tests at two points of measurement in her speaking skills, including pronunciation, and at four points of measurement on reading comprehension and listening comprehension tests. All language test results show an increase in her scores from a low starting point. Listening was the lowest among the other three tests (10 percent) in 2017 and it increased to 70 percent in 2021 resulting the largest increase (60

percent) among all her improvements on various subtests. Her speaking skill was scored at 19.7 percent in 2018 and it increased to 56.1 percent in 2021. Her achievement on the reading comprehension test was 15 percent in 2017, it increased to 50 percent in 2019, and improved further to 70 percent in 2021.

Paula did not play any musical instrument. She started learning English at her primary school and learnt it for eight years just like most of her other classmates. She had mostly positive memories about that period.

I liked English, but we had many different teachers. I live in a village, and I don't like the village. I like songs.

I talked to one of her primary school English teachers, and she described Paula as a very hard working and good student. Out of the ten students whose profiles I present, she was the most sensitive one and I noticed in her 10th grade that she was mentally not stable. She was either bursting with joy and had a terrific laughter even during English classes, or she was on the other extreme, silent, sleepy, and introverted. In my private conversation with her she mentioned that she had to take medication, but she did not elaborate on that matter any further. I contacted her class master to find out more about her mood changes and if she needed any special approach; she said Paula's parents had told her that she consulted a psychologist regularly. Her mood changes had an impact on her English studies. She was shy and unhappy during those depressive periods, and she was unwilling to cooperate on even the easiest tasks. She was not particularly motivated; however, songs and her classmates had a favorable impact on her mood. After a while I asked her to choose the song we listened to, and many times, the group sang it together in English, except for two boys. Her aptitude tests reflected her disorientation and probably her mood changes. I suspect that the 55 percent drop in her words in sentences test result was because she simply did not want to cooperate. It is more of a challenge to find an explanation for her 65 percent improvement in her language analysis subtest. When I asked her about it, she could not give a reason for it. Overall, her test performances must have been impacted by her mood swings.

In the survey in 2018, after the second proficiency test, she evaluated herself on a 4-point Likert scale as follows (her choices are in bold):

Reading skill: *poor,* ***fair,*** *good, excellent*

Listening skill: *poor,* ***fair,*** *good, excellent*

Speaking skills: ***poor,*** *fair, good, excellent*

How often do you listen to music in English? never, rarely, often, **always**

How often do you play games? **never**, rarely, often, always

How often do you watch films in English? **never**, rarely, often, always

What are the effects of songs, games, films used in English classes?

I like songs. I listen to songs if I'm happy or sad.

Her overall self-assessment was low. She evaluated her listening and reading skills as fair and her speaking skill as poor in 2018, and her test scores were in line with her self-evaluation. In her extramural activities, she noted only listening to music in English as a frequent activity. In the semi-structured interview, she said that she started to watch films in English with Hungarian subtitles, but this activity was very tiresome for her. She started reading jokes and short stories autonomously in English during the Covid-break and this could explain why her listening and reading comprehension scores improved from 50 and 60 percent in April 2019 (before the Covid 19 -break) to 70 percent by 2021, respectively. From the classroom activities she preferred the ones related to lyricstraning.com and playing Kahoot games but she also liked working on tasks in published course materials. She did not like creating Kahoot games. Paula did not like group work but preferred individual or pair work.

She was happy with her results and was hopeful to pass the final school leaving exam with a grade 3; thus, she did not aim for high. She did not know why she had such odd results on the language aptitude test. She believed she could not or perhaps did not want to cooperate. She found that her language skills improved because she started reading short stories in English and playing lyricstraining.com more during the Covid 19 break. In other words, once she started to supplement classroom tasks with activities of her own choice, she felt her English improved. Also, she tended to listen to music in English as a compensation strategy to match her moods.

Figure 7.34 shows Paula's results in Hungarian literature and grammar, mathematics, German (her second foreign language) and music at the end of the four academic years. Her grades reflect no increase over the 4 years, and this is an important difference between her profile and those of her peers. Her first language results, her German achievement decreased by the end of her fourth year. Out of the examined subjects, mathematics was clearly the most difficult for her and she could barely come up to expectations. Paula's grade point average showed a gradual decrease from 75 to 56.25 percent over her four years at secondary school.

Figure 7.34

Paula's end of term grades and graded point average in % at four times of measurement
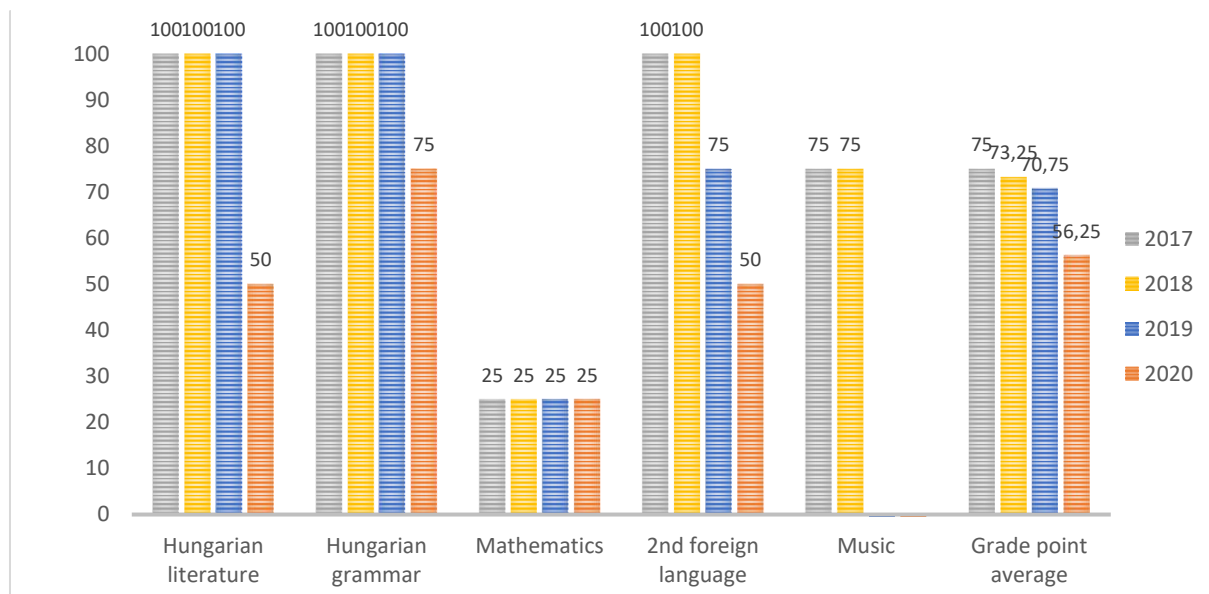
Even though Paula's language proficiency was low when she started her English studies in secondary school, her English listening, reading and speaking skills increased in the period of 2017-2021. This development was in contrast with her overall school performance which presented a gradual decrease. I believe she improved her English skills because she found solace in English songs in her free time and songs as well as her reading in English impacted her language skills implicitly. She did not continue her studies in higher education but chose to learn a trade. Her case was worth examining and the findings are encouraging despite her difficulties with her mood swings, she managed to develop in the English language and feel successful. These outcomes were beneficial for her not only for her educational development but also for her mental health.

7.3.7.8 Profile 8: Evelyn

Figure 7.35

Evelyn's achievements (%) on the language and music aptitude subtests in 2017 and 2021
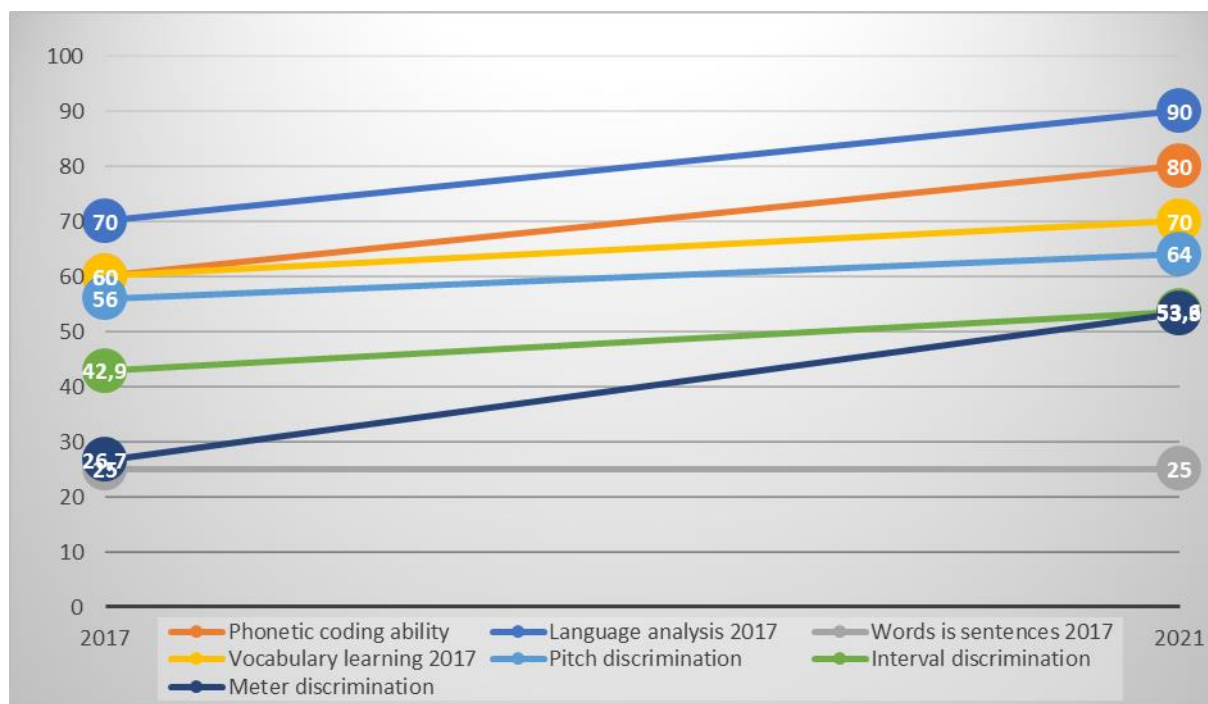
Evelyn's scores are displayed in Figure 7.35, showing her impressive development on all the seven components of language and music aptitude tests at both times of taking the tests. Six data pairs on language and music aptitude subtests showed a steady increase over the four-year period. Evelyn's phonetic coding and language analysis scores increased from 60 and 70 percent to 80 and 90 percent at the two points of measurement, respectively. Her language analysis score was the highest of the seven tests. The words in sentences subtest score was only 25 percent in 2017 and remained the same. Her vocabulary learning test also showed an increase, from 60 to 70 percent. Her scores on all three components of her music aptitude test showed an upward trend. Meter discrimination increased from 26.7 to 53.8 percent. This 27.1 percent increase was the highest of all students' music aptitude subtests. Her pitch discrimination scores improved the least: from 42.9 percent to 53.8 percent, whereas her interval discrimination result was at 42.9 percent level in 2017 and it reached 53.8 in 2021.

Figure 7.36

Evelyn's language proficiency scores in % at four times of measurement
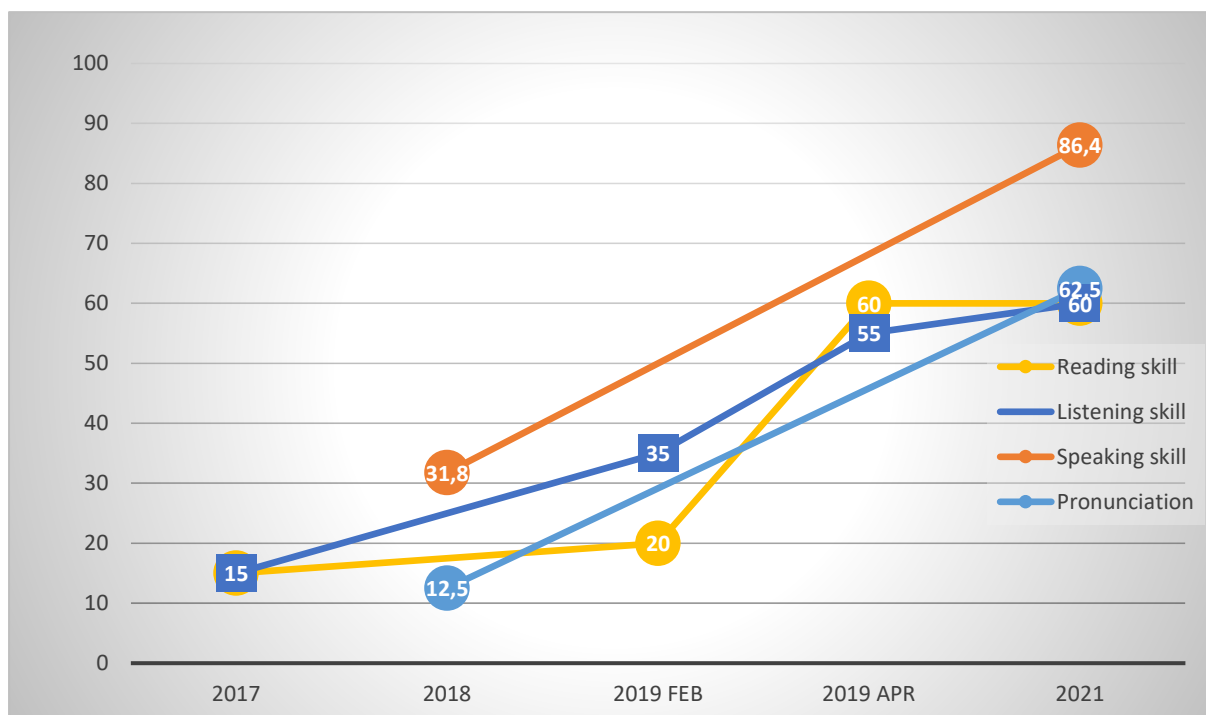
Figure 7.36 presents Evelyn's English language proficiency test results at two points of measurement in speaking skills, including pronunciation, and at four measurement points in reading comprehension and listening comprehension. All language test results indicate a steady increase in Evelyn's scores. Pronunciation was the lowest among the other three tests (12.5 percent) in 2018 and it improved to 62.5 percent in 2021. Her speaking skill was scored 31.8 percent in 2018 and increased to 86.4 percent in 2021. Her listening comprehension test score was 15 percent in 2017; it more than doubled by April 2019 and improved further to 60 percent in 2021. Evelyn's reading comprehension scores were 15 percent in 2017 and improved to 60 percent, in 2021. These results show that her initial test scores were low, but her English skills improved over the years.

Evelyn played the violin and studied music theory for four years; then, she stopped at the age of 10. In secondary school in her 9th grade, she continued her music studies, and she was a member of the school's music band. She described her connection with music like this in 2017:

> *I love music, I like listening to music, when my mother died, I stopped playing music,*
> *but now I got a violin from my music school and started practicing again.*

Evelyn was an introverted, silent girl when she started her secondary school. I noticed signs of self-harm (scars from small cuts) on her forearm in 2017. After contacting her class master, I was told she was not getting on with her stepmom. Fortunately, as years passed, she became more relaxed and made friends in her class. She did not learn English at her primary school, but she shared her pleasant memories about her previous school.

I had nice openminded teachers and nice classmates in primary school. I loved
working alone.

I noted in my diary that her preference of individual work in 2017 slowly shifted towards pair and group work. Her speaking test score reflects this change as it improved the most by 54.6 percent from 2018 to 2021.

In the survey in 2018, after the second proficiency test, she evaluated herself on a 4-point Likert scale as follows (her choices are in bold):

 Reading skill: *poor, fair, **good**, excellent*

Listening skill: *poor, fair, good, **excellent***

Speaking skills: *poor, **fair**, good, excellent*

How often do you listen to music in English? never, rarely, often, **always**

How often do you play games? **never**, rarely, often, always

How often do you watch films in English? **never**, rarely, often, always

What are the effects of songs, games, films used in English classes?

I think they will be good for learning English, but we have to be careful that everybody
should like the films, music, because if somebody doesn't like the new song or film then it will
be boring.

She evaluated her listening skills as excellent in 2018, even though her speaking skill score was actually higher, according to the tests results. She explained the reason for it it like this:

I have an aunt who lives in England, and I talk to her regularly on Skype and
messenger audio. I have already visited her, and it was fun.

Her love of music stands out among her extramural activities. She enjoyed activities which were related to songs. She used the lyricstraning.com platform in her free time. She particularly liked uplifting music. As her listening comprehension test score was only 15 in 2017, I believe that using music-related platforms and listening to music in English can be some of the reasons why her listening comprehension scores improved, whilst I found it interesting that her auditory skills, namely language and music aptitude tests revealed that she had modest pitch discrimination and phonetic discrimination scores in 2017 (56 and to 60

percent, respectively). The increase of these discrimination scores was in favor of her phonetic coding ability as it increased by 20 percent as opposed to her pitch discrimination skill's eight percent.

When I asked her opinion about her results, she said she was happy about them, because they meant that she had improved. She believed that her hard and steady work allowed her to achieve these test scores.

> *I study every day, I don't miss my homework, and I surround myself with English as much as possible. I'm satisfied with my results.*

When I asked her if she had anything else to add, she asked my opinion about her English language development, so I elaborated on what I had found. In other words, she was interested in feedback and quite aware of her achievements.

During Covid 19 she added more English related activities in her free time.

> *I started watching series in English. It depends on how much I love the film series. If it is Netflix, I watch it in English obviously with subtitles. Sometimes I stay up till 4 a.m. and watch films continuously, but sometimes I miss a day. So generally, I watch films in English for 2 hours a day. I listen to music nonstop; I'm addicted to music and started playing games on my mobile phone. When I like a song, I translate it, so I know what it is all about.*

Evelyn's end of term grades and graded point average in % at four times of measurement
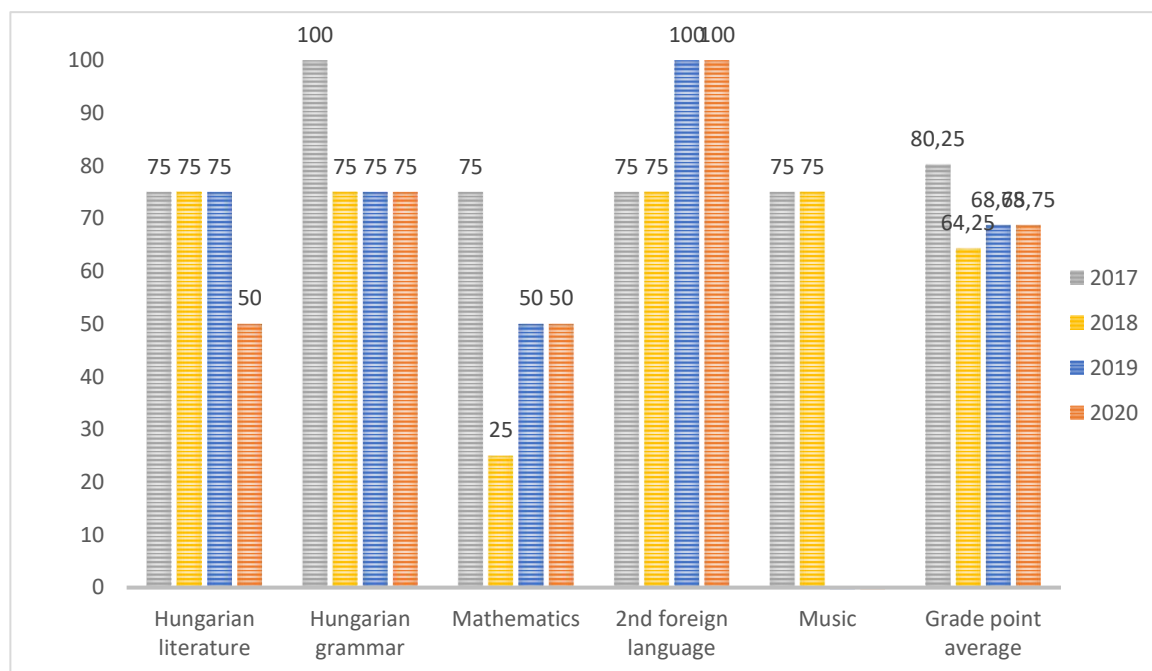
She also found a means of communication by using Wink Talk, an application, where people can communicate in English by sending text, voice, and video messages. She loved playing Kahoot quiz games but did not seem to enjoy creating new ones as much as playing them. Also, she had a Turkish pen friend whom she texted regularly. She did not like working tasks assigned in the student books and workbooks during her secondary school studies. According to her response to the survey, she found that the best way to improve her English was when she worked in groups. During the Covid 19 period she believed her listening comprehension improved the best. Her account of how she used English indicate that she gradually became more autonomous and was fully aware of what helped her to improve her English.

Evelyn's grades in Figure 7.37 show her achievements in Hungarian literature, Hungarian grammar, mathematics, Italian, and music over four years. Her grades show a stable, good performance. Her first language literature results decreased by the final year, but her second foreign language results excelled by 2021. Out of the examined subjects, mathematics was the most difficult for her. Despite her love of music and playing the violin, her music grades were just 75 percent in the two academic years when she got assessed.

Evelyn did not study English in her primary school. Her English language skills improved over the years, even though she had difficulties in her private life, especially in her

first years at secondary school. Her hard work and dedication complemented with her versatile ways of engaging in English-related extramural activities contributed to her results. She was one of the few students who dared to speak with native speakers of English who visited school as guests. Her confidence derived from speaking English online and probably realizing the benefit of communicating in a foreign language. In her four academic years she was an example of a student who overcame her difficulties and found relaxing, pleasant, and joyful activities while using the English language.

7.3.7.9 Profile 9: Kevin

Figure 7.38

Kevin's achievements (%) on the language and music aptitude subtests in 2017 and 2021
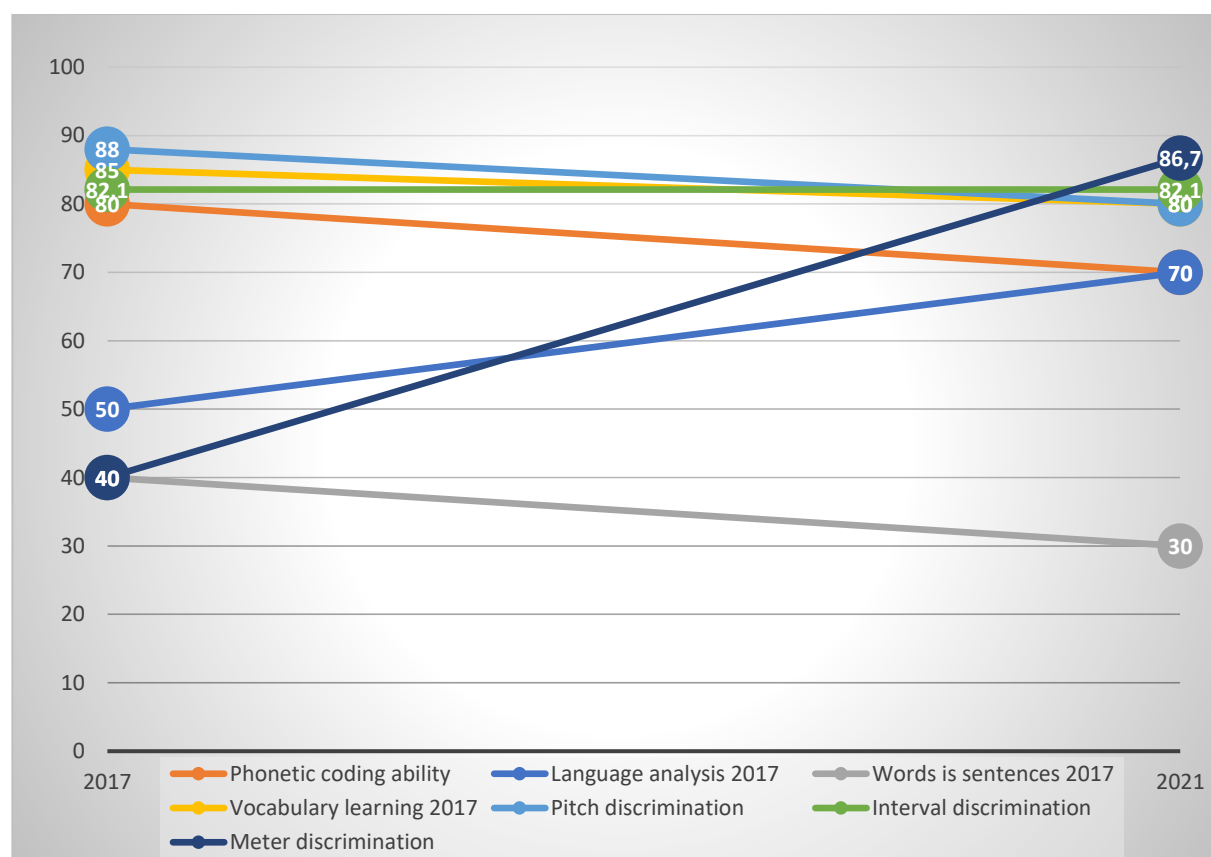
Kevin's language aptitude subtest results in Figure 7.38 showed a downward tendency except for the language analysis subtest score between the two points of measurement. His music aptitude test scores showed a similar pattern: his pitch discrimination scores slightly decreased, his interval discrimination did not change, whereas his meter discrimination scores dramatically improved between the years of measurement.

Kevin's language aptitude test results show that his phonetic coding and vocabulary learning subtest scores were high, 80 and 85 percent in 2017 and both data decreased to 70 and 80 percent, respectively. The words in sentences subtest score decreased from 40 in 2017 to 30 percent in 2021 resulting in his lowest scores on the language aptitude subtests. The only subtest showing improvement was his language analysis one which increased from 50 to 70 percent over the four-year period.

Out of the three music aptitude subtests, his pitch discrimination subtest scores were the highest initially, 88 percent, but they decreased by 8 percent, resulting in 80 percent in 2021. Interval discrimination was high in 2017 (82.1) and it did not change. In contrast with these two scores, meter discrimination scores increased from 40 to 86 percent.

Figure 7.39

Kevin's language proficiency scores in % at four times of measurement
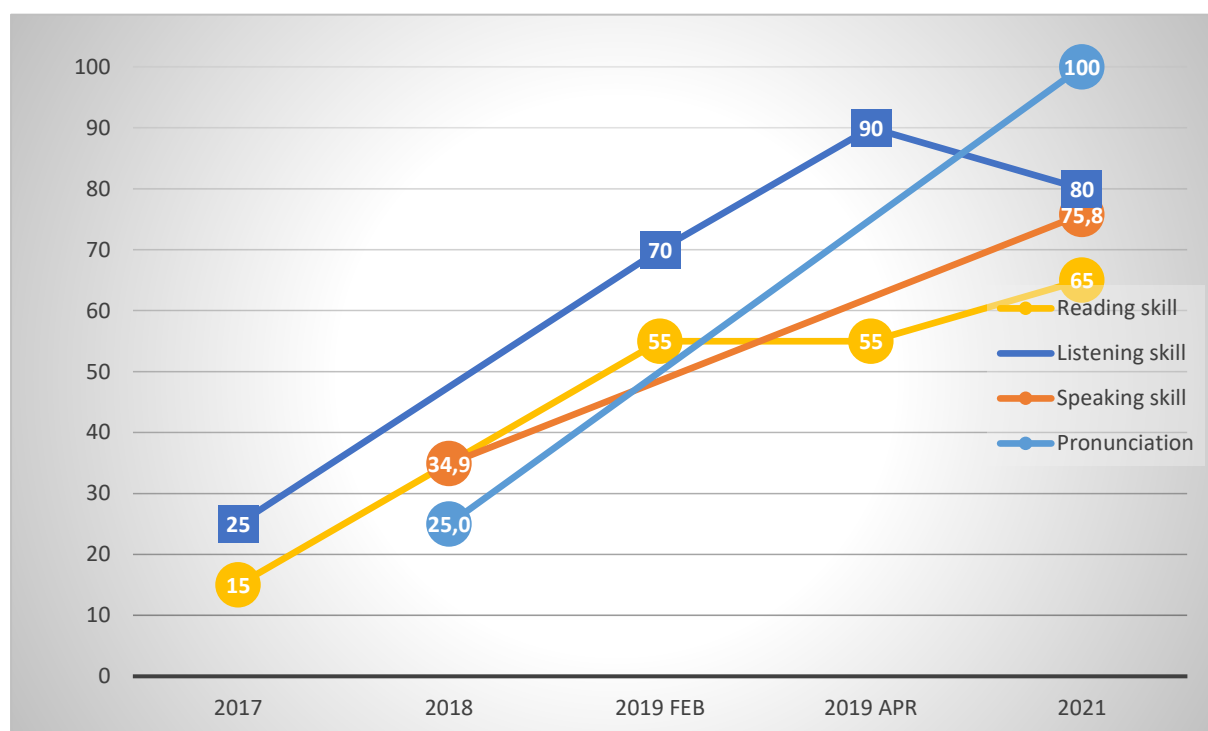
Kevin's language proficiency test results are shown in the line graph in Figure 7.39: The lines indicate his speaking scores, including pronunciation, at two points of measurement and his scores on the reading comprehension and listening comprehension tests at four points. His reading score was the lowest of all language test results (15 percent) in 2017 and it improved to 65 percent in 2021. His second lowest scores were found on the listening comprehension tests: he started at 25 percent and reached his top score at 90 percent in April 2019. During the Covid 19 break it decreased to 80 percent in 2021. His speaking test scores

showed an increase from 34.9 in 2018 to 75.8 in 2021. His pronunciation developed the most: from 25 to 100 percent between 2018 and 2021.

Kevin was a drummer. He started playing the drums when he was six years old. He played in the local music wind band as well as the school's music band. He learnt English in primary school for eight years. This is how he described his memories about it:

English was easy for me. I did not have to learn a lot. I had good classmates. The tasks were not interesting, but I still enjoyed my classes.

He did not have any special plan with English in 2018. Kevin's meter discrimination improved by 46.7 percent and this development could be a result of his hobby: playing the drum every day. Examining his other test results, Kevin's listening comprehension scores (80 percent) and speaking test scores stand out at 100 percent. I suppose that his high music aptitude score, especially his pitch discrimination, must have contributed to his impressive pronunciation score, but the additional dataset revealed more information about his achievements. The survey in 2018 showed how Kevin evaluated himself on a 4-point Likert scale: his choices are in bold, just like his responses to the questions on frequencies of using English.

Reading skill: *poor, fair, good,* ***excellent***

Listening skill: *poor, fair,* ***good****, excellent*

Speaking skills: *poor, fair,* ***good****, excellent*

How often do you listen to music in English? never, rarely, **often**, always

How often do you play games? never, rarely, often, **always**

How often do you watch films in English? never, **rarely**, often, always

His response to the question "What are the effects of songs, games, films used in English classes?" reveal what he enjoyed doing and why.

I think these will help in my everyday English usage and I think they will help me speak English better.

Kevin marked his listening skills as excellent in 2018 and even though his score was only 25 percent in 2017; it reached 90 percent before the Covid break. His reading comprehension score was 55 percent before the Covid period, and it increased to 65 percent in 2021. Kevin's homeschooling period caused a decline only his listening skills by 10 percent and here is his experience about it.

I had more time to do things I like. I liked staying home and study when I wanted to. It was easier for me. I think my listening skills are better and my reading skills are about the same. I loved watching YouTube videos and playing computer games helped me a

lot, and when I realized I understand films I should watch them in English then. But I
don't like watching films or series in English. I play computer games 1 and 1.5 hours,
all these games are in English, because there are no Hungarian versions of them.

Kevin's extramural activities specially his intensive online gaming must have contributed to
his improvement in all his language skills, especially to his pronunciation. When I asked him
to reflect on his tests results, Kevin said the following:

It was surprising to see how much my listening and reading skills improved.

His preferences of learning English were revealed by his responses to the
questionnaire. He liked Quiz style online games like Socrative and Kahoot, but he did not
enjoy using music related platforms like lyricstraining.hu. He did not like to work on
traditional English language exercises in his coursebooks. Kevin enjoyed working in pairs and
talking with his peers freely in English because:

There is always someone who can help me.

Figure 7.40

Kevin's end of term grades and graded point average in % at four times of measurement
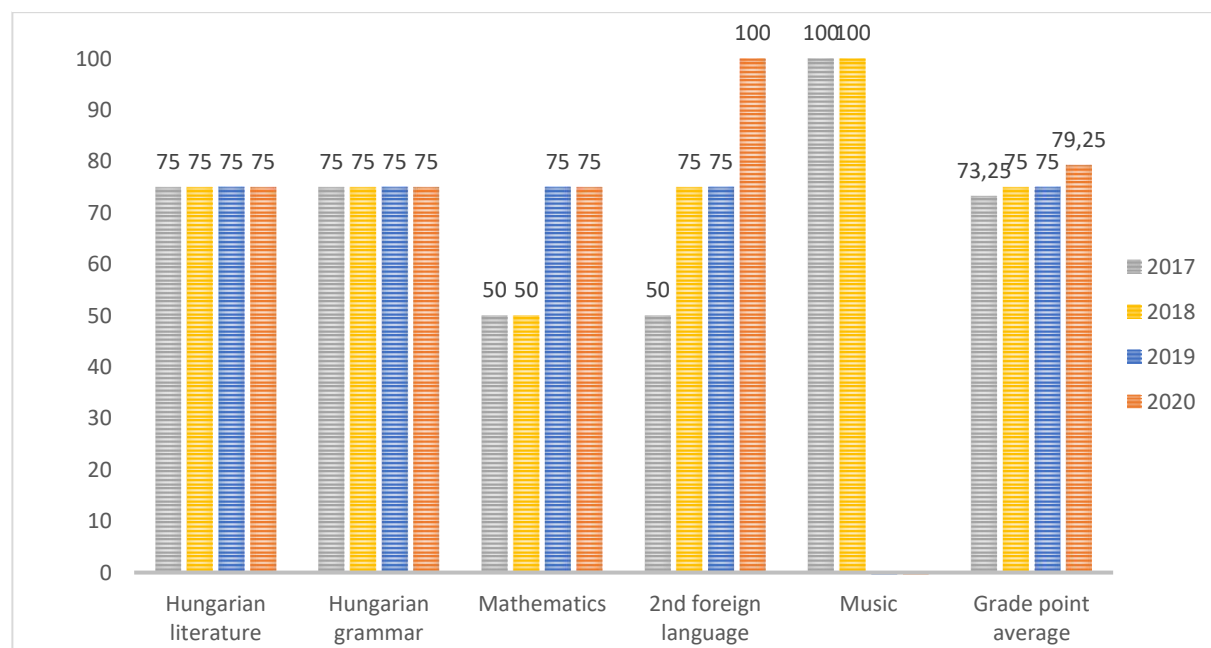
Figure 7.40 shows Kevin's scores in five school subjects in his four secondary school
years. Some of his grades did not change, like Hungarian literature and grammar. His music
grades also remained the same in his first two academic years. However, all his other subjects
presented in Figure 7.40 reflect an improving tendency including Math and his second foreign
language, as well as his grade point average results. From among his scores indicating his

cognitive skills, his language analysis improved to 70 percent in 2021 and so did his math results from 50 in 2017 to 75 percent in 2021. I believe there is a relation between these two positive tendencies.

Overall, Kevin's English language skills improved a lot between 2017 and 2021, and his tests results indicated impressive development. Kevin's case showed that besides his immense extramural activities his high scores in his phonetic coding ability, language analysis and vocabulary learning must have all contributed to his improving grades in his other subjects. He was able to autonomously improve his English not only in class but also beyond school.

7.3.7.10 Profile 10: Teo

Figure 7.41

Teo's achievements (%) on the language and music aptitude subtests in 2017 and 2021
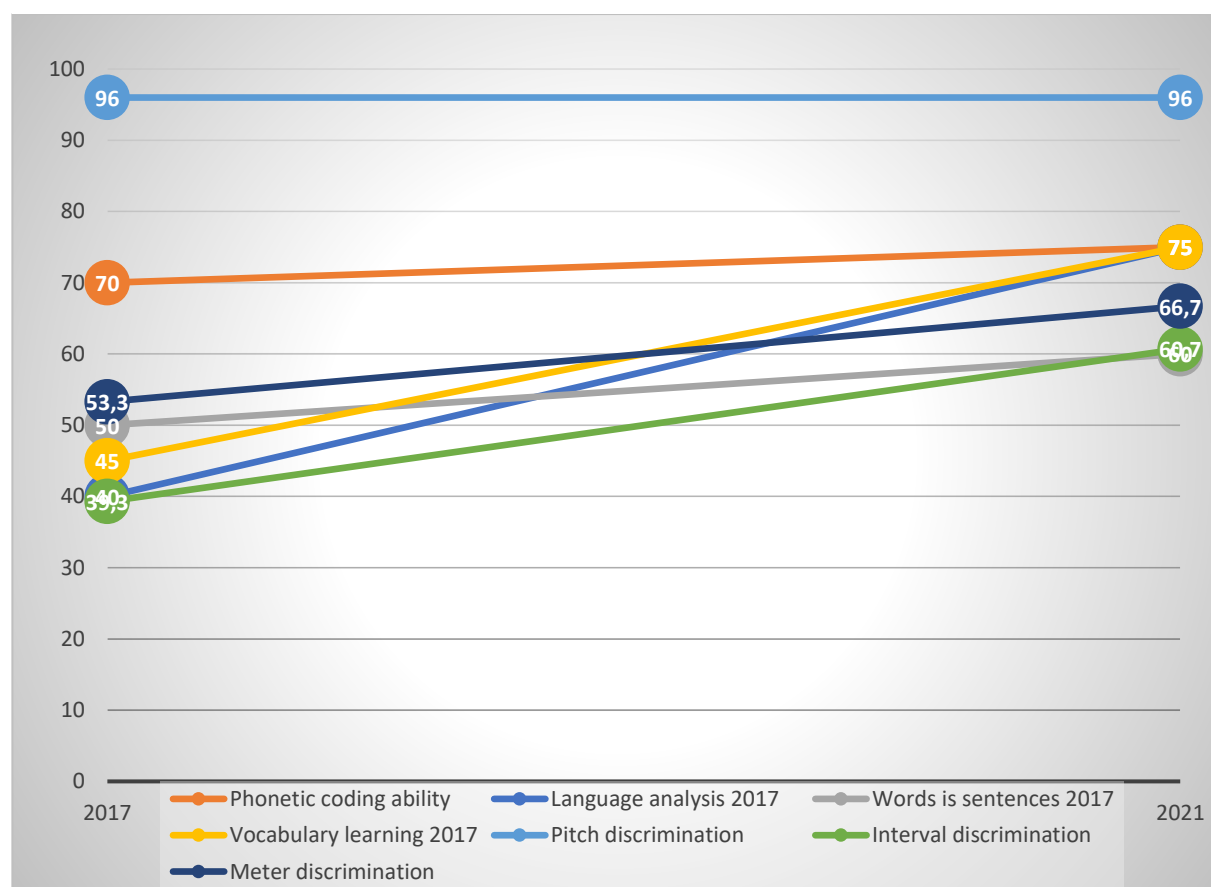
 In Figure 7.41 Teo's language and music aptitude test scores are shown in 2017 and 2021. All language aptitude subtest scores showed a steady increase during the examined period. His music aptitude subtest scores also showed an increase except his pitch discrimination

which did not change, most probably due to a ceiling effect. Teo's lowest score, his language analysis subtest was 40 percent in 2018 and it increased to 75 percent in 2021, resulting in his largest improvement (35 percent) from among his seven subtests. The vocabulary learning subtest increased by 30 percent (from 45 to 75 percent); his words in sentences subtest score increased by 10 (from 50 to 60 percent) and Teo's phonetic coding result increased from 70 to 75 percent between the two points of measurement.

Out of all ten profiles, Teo's music pitch discrimination subtest scores were the highest initially, it was 96 percent, and it was the same in 2021. His interval discrimination improved the most from 39.3 to 60.7 percent. Modest improvement was indicated in his meter discrimination result, as it increased from 53.3 to 66.7 percent.

Figure 7.42

Teo's language proficiency scores in % at four times of measurement
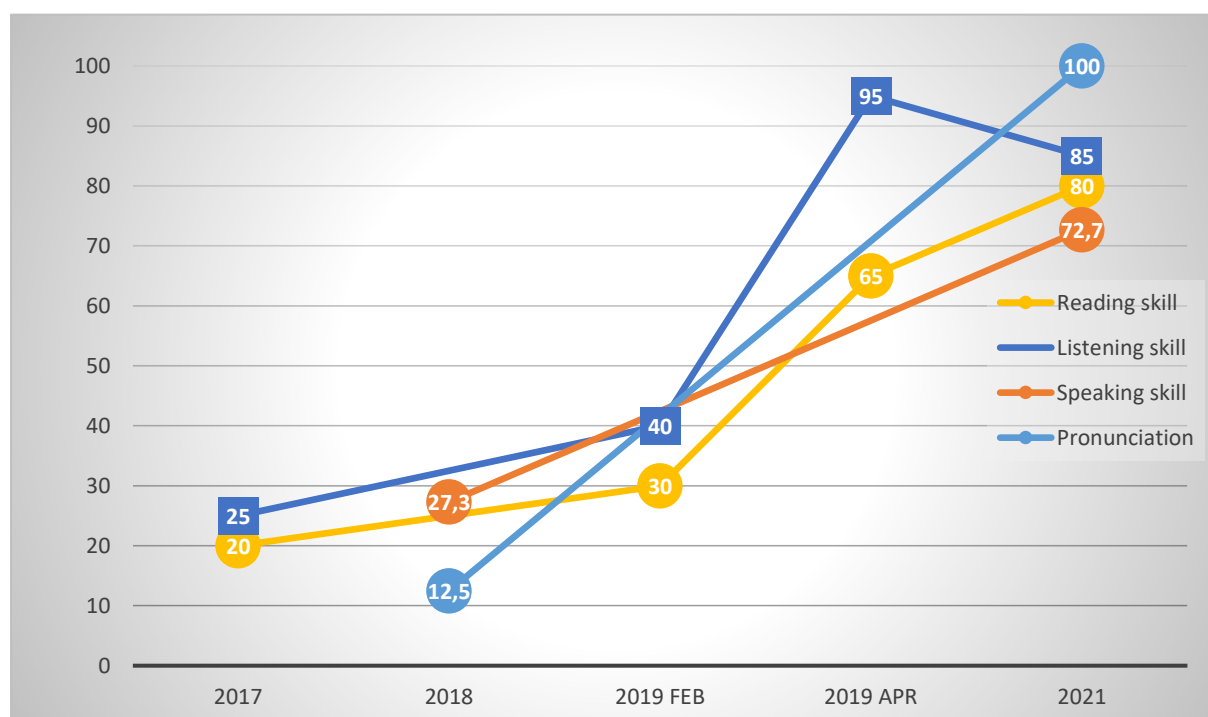
The line graph in Figure 7.42 shows Teo's language proficiency test results: his speaking skills and pronunciation at two points of measurement, and his reading comprehension and listening comprehension results at four points. His pronunciation score was the lowest of all language test results (12.5 percent) in 2018 and it improved the most peaking at 100 percent in 2021. His second lowest scores were found on the reading comprehension tests: he started at 20 percent and reached 30 percent in 2019, further

improved to 65 percent in 2019 and reached 80 percent in 2021. Teo's speaking and listening test scores were similar at their first points of measurement, 27.3 in 2018 and 25 in 2017, respectively; but their rate of increase was different, his speaking scores increased by 50.4, whereas his listening comprehension scores increased by 60 percent.

Teo played the guitar in his free time, but without any formal music education. He always liked music, but he was unaware of his music talent. He was pleasantly surprised when I told him about his excellent pitch discrimination results.

He did not learnt English in primary school. His German language grades were not very good, nothing extraordinary compared to his auditory skills: his exceptionally high pitch and relatively high phonetic discrimination, 96 and 70 at the first point of measurement. This is how he remembered his German language studies:

> *I didn't' particularly like my German classes in primary school. I did not find them interesting or useful. Mostly I got grade 3 or 4 so that is why I wanted to change and start learning English in my secondary school.*

He did not have specific plans about taking the advanced level school leaving exam or a state language exam in his 12th grade. As Teo started learning English at his secondary school it was interesting to see how he evaluated himself on the Likert scale in 2018. His choices are in bold, just like his responses to the questions on the frequency of using English.

Reading skill: *poor,* ***fair****, good, excellent*

Listening skill: *poor,* ***fair****, good, excellent*

Speaking skills: *poor,* ***fair****, good, excellent*

How often do you listen to music in English? never, rarely, **often**, always

How often do you play games? never, rarely, often, **always**

How often do you watch films in English? **never**, rarely, **often**, always

He responded to the question "What are the effects of songs, games, films used in English classes?" as follows:

> *I think it will be easier to learn English and I'll be more motivated than just memorizing structures and sentences.*

Teo marked his listening and reading comprehension abilities as fair in 2018 in his first academic year learning English. However, before the Covid break in April 2019, his listening comprehension score reached their peak at 95 percent and his reading comprehension was also relatively high (65 percent) considering the fact that he achieved these results in less than two years of learning English. Homeschooling had an adverse effect

on his English development: his speaking and reading scores improved during Covid 19 break, whereas his listening scores decreased by 10 percent.

> *I had more time for English, and I did not have to get up early to go to school. I played online team-based computer games before, but now I had more time for them, sometimes 4 or 5 hours. But what I really enjoyed and spent most of my free time on was watching more YouTube videos in English. Mainly I watched instructional videos of youtubers on how to get to the next level in computer games. I also listened to music more and started watching films in English because my classmates recommended them, and I realized I could understand them in English if I paid attention.*

Teo's extensive extramural activities boosted his motivation, which further increased his devotion to using English in his free time.

Also, his high pitch discrimination and phonetic coding subtests results must also have contributed to his rapid improvement. Aptitude test results proved to be a reliable predicator for his outstanding results in 2021. His listening and reading comprehension achievements also impacted his speaking skills, which reached 100 percent in 2021.

He reflected on his tests results, like this:

> *I felt my English was improving so I expected good results. I was surprised to see that my reading improved so much. I didn't feel I improved at all. I thought the best way to learn a language is in the classroom.*

When I asked him about his 10 percent decline on his final listening test in 2021, he replied this:

> I *don't know, maybe I was tired, or I didn't pay attention.*

In the questionnaire his preferences revealed that just like his classmates he enjoyed playing Kahoot games and lyricstraining.hu. He also liked tasks in a project when he could write to his Turkish pen friend and did not mind working in his student and workbooks.

He loved working alone because:

> *I can advance in my own pace; I don't have to wait for the others.*

Figure 7.43

Teo's end of term grades and graded point average in % at four times of measurement
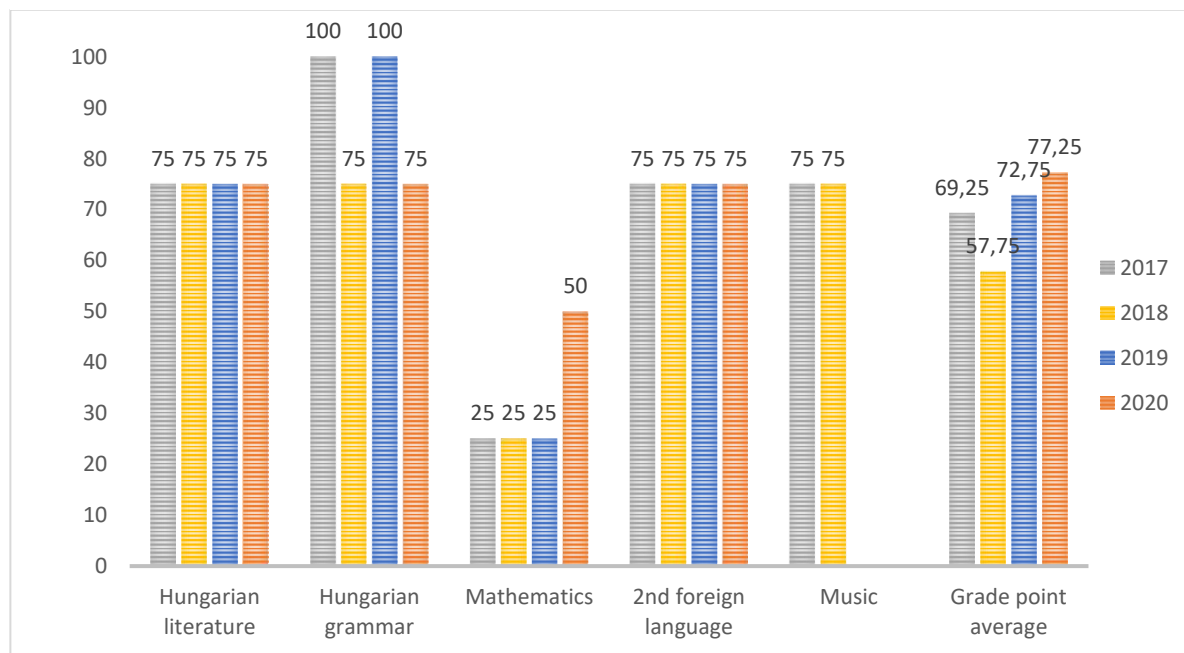
Figure 7.43 displays Teo's results in Hungarian literature, Hungarian grammar, mathematics, his second foreign language and music. Teo's grades show a solid performance over his four years at secondary school. He improved his math grade by the end of his last year and his grade point average slightly improved by 2021. His Hungarian language scores were 75 percent, whereas his Hungarian grammar results fluctuated between 100 and 75 percent. Teo's grade in his second foreign language (German) was 75 at the end of all four years.

Overall, Teo's English language skills improved the most from among his classmates considering the fact that he had started English in 2017. He was not motivated extrinsically, and he did not want to go to university, but found the English language a useful tool for his extramural activities. Although he did not watch series in English as extensively as his classmates, his other free time activities in English must have compensated for that and his language proficiency still benefited from what he decided to use it for. He was the only student explicitly stating that his peers impacted his choice of activities in English, indicating that students in Group A discussed what they did in their free time, and he was willing to accept their advice. I believe that Teo is a good example of why the MLAT-based Hungarian language aptitude test is a successful predictor, as his English language development was fast. His steadily improving performances during the four years are also in line with studies

predicting that the two most influential IDs impacting language attainment are language aptitude and motivation.

7.3.8 How different factors contributed to changes in students' English language proficiency in Group A and Group C

First, I examine the relationships between the English language proficiency results of Group A and Group C compared to empirical research conducted in Hungary. This comparison is based on the groups' previous language learning, inductive reasoning, extramural activities, task preference, socio-economic and music aptitude aspects.

7.3.8.1 The impact of socio-economic status on receptive skills. First, I wanted to see how Group A and Group C performed on external measurements. I compared the two groups' results to the Education Authority's (EA; Oktatási Hivatal) assessment which was conducted in 2015. The reason of this comparison is twofold. First, I related the two groups' results to a representative Hungarian sample using the same validated tests. However, there were some limitations to be considered. First, the target groups were different for the tests. EA aimed to measure students' listening, reading, and writing in dual language (két tanítási nyelvű) education programs. In Group A there were three students out of the ten who only started learning English at the first point of measurement in 2017, and although both groups had seven English lessons per week, participants in my study did not receive bilingual education, as they did not learn any school subject in English. Secondly, I did not use the whole construct of the test, only the ones assessing receptive skills: listening and reading comprehension. As the EA's database separated the listening and reading results from writing, I still found to use the results of EA informative and meaningful and was able to compare these two groups' test results to the national scores.

As I measured Group A and C receptive skills twice, I had two reference points to compare to the large-scale results of EA. According to the national assessment report, 1,124 students at B1 level took the English language proficiency tests (2015, p. 27). (https://www.oktatas.hu/kozneveles/meresek/celnyelvi_meres/eredmenyek)

First, I compare the average scores in Table 7.33, then Table 7.34 shows the same values in percent. The average score for listening was 18.1, while reading was 16.3 in the report of the EA (p.32). Group A students achieved 5.6 and 16 in listening and 4.7 and 15.4 in reading at the two measurement points, respectively. Group C excelled Group A's scores in both perceptive skills, as they reached 14.7 and 17 in listening and 13.75 and 13.85 in reading

skills out of the maximum 20 points at the first point of measurement, Group C scores indicate a minor increase between the two points of measurements.

Table 7.33

Means of Group A, Group C and the national sample in the Education Authority assessment of listening and reading comprehension scores at different measurement points

| | Group A | | Education Authority results | Group C | |
	2017	2021	2015	2019	2021
Listening	5.6	16	18.1	14.7	17
Reading	4.7	15.4	16.3	13.75	13.85
Total	10.3	31.4	34.4	28.45	30.85

Students participating in the national language measurement scored 12.5 higher than Group A and 3.5 higher than Group C students in listening comprehension at the first time they took the tests; the difference decreased to 2.1 and 1.1, after four and two years, respectively, by the second measurement point in 2021. When examining the means on the other receptive skill, reading comprehension scores, the same tendency was found. Students at bilingual schools scored 16.3, whereas Group A's means increased from 4.7 to 15.4 from 2017 to 2021 and the mean for Group C increased from 13.75 to 13.85. The mean score of the 1,124 participants who took the B1 test was 49 from the maximum of 60 for the three skills, while in the central region of Hungary, participants scored 54, and students in South Transdanubia, where I conducted the research, scored lower: 41 points. Even though the national assessment did not give information on the subtotal scores of the skills at the regional level, the 31.12 average score of the two groups (out of the maximum of 40 for the two tests) indicates similar performances to the students who took the tests in the South Transdanubia region. As it was presented in the study context, students in both Group A and C were from a socially and economically disadvantageous region of South Transdanubia. Socio economic status (SES) was clearly a factor that impacted language learning. In an earlier study, Nikolov and Józsa (2006) conducted a large-scale assessment (more than 20 000 participants aged 12-16) to examine relationships between English and German language proficiency and classroom-related factors. They found that students' language proficiency (listening, reading, and writing) and socio-economic status showed the strongest correlations. Therefore, SES can be

at least one important factor that influenced the results of Group A and Group C. Next, we see how previous language learning was connected to the results of the two receptive skills.

7.3.8.2 The impact of prior language learning on English receptive skills scores. Previous language learning is an important contributing factor to later English language proficiency. In Group A, three students out of ten did not learn English earlier; in Group C, all students had studied English in primary school before they entered high school. When we compare the results in the two receptive skills, we can find a drastic difference between the two groups at the first point of measurement. While Group A's listening comprehension mean score was only 28, Group C reached 74.37 percent. Reading comprehension mean scores showed a similar tendency of 23.5 and 52.5 in favor of Group C who had learnt English for eight years.

Table 7.34

Test scores in Group A and Group C on their English receptive skills tests in 2017 and 2019

	N	Minimum	Maximum	Mean	Std. Deviation
Group A Listening 2017 Sept	10	10,0	50,0	28,000	11,1056
Group C Listening 2019 Sept	8	60,0	90,0	74,375	11,1604
Group A Reading 2017 Sept	10	15,0	45,0	23,500	10,8141
Group C Reading 2019 Sept	8	25,0	80,0	52,500	21,3809

These results are in line with Csapó and Nikolov's (2009) previous findings. Their longitudinal study on representative samples examined the relationship between cognitive skills, previous knowledge of English and German, and students' (ages 12, 14, 16, 18) English and German proficiency after two years (see Table 7.35). They found that students' prior English and German scores were the best predictors for their language proficiency two years later. The same study examined correlations between skills over the two years of the same students. They found English and German reading comprehension (0.570 and 0.623, p<0.001) to be the most stable skill and listening comprehension (0.39 and 0.23, p<0.001) for the least stable in both age groups, respectively.

Table 7.35

Correlations between two English proficiency scores in 6th and 10th grade in grades 6 and 10 and two years later in 8th and 12th grade, respectively in Csapó and Nikolov (2009) and in Group A and Group C in four and two years later in 12th and 10th grade, respectively

First measurement (Grade 6th and 10th in 2000 and Grade A (9th grade) in 2017), Group C (9th grade) in 2019)	Tests	Period in years	Second measurement (Grade 10th, and 12th in 2002 and Grade A (12th grade in 2021) Group C (10th grade in 2021)	
			Reading	Listening
6th grade	Reading	2	0.570**	0.407**
6th grade	Listening	2	0.623**	0.302**
10th grade	Reading	2	0.603**	0.302**
10th grade	Listening	2	0.428**	0.328**
Group A (9th grade)	Reading	4	0.605	0.648*
Group A (9th grade)	Listening	4	0.378	0.690**
Group C (9th grade)	Reading	2	0.978**	0.830*
Group C (9th grade)	Listening	2	0.920**	0.830*

Listening (0.690, $p < 0.005$) comprehension scores showed a somewhat higher significant correlation than reading comprehension results; the latter indicated a strong but not significant correlation (0.605). In Group C, where correlations were examined two years apart, the results were in line with Csapó and Nikolov's (2009) findings, as reading skills scores (0.978, $p < 0.01$) proved to be a better predictor of later success, and relationships between listening comprehension scores were also significant and strong (0.830, $p < 0.01$).

As Group A tests were retaken after four years after the first point of measurement, this could indicate that the stability of skills may change over a more extended period than two years. The differences between the results of the four-year longitudinal study (Group A) and the two-year studies (Group C and Csapó & Nikolov, 2009 study) raises up a new question. What if the time between the tests also contributes to the adverse results? Alternatively, what if other factors intervened in the final results during the four years? As I administered a total of four tests of listening and reading comprehension for Group A (as in Study 2 (in Feb 2019 and in April 2019), the same tests were used to measure the effectivity

of a 12-week treatment period. To check this assumption, I examined the correlations between skills in two-year periods. To see the stability of correlations, in Table 7.36, I present the receptive skills correlations between 2017 and February 2019 (start of the treatment period in study 2) and then between 2017 and Apr 2019 (end of the treatment period in Study 2).

Even though three out of the four correlations were non-significant in Table 7.36 the results can be meaningful, as these values indicate the changes in the relationships over the measurement points. Table 7.36 shows no significant correlations between listening skills in 2017 and Feb 2019 and reading skills between 2017 and February 2019 in Group A. The correlation for reading comprehension was 0.271 and 0.347 for reading comprehension. As April 2019 was the end of the treatment period, the correlation between reading skills scores became significant and strong (.774**) compared to the results in February 2019 (.347). I would argue that the meaningful and engaging tasks most probably played a role and must have contributed to students' success in language learning. The correlation between the listening skills scores was non-significant, but it was stronger than the previous result (0.271 vs. 0.489).

Table 7.36

Correlations between perceptive skills of Group A in 2017, in February 2019 and in April 2019.

	2019 February		2019 April	
	Listening	Reading	Listening	Reading
Listening 2017	0.271		0.489	
Reading 2017		0.347		0.774**

As a next step, I examined two additional two-year periods (Feb 2019 and 2021; April 2019 and 2021) of the same group (Group A) Table 7.37 and Table 7.38 respectively. As Feb 2019 was the start of the treatment period, this could also reveal the stability of skills and if the treatment period had a more prolonged effect on the two skills of Group A.

Table 7.37

Correlations between perceptive skills of Group A in February 2019 and in 2021.

	Listening 2021	Reading 2021
Listening 2019 Feb	0.555	0.609
Reading 2019 Feb	0.127	0.358

Between these two points of measurement, correlations were moderately strong and were stronger for listening comprehension (0.555) than for reading skills (0.358), but the results were not significant. However, when I examined the period starting from April 2019 (the end of the treatment period for Group A in Study 2) and the results in 2021, I found strong and significant correlations between listening skills (0.687, p<0.05) and even stronger correlation was detected in reading skills (0.692, p<0.05), see Table 7.37.

Table 7.38

Correlations between receptive skills of Group A in April 2019 and 2021.

	2021	
	Listening	Reading
Listening 2019 April	0.687[*]	0.327
Reading 2019 April	0.392[*]	0.692[*]

Students in Group A, after two years of language learning, showed a similar pattern to that of the Group C students. Reading skills scores became a stronger predictor of success than scores on the listening comprehension tests. The impact of previous level of ability most probably contributed to a better result in 2021, as by April 2019, those three beginners in Group A had studied English for almost two years. These findings were in line with the results of Group C and Csapó and Nikolov (2009).

Without the measurements in Group A in 2019, these results could have suggested that a more extended period (over four years) was needed for Group A to show a significant correlation between language skills. However, this assumption was refuted by the correlations presented in Table 7.38.

Therefore, between the end of the treatment period in April 2019 and the final measurement point in 2021, both skills showed strong and significant correlations, and the inter-skill correlations between reading in April 2019 and listening in 2021 were moderate and significant. The additional measurement points of Group A from Study 2 helped shed

light on how meaningful relationships developed and became significant between listening and reading comprehension scores over different periods. Let us see how other variables changed, focusing on the same period.

7.3.8.3 The relationships between students' inductive reasoning test scores and their English test scores. Language aptitude has been attributed to be one of the most important predictors in successful language learning in previous research on language learning (Dörnyei & Skehan, 2002; Nikolov and Ottó, 2006; Li, 2019,). Several studies conducted in Hungary make sense to compare the results of my findings to. Csapó and Nikolov (2009) found that the relationship between inductive learning abilities and English and German language skills decreased over the grades. Younger students (Grade 6) tend to rely more on inductive reasoning skills than students in grade 10. Their findings indicated that listening comprehension scores correlated the lowest with inductive reasoning in both examined age groups. As MENYÉT's two subtests measure inductive reasoning (inductive language learning and grammar sensitivity), I compared Group A's inductive reasoning skills to their scores in the two receptive skills in English.

Table 7.39

Correlations between proficiency scores in two skills in English in grades 6 and 10 and two years later in grades 8 and 12, respectively in Csapó and Nikolov (2009) and correlations of Group A and Group C in four and two years later in grades 12 and 10, respectively

First measurement (grade 6 and 10 in 2000 and Group A (grade 9 in 2017, grade 12 in 2021), Group C (grade 9 in 2019, grade 10 in 2021)	Tests	Second measurement (grade 10 and 12 in 2002 and Group A (grade 12 in 2021) and Group C (grade 9)	
		Reading	Listening
6th grade	Inductive reasoning	0.446**	0.359**
10th grade	Inductive reasoning	0.309**	0.177**
Group A (9th grade)	Inductive language learning	-0.124	0.229
Group C (9th grade)	Inductive language learning	0.424	0.647
Group A (9th grade)	Grammar sensitivity	-0.590	0.570
Group C (9th grade)	Grammar sensitivity	0.441	0.102
Group A (12th grade)	Grammar sensitivity	0.640*	0.613**
Group C (10th grade)	Grammar sensitivity	0.675**	0.514*

According to data in Table 7.39, Group A's (in 2017) and Group C's (in 2019) inductive language learning, grammar sensitivity results, and the two perceptive skills in 2021 SPSS did not indicate meaningful and significant correlations. However, strong and significant correlations emerged between the grammar sensitivity component of MENYÉT (measured in 2021) and both groups' listening and reading comprehension scores in 2021. Results suggest that inductive reasoning in grammar sensitivity played a significant role in the two groups' listening and reading skills at the last measurement point in 2021. It is reasonable to state that students' English language learning and grammatical sensitivity development in both groups must have been related with other factors, possible external factors which might contribute to the change.

School lockdown started in March 2020, and students could only return to school in September for 2.5 months to receive in-class instruction before the second online period started in November 2020 and lasted until May 2021. It is more than plausible to propose to investigate further what happened between February 2019 and February 2021 and why students relied more on their grammar sensitivity as opposed to the results of Csapó and Nikolov (2009). They found that inductive reasoning is less relevant in language learning as

students age. In the next section, I reveal some possible factors I believe could be in connection with the results.

7.3.8.4 The impact of extramural activities on perceptive skills. In the previous sections, the role of SES, previous English language knowledge, and inductive reasoning were discussed as potential factors influencing English language learning in Study 3. In this part, I examine how tasks and out-of-class activities must have contributed to the proficiency and aptitude results of Group A and Group C.

Extramural activities were the focus of several studies. Józsa & Imre (2013) examined the most frequently mentioned out-of-class activities of secondary school learners involving a nationally representative sample. Music listening (98%) was the clear winner of eight listed activities. The second most popular activity was watching films in English (68%); both are connected to listening skills. Józsa and Imre (2013) found that extracurricular activities involving listening to music, watching films in English, conversing in English, or looking for information in English highly correlated with participants' English proficiency test scores. Furthermore, their findings proposed a mutual transfer effect between the listed extramural activities, motivation, and English proficiency. According to them, if one improves, the other changes positively.

In a different study, Szabó and Nikolov (2019) mapped the needs of students learning English and German in a European Union project (EFOP-3.2.14-17). The three-year project aimed to provide innovative and less traditional tasks for volunteering students at seven secondary schools. Preservice teachers taught classes with the guidance of mentor teachers. They used innovative materials designed by experts. In this study, 114 students (55 English and 59 German learners) completed questionnaires related to their motivation, attitude, and previous language learning.

Here I present the findings on the most frequent extramural activities of the 55 English learners from the outcome of Szabó and Nikolov (2019) study: 1) I listen to music (M=3.69, StDev= 0.66), 2) I watch video clips (M=3.03, StDev= 1.12), 3) I search the internet for lyrics (M=2.78, StDev= 1.11), 4) I search and read things on the internet (M=2.54, StDev= 1.05), 5) I play computer games (M=2.49, StDev= 1.27), 6) I watch movies and series with Hungarian subtitles (M=2.36, StDev= 1.07), 7) I watch movies and series with English subtitles (M=2.27, StDev= 1.06), 8) I converse in English (M=2.23, StDev= 1.03) 9) I watch movies and series without subtitles (M=2.21, StDev= 1.11), 10) I take part in RPGs (M=1.56, StDev= 0.87) (Szabó & Nikolov, 2019, p. 356).

The results clearly show that seven out of the ten activities were in connection with auditory skills (1, 2, 6, 7, 8, 9, 10), four were related to reading (3,4,6,7), one activity included speaking (8), and one was about writing (4); playing online computer games can relate to all skills. All listed extramural activities are based on using digital media (in the case of activity eight, it is questionable) but listening to music was the most popular activity. However, the difference between listening to music and watching video clips was smaller than in the study in 2013.

   7.3.8.5 Extramural activities in Group A and Group C. Previous sections showed how correlations among receptive skills and inductive reasoning increased and reached the level of significance over the years, and this section aims to find why these tendencies changed the most between April 2019 and February 2021.

   This period considerably overlapped with the online learning months, making it more intriguing. In addition, students in their academic year of 2019/2020 did not receive in-class instructions from March 2020 until the start of their next academic year. This resulted in an extra-long period when students had more time for extramural activities, as their responses consistently revealed. The two questionnaires I used aimed to reveal the most frequent activities they found enjoyable in their English learning and participants ranked the first three. This dataset included new activities and variations in activities. Using two questionnaires shed light on how extramural activities changed from June 2020 to April 2021. The first questionnaire was filled in June 2020 after the first lockdown and the second after eight months in February 2021. Students were asked to list three activities they did at home and believed helped them improve their English proficiency (Table 7.40).

   Table 7.40 shows Group A and C's extramural activities. The second column lists the 21 different activities that emerged from the 18 participants' replies to the questionnaires in 2020 and 2021. The third column presents students' first, second, and third choices of extramural activities they liked and believed to be helpful for their English.

Table 7.40

The list of three activities students did at home and believed they improved their English at two points of measurement: June 2020 and February 2021

| | Extramural activities | Group A N=10 | | | | | | | | Group C N=8 | | | | | | | | ΣΣ |
| | | June 2020 | | | | February 2021 | | | | June 2020 | | | | February 2021 | | | | |
		1.	2.	3.	Σ	1.	2.	3.	Σ	1.	2.	3.	Σ	1.	2.	3.	Σ	
1	Watching series	6	1		7	3	3	1	7	5	1	1	7	4	2	2	8	29
2	Watching videos	1		1	2	1	1	4	6	1	1	1	3		1	1	2	13
3	Watching films				0	1			1		1	1	2		1		1	4
4	Watching tutorials			1	1				0				0				0	1
5	Listening to music	1	4	1	6		2	2	4	1	2	3	6	2	2	2	6	22
6	Learning songs				0				0		1		1				0	1
7	Translating lyrics				0			1	1				0				0	1
8	Playing games	1	2	1	4	2	1	1	4				0				0	8
9	Playing games RPG				0	1			1		1		1	1			1	3
10	Reading quotes short poems		1		1	1		1	2				0				0	3
11	Reading short stories	1	1		2				0				0				0	2
12	Reading articles			2	2				0				0			1	1	3
13	Reading books				0				0	1			1				0	1
14	Reading blogs				0				0			1	1				0	1
15	Reading				0				0				0		1		1	1
16	Speaking with friends		1	2	3	1	1		2				0				0	5
17	Speaking with a Turkish friend			1	1				0	1	1		2	1	1	1	3	6
18	Using applications			1	1				0				0				0	1
19	Follow celebs on social media															1	1	1
20	Translating poems				0		1		1				0				0	1
21	Doing school leaving exercises				0		1		1				0				0	1
	Total	10	10	10	30	10	10	10	30	8	8	8	24	8	8	8	24	108

The colors in rows represent similar activities. The answers were similar to the extramural activities listed in studies conducted by Józsa and Imre (2013) and Szabó and Nikolov (2019). Listening to music, watching films, and playing computer games were among the preferred free time activities. However, the rank order of the activities changed. Józsa and Imre (2013) reported that 98% of students chose listening to music as their first and 68% ranked watching films as their second most popular activity, and they did not indicate if students watched series. In the more recent but smaller-scale study Szabó and Nikolov, (2019) found listening to music ranked as most popular and watching video clips in second place. Their questionnaire did not differentiate between watching films and series, but this category was the sixth most frequently used extramural activity.

Sundqvist and Sylvén (2016) collected data in three small-scale studies (N=80) examining Swedish students' extramural activities. They presented their findings in a metaphorical form of an extramural English house. Rooms were placed on different floors based on how much effort students needed to make to engage in the activities. According to the outcome of their studies, students spent 72% of their time on the first floor, which was easy to access and based on receptive skills. They listened to music (36%), watched TV (20%), and films (16%). A little more effort was required from those students who visited the second floor and spent time there. In the office, students played games (25%) or went to the library (1%) to read. The attic was described as the place for activities that did not fit other floors, and students spent the least time there (2%).

In Group A 70% of students chose watching series to be among their top three most enjoyable activities both in 2020 and in 2021. The outcome for listening to music was similar; 60% in the first and 40% in the second questionnaire chose this. Results of Group C were similar, but even more students indicated that watching series was in the top three favorite out-of-class activities, 87.5% in 2020 and 100% in 2021. These outcomes indicate that all students in Group C rank ordered watching series either in the first (50%), second (25%), or third place (25%) as an extramural activity they found enjoyable as well as helpful. Listening to music was stable in both questionnaires at 75 percent in 2020 and 2021.

Results of Group A and Group C were similar to those in Sundqvist and Sylvén 's (2016) study on extramural activities. Their category of watching TV is a little misleading at a first glance. They meant students watched content, related to digital media and the internet, such as series, cartoons, and YouTube videos. Participants in the projects conducted by Sundqvist and Sylvén (2016), Józsa and Imre (2013), and Szabó and Nikolov (2019) as well as in Group A and Group C spent most of their time doing first-floor activities using on their auditory skills. However, Group A and Group C students spent most of their time in Sundqvist and Sylvén's metaphoric TV room.

One reason the activity change emerged in both groups could be that streaming services like Netflix became available in Hungary in 2016. Service providers offer movies and series for portable devices with internet access. Subscribed users can watch films/series with or without subtitles at their convenience but all programs are always undubbed. Users can stop, rewind or pause the content and search over 3,000 categories of films.

The positive role of watching undubbed films in English was proposed in a study Mihaljevic-Djigunovic et al. (2008). The authors compared Croatian and Hungarian eight graders' proficiency in English using the same tests and they found that Croatian students

significantly outperformed Hungarian students. Croatian students' mean was 18.38 as opposed to 17.62 for Hungarian learners: $p<0.01$ (N=416, SD&2.86, and N=216, SD=3.43 respectively). In reading comprehension, the difference in means was significantly higher, $p<0.001$ 32.34 for Croatian learners (N=353, SD=9.84) than Hungarian students' mean 26.94 (N=231, SD=11.64) (p.445). Hungarian learners had more English classes per week, studied in smaller groups, and started learning English earlier than Croatian students. The key difference between Hungarian and Croatian students was identified in the fact that Croatian students were exposed to the English language more frequently from early on, as national TV and programs on satellite channels were not dubbed, unlike in Hungary.

The convenience of learning English with Netflix was reported in a case study by Dizon (2018). He found four themes emerging from interviews with nine Japanese students who shared why they believed this streaming service helped them learn English: authentic programs '1) enhanced learning effectiveness, (2) increased L2 motivation, (3) better access to L2 knowledge, and (4) hindered convenience' (p. 1). He also found that learners primarily used mobile devices to watch movies, which is also in line with my observations in Groups A and C. Students integrated this concept of streaming service into their Hungarian sentences. For example, when they were asked to present their favorite film trailer as a task, they replied 'Majd én hozom a Netflixet' (I will bring Netflix), meaning that as they subscribed to the service, they had access to it on their mobile phones, and there was no need to search for it on the Internet.

Films and series are authentic materials that were not made for educational purposes, as are music and computer games. They all convey meaningful contextualized input for learning English differently. These activities are examples of incidental learning. Engagement is available, as the variety in content is enormous, and new films/series are added regularly. I think streaming services like Netflix offer convenient opportunities to viewers as 1) they do not have to hunt for the proper subtitles for series on the Internet, 2) they provide a wide variety of content, which guarantee that viewers can find the best films/series matching their needs, 3) as they can use their mobile devices, they can watch all kinds of content independently from their environment, family members and TV, 4) content is constantly updated to offer new motivating materials, and finally, 5) as all series are accessible immediately categorized in seasons and years and the length of programs tends to be less than 60 minutes, using online content is convenient for watching and matching them with their lifestyle and free time.

We see a similar outcome comparing the results of reading and listening in Table 7.38 and the change in the order of free time activities. Group A and C students' favorite extramural

activity was watching series; because of the lockdown periods, Group A reported in the follow-up interviews that they spent on average two hours watching films/series in English. In extreme cases, they spent eight hours in front of the screen as they had nothing else to do and could not leave their homes because of the regulations.

In sum, Group A and C students' top three favorite free time activities were connected to auditory skills. Receptive skills and grammar sensitivity scores in Group A and Group C developed the most during this period. It is reasonable to assume that extramural activities contributed to these results. Next, I present how engaging tasks must have influenced language skills.

7.3.8.6 The impact of tasks on students' English receptive skills. Before analyzing the tasks of Group A and Group C for the period examined, it is worthwhile presenting how tasks work with other students. As I was one of the task developers for the project in Szabó and Nikolov (2019), I think experiences shared by students, a preservice teacher, and a mentor teacher (for triangulation purposes) would give evidence about the approach to tasks I used in Group A and Group C which is the same in my day-to-day teaching practice.

I was in contact with the preservice teacher for 12 weeks every week. Before and after her lessons, I consulted her and collected her experiences on the tasks. First, I asked her to give some information on the students (language learning background, their preferred activities, motivation level, number of boys and girls, age) and the available technology (smartboard, wifi internet access, students' access to smartphones). Nádor wrote her MA thesis on her teaching experience on this project in (Nádor, 2018). As the mentor teacher did not reply to my emails, her opinion was shared in the preservice teacher's thesis. The aim was to raise and maintain motivation for 12 weeks in free extra classes.

Five out of the six students said they would use English more often because of the extra classes, which means they were motivated. Also, five students reported music-related tasks as their favorite activities, which is in line with the previous studies on extramural activities. One participant chose lyricstraining the best task, and the presented websites would help her/his language learning, which is a sign of autonomy. Students found afternoon classes motivating; they understood more, and the variety of topics gave them the feeling of novelty. One student found that classes were well structured, and tasks were built on videos, games, and playful activities that helped her language learning, one student of the six, started looking for similar websites, which is also a sign of learner autonomy. They all gave different answers to the question, which was the most helpful task. This means that tasks were varied, and they all found something different to be useful e.g., watching videos, conversing in English,

creating board games, vocabulary building tasks, tasks related to everyday activities, and humor (Mr. Bean) were mentioned in their answers.

The mentor teacher found that after the treatment period, student motivation increased, and students found new strategies to learn English outside school. They became more open to sharing their experiences with her. She wrote she had implemented two music and lyrics-related tasks in her teaching. Her favorite activities were quiz games, creating boarding games, and lyricstraining. She raised concern that most of the tasks related only to listening skills and playful tasks, and grammar and vocabulary skills were less developed.

Furthermore, the mentor teacher found that learners' self-confidence and beliefs in their learning success also increased after the treatment period; however, she felt it unfortunate that students liked extramural activities more than school activities. This may be the lack of her realization of the importance of developing self-regulated learning in her students through freely available digital media. This would explain why students in her class had low self-esteem, lacked mastery of learning, or simply did not have experience exploiting the potential in students' frequently used activities in the long term.

The preservice teacher felt that more tasks should have focused on grammar and speaking and less on developing autonomy during the course. She believed tasks should be equally valuable and entertaining. Depending on the additional help she may receive from her future-to-be colleagues and her openness to dare to explore student-focused engaging materials, she could find ways to complement the conventional teaching materials. I believe the program's aim with this language group was fulfilled, and I was happy that the tasks resonated well with the students. Although the aim was to motivate students with innovative and non-traditional tasks, I believe participating preservice and mentor teachers could also benefit in the 12-week period as a residual effect. The emergence of self-regulated learning (Flink, et al., 1990; Grolnick, eal., 1997; Deci and Ryan 2002) was the key finding and it was in line with what I experienced with my language groups. I believe if learners find free time activities in English (high level of intrinsic motivation), the teacher's role changes. The saying 'it is easier said than done' for me is the challenge. Finding the right approach with the right tools is also a key factor, and this is what the next section is about to show. The mentor and the preservice teacher experienced how novelty in teaching can contribute to language learning. Furthermore, as the mentor teacher commented, she had implemented those tasks that students found fun in her teaching practice, indicating a positive change. Innovative tasks and giving students choices resulted in autonomous learning and intrinsic motivation.

Now let us see how Group A and C evaluated some tasks in Study 3 during the Covid 19 period between September 2019 and February 2021. A questionnaire was filled in twice to see how their opinions changed during online learning to allow me to detect how participants perceived the tasks. The first questionnaire was filled in June 2020 after the first lockdown and the second one in February 2021. Students were asked to rate tasks they did before and during the lockdown how enjoyable they found them on a 4-point Likert scale. There were students' books and exercise books related to conventional tasks used with the non-conventional tasks.

1) Students' books: Group A: Longman Érettségi aktivátor (Hegedűs, K. (2009) to prepare for the final school leaving exam at the B1 level; the authors claim it was developed for classroom and individual learning. Group C: English File Third Edition Pre-Intermediate level (Latham-Koenig et al. (2012).

2) Tasks on playing and creating quiz games (Kahoot, Bookwidgets) to develop reading comprehension (playing quiz games) and writing skills (creating quiz games).

3) Tasks on lyricstarining.com to improve listening and reading comprehension. It is a website that claims that "helps you train your ear to dramatically improve your capacity to recognize sounds and words of a foreign language in a very short time, training your brain almost unconsciously, whether you know the meaning of all the words or not." https://lyricstraining.com/about

The impact is similar to watching films/series/videos with subtitles, but compactly and more intensively, the additional interaction and gamification elements boost engagement, develop self-regulated learning.

4) Tasks on writing and publishing blogs on the Internet: authentic use of task, improving writing skills, develop self-regulated learning.

5) Communicating with a Turkish contact: (I contacted English teachers from a secondary school in Istanbul and proposed that students from the two schools could communicate with each other as a means of meaningful and authentic tasks) to improve all skills and develop self-regulated learning.

6) Tasks on Bookwidgets.com develop reading skills.

Table 7.41

Tasks that students found enjoyable in 2019 and 2021

I found the following tasks enjoyable	Group A (N=10) June 2020				Group A February 2021				Group C (N=8) June 2020				Group C February 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Playing Kahoot quiz games			5	5		2	4	4		2	2	4		1	2	5
Creating Kahoot quiz games		4	1	5	5	3	2			2	2	4		1	2	5
Playing Lyricstraining.com		4	2	4		3	5	2				8		1	2	5
Writing blogs	3	5	2							3	2	3				
Communicating with the Turkish friend	3	3		4	3	3	2	2		2	2	4		1	3	4
Playing Bookwidgets crossword games			5	5						1	1	6				
Playing Bookwidgets hangman games			6	4						1	1	6				
Playing Bookwidgets word finder games			3	7							1	7				
Playing Bookwidgets memory games		4	1	5							2	6				
Tasks on workbook	3	2	4	1	1	2	7		1		2	5		3	4	1
Tasks on textbook	3	2	4	1	1	3	6		1	1	2	4		3	4	1

The first column shows the tasks, and the second column is the result of a 4-point Likert scale where 1=Not at all true, 2=Not really true, 3= Mostly true, 4 = Absolutely true. Each number represents a student's rating. For example, five students marked *absolutely true* to play Kahoot games as a task the most enjoyable in June 2020 in Group A, but only four chose it in February 2021. Bookwidgets quiz games were only used till the end of the academic year of 2019/2020 as the free trial time expired. Writing blogs was only a task for both groups between September 2019 and June 2020. As the majority of Group A students did not particularly like this activity and wanted comparable results, I did not include an evaluation of this task in the questionnaire in 2021. The task remained an optional activity. Some members in Group A had problems with their Turkish partners as they rarely answered the three Group A students' questions. Even after finding three new Turkish volunteers for the academic year of 2020/2021, the outcome did not change. Working in course books was not optional as they were part of the local curricula.

Table 10 shows that playing Kahoot, lyricstraining, and bookwidgets games were generally the most enjoyable tasks in both groups. Writing blogs, communicating with Turkish friends, and tasks on course books were less prevalent among Group A than Group C students. However, Group A's students enjoyed working more with books in 2021 than 2020. The tendency was just the opposite with students in Group C. I believe Group A found the non-authentic exam-oriented materials appealing because their final school exam was approaching in 2021.

These answers reflect online and classroom teaching except for writing blogs and communicating with Turkish friends, which were home tasks before and during the COVID19.

I was curious to find out if the change in the participants' opinions was significant. Likert scale results are not objective measure, as it is unclear what the distances between values mean. In order to examine the opinions objectively and to see how students' opinions changed in the two questionnaires, the two Likert scales' ordinal variables were compared, one in Group A and separately in Group C. The Wilcoxon S-R test in SPSS examines how often student opinion changed positively, remained the same (tie), or changed negatively on the examined question. When I ran the test, I chose Spearman correlation because my Likert scale data were ordinal. The test showed that between the first questionnaire in June 2020 and the second questionnaire in February 2021 the two groups indicated one significant change in Creating Kahoot tasks, and it only appeared in Group A ($Z = -2.558$, $p = 0.011$). It means that out of the eleven tasks used between June 2020 and April 2021, the participants' opinions did not change significantly on the majority of the tasks. Here are the tasks where SPSS found a linear relationship with students' English language scores. First, I list correlations in Group A (Table 7.42)

Playing and creating Kahoot quiz games in June 2020 correlated significantly with reading skills (0.736, $p<0.05$, and 644, $p<0.05$, respectively) in April 2021. Kahoot game playing and creating correlated only in 2020 (0.962 $p<0.01$). Students played Kahoot games every week and they liked them.

Lyricstraining tasks in 2020 showed a strong significant correlation with pronunciation in 2021 (0.680, $p<0.05$) and creating Kahoot games in 2021 (0.718, $p<0.05$).

Creating Kahoot quiz games in 2020 showed a significant strong correlation with tasks in books (0.749, $p<0.05$). Tasks related to using books and textbooks in 2020 significantly correlated with listening and speaking skills in 2021 (both skills 0.712, $p<0.05$) (Table 7.42).

Students created Kahoot games based on the topics in their coursebooks. So, this is why this seemingly odd relationship emerged between Kahoot and students' books and textbooks.

It is reasonable to believe that while students did these tasks and they were engaged in lyricstraining and Kahoot games using many gamification elements, these also contributed to maintaining their engagement level (Flores, 2015). Students could choose which songs and Kahoot quiz games they wanted to play, and their involvement must have also contributed to their English learning results.

Table 7.42

Correlations between enjoyable tasks and English proficiency in Group A in 2020 and 2021

	Pronunciation 2021	Create Kahoot 2020	Books 2020	Textbooks 2020	Reading 2021 Feb	Speaking 2021	Listening 2021 Feb	Create Kahoot 2021
Lyricstarainig 2020	.680*	0.129	0.449	0.449	0.333	0.117	0.357	.718*
Playing Kahoot 2020	0.111	.962**	0.511	0.511	.736*	0.174	0.142	0.340
Create Kahoot 2020	0.099	1.000	0.506	0.506	.644*	0.235	0.014	0.269
Create Kahoot 2021	0.366	0.269	.749*	.749*	0.516	0.211	0.533	1.000

Kahoot quiz games were not correlated with any skills or tasks in 2021. I believe the cause of this change is that Kahoot updated his site and allowed students to play in out of class context. Students played Kahoot before COVID19 until March 2020. When the second lockdown period started, we tried the online version of Kahoot, and it proved less entertaining because it did not allow gamification elements to work in a home environment. To me, the most important result was that Lyricstraining tasks had a meaningful relationship with students' pronunciation in 2021 (see: Table 7.42). This correlation indirectly implies that the impact of songs and lyrics (the main task in Lyricstraining is to write or choose the lyrics of the songs at the given moment) on language proficiency seems to be similar to that of watching undubbed series/films with subtitles. Watching series in a classroom context is lengthy, but playing Lyricstrainig, where students decide which song at which difficulty level they play, was more engaging for them in 2020 than in 2021. The reason, in my view, must be that these games need classroom context.

In Group C, with fewer participants and two variables not considered (speaking and pronunciation), the results indicated only two meaningful relationships. There was a

significant correlation between playing Kahoot quiz games in 2021 and English listening scores in 2021 (0.723, p<0.05). The other significant relationship was detected between textbooks and workbook tasks (0.723, p<0.05) in 2020. Because all students in Group C marked Lyricstraining task as 4 (*absolutely true*) in 2020, this variable became constant, and SPSS could not compute a correlation. Had I used a 7-point Likert scale I could have found more meaningful correlations between the tasks and the students English language test scores in Group C.

If tasks matched students' needs (extramural activity), they also contributed to their English language proficiency in the long term; however, some tasks worked better in a classroom context (Kahoot, Lyricstraining in 2020). Some tasks may become meaningful and authentic extramural activities, like the task of communicating with a Turkish friend, which emerged as a theme in both groups as an extramural activity (See Table 7.40 and 7.41). The impact on language learning is robust when students' extramural activities are combined with tasks, they find enjoyable in the English classes and beyond them. The combination of interest in the form of intrinsic motive and engaging tasks are the main contributors to language learning, not only motivating students, but also promoting autonomous learning. Next, I present the possible impact of music on students' listening and reading comprehension and speaking skills.

7.3.8.7 Impact of music on receptive and speaking skills. The most enjoyable tasks (lyricstraining) and the top three extramural activities (watching series/films/videos, listening to music) were all related to auditory skills. The correlations between pitch discrimination measured twice were found to be strong and significant in both groups in Group A 0.896, p< 0.01 (between 2017 and 2021) and in Group C 0.947, p< 0.01 (between 2019 and 2021) in Table 7.13 and Table 7.28. Total HMAT scores did not indicate any meaningful relationship with English language scores. However, the correlation between pitch discrimination and pronunciation was robust and significant in Group A in 2017 and in 2021 (.836** and .892 **, respectively) see Table 7.15. Therefore, I assume that the time students spent watching authentic programs and listening to music contributed to their better pronunciation in Group A. Despite the participants' preferences for exposure to auditory skill-related activities and tasks, SPSS did not indicate any significant correlation between pitch distribution and phonetic coding in the two groups Group A (.223 in 2017 and .224 in 2021), Group C (.153 and .501). Previous studies (Tierney & Kraus, 2013) found a link between rhythm sense and

reading comprehension, but the results in this study did not align with previous research. Next, I examine the role of playing music in learning English as a foreign language.

7.3.8.8 Musician and non-musician language learners in Group A. When students took the MAT test, they were asked about their musical background. From the two groups, five students marked that they had studied or played music in Group A, Csilla (flute, eight years), Flóra (piano, two years), Evelyn (violin, six years), Kevin (drums, seven years) and Teo (guitar, 4 years without formal training). There were no musicians in Group C. In this section, I compare musician and non-musician language learners' mean scores and their language and music aptitude tests at two points.

Figure 7.44 shows the musicians' and non-musicians' mean scores on three English language tests, including their pronunciation, and on the two aptitude tests at the two points of measurement. Five musicians' (Csilla, Flóra, Evelyn, Kevin and Tom) language aptitude score mean was 53.3 percent in 2017 and 66.8 percent in 2021, whereas non-musicians' first MENYÉT mean test score was 43 percent in 2017 and 51.8 percent in 2021. Musicians' music aptitude scores were a little higher than those of the non-musicians in 2017. The increase of the total music aptitude test score was larger in musicians's group (13.3 percent), resulting in 68.8 percent, whereas the non-musicians' mean score increased by four percent to 52.9 percent in 2021.

Figure 7.44

Musician and non-musician language learners' mean scores on the three English and two aptitude tests at two points
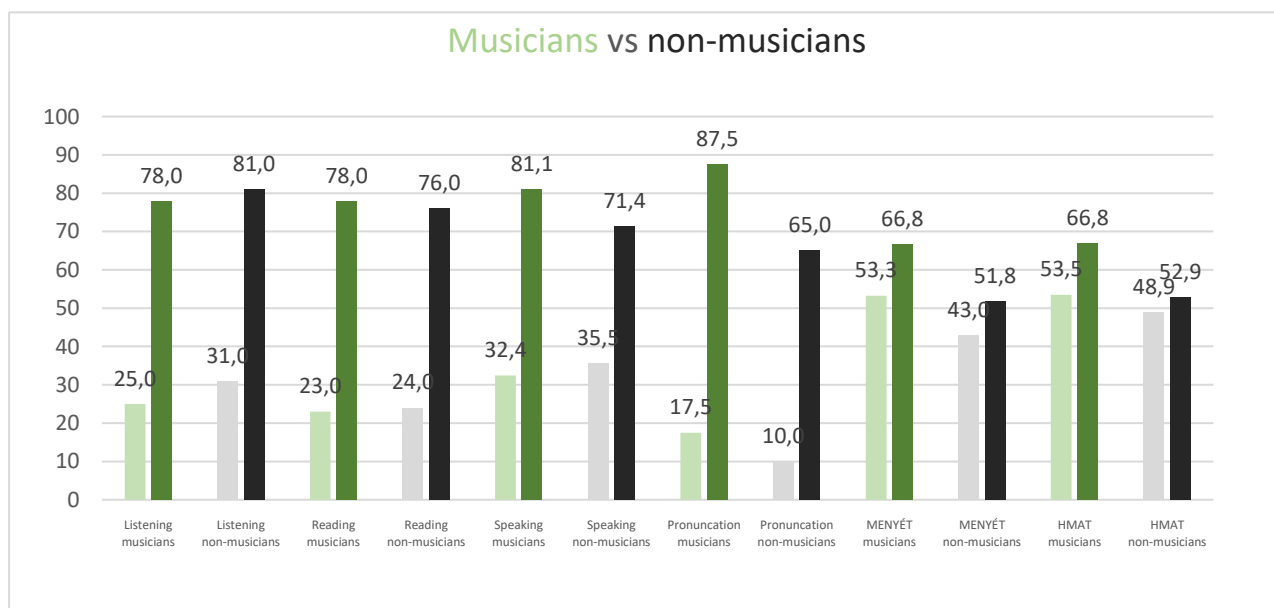
Comparing the differences in the increase of English test scores, they were very similar in listening (musicians 53, non-musicians 50) and reading comprehension (musicians 55, non-musicians 52), but the speaking skills greatly differed: musicians' scores improved on the speaking test by 48.6 percent. In contrast, non-musicians' increase was only 35.9 percent between the two points of measurement. A similar tendency emerged in a comparison of the pronunciation results. Musicians scored higher at the two points of measurement (17.5 and 87.5) than the non-musician group (10 and 65) and their pronunciation increased 15 percent more by the second measurement point in 2021. These results probably indicate that musicians' higher language and music aptitude scores could be a reason for their faster development resulting in better speaking and pronunciation scores.

In order to see in more detail to what degree language and music aptitude contributed to the musicians' higher speaking and pronunciation skills, subtests of both aptitudes were examined. Figure 7.44 shows that scores on all subtests, but on rote learning in 2017 of MENYÉT, were higher in the musician group at both points of measurement. Grammar sensitivity test results were similar, whereas the inductive language learning subtest resulted in the largest difference between the two groups. Here musicians' test scores indicated 23 percent improvement as opposed to that of 10 percent for non-musicians, whereas the two groups' scores were similar at the first point of measurement in 2017. The increase in the scores of phonetic coding in the two groups was similar, 11 and 12, but the difference between musicians and non-musicians was even larger than in the subtest of inductive language learning.

The former groups' scores were 29 and 28 percent more than in the non-musicians' group in 2017 and 2021. Non-musicians improved more on the grammar sensitivity test: 11 as opposed to 7. Non-musicians' rote learning score (63) was two percent higher than that of the musicians in 2017, but their score did not change while musicians increased from 61 to 74, indicating a 13 percent improvement. Thus, on the MENYÉT test scores, the phonetic coding subtest scores showed the largest difference between the two groups.

Figure 7.45

Musicians' and non-musicians' language aptitude subtest means at two points of measurement
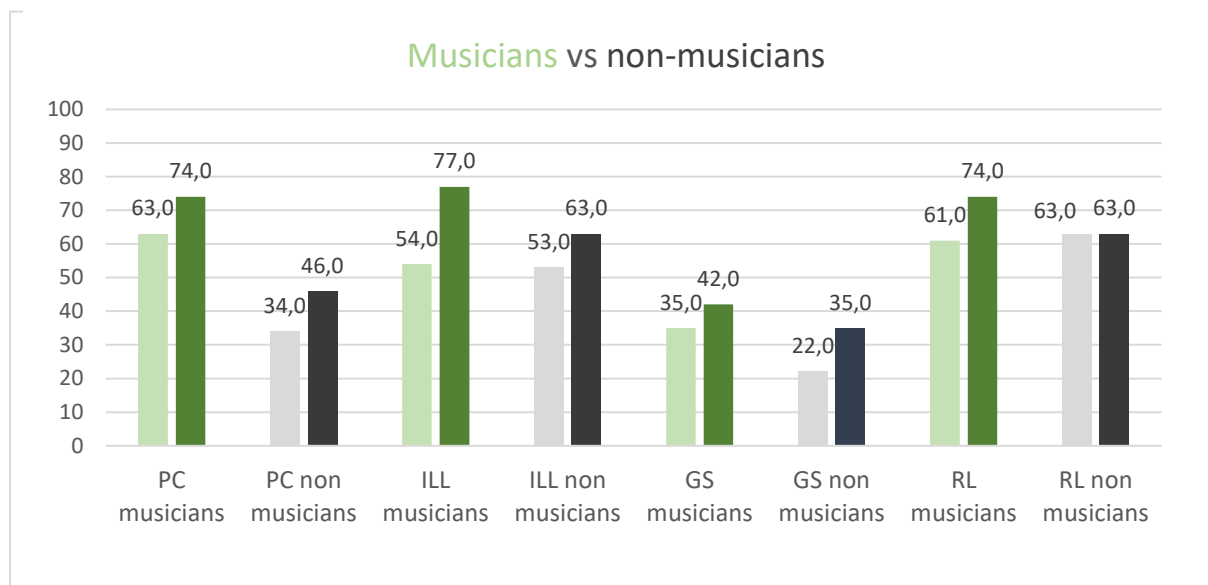
Note: PC=Phonetic coding, ILL=Inductive language learning, GS=Grammatical sensitivity, RL=Rote learning

Next, in Figure 7.46, I examined the subtests of the HMAT. In the language aptitude test the subtests showed that with the exception of meter discrimination in 2017, musicians achieved higher scores than non-musicians. The largest difference was indicated in the pitch discrimination scores of the two groups. Musicians' meter discrimination increased from 38.7 to 58.7, whereas non-musicians scores showed a negative tendency: decreasing from 48 to 41.3.

It was due to one student's (April) score in 2021 to negatively affect non musicians' meter discrimination results. April had difficulties concentrating on her last subtest of other tests, but more on this will be elaborated on later. Without her last scores, non-musicians' meter discrimination scores were 45 and 46.7 in 2017 and 2021, which is more plausible than accepting that April's sense of rhythm declined from 60 to 20. Musicians improved more (from 38.7 to 58.7 percent) than non-musician (48/45 and 41.3/46.8). Not surprisingly, Kevin's, the drummer's meter discrimination increase contributed the most to this result: from 40 to 86.7. He played an idiophonic (non-frequency dependent) instrument so that is why his results did not indicate pitch and interval discrimination improvement. Interval discrimination scores showed that musicians and non-musicians improved differently between 2017 and

2021, 15 and 10 percent, respectively, and musicians' scores were higher at both times than those of non-musicians (50.7 and 65 and 44.3 and 54.3 percent, respectively). Non-musicians outperformed musicians at the first measurement point (48 vs 38.7 percent). On the HMAT test, the most prominent difference was found in the pitch discrimination test between the two groups.

Figure 7.46

Musicians' and non-musicians' music aptitude subtest means at two points of measurement
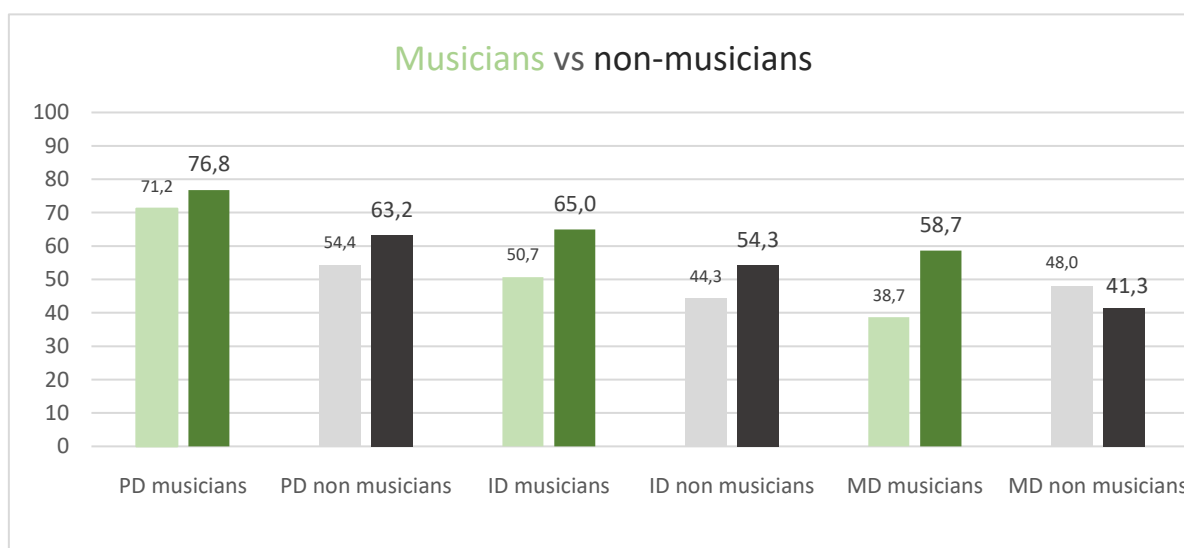
Note: PD= Pitch discrimination, ID=Interval discrimination, MD= Meter Discrimination

If we exclude all other variables and juxtapose the results of the three figures (Figure 7.44, Figure 7.45, Figure 7.46), we find that except for meter discrimination subtest means, all subtest results were higher in both cases. Out of English listening and reading comprehension and speaking scores (as well as pronunciation), only the latter two proved to be different to a considerable extent. This leads me to conclude that out of the two aptitude tests, phonetic coding ability and the pitch discrimination subtest scores seem to be related to the larger improvement of speaking and pronunciation scores in the musician group.

This result is consistent with the findings of Marques et al. (2007) that musicians' pitch processing ability facilitates auditory skills in language learning. They investigated pitch processing abilities of 22 French adults (11 musicians and 11 non-musicians). Participants listened to 120 sentences in Portuguese; 30 of them prosodically were normal (pitch was not changed) in 30 and 30 sentences; the last word's pitch was changed by 35% and 120% ,

receptively. Participants had to decide if the last word of the sentence sounded wrong or normal. Their responses were timed with Electroencephalogram. Musicians detected the subtle changes significantly better (p=0,001) (85%), than non-musicians (61%), and their response times were shorter. An earlier study (Fish, 1984, as cited in Nardo & Reiterer, 2002, p. 233) claimed a strong correlation between pitch and sound discrimination but did not find a meaningful relationship between pitch discrimination and pronunciation. Other studies also found a link between pitch discrimination and pronunciation abilities (Posedel et al., 2012; Milovanov, 2008; 2010). Christiner and Reiterer (2015) investigated 96 participants (musicians N= 60, non-musician N=36) in a test that investigated how they could imitate foreign speech. Slevc and Miyake (2006) examined 55 Japanese adults' musical ability and their second language proficiency. A regression analysis indicated medium and significant correlations between music abilities and productive and receptive phonology.

The better auditory skills of musicians are related to better speaking and pronunciation in Group A. Considering that out of the ten students, three started learning English in 2017, and two of these students were in the musician group, the results are even more compelling.

7.3.8.9 The role of motivation in Study 3. Even though I did not measure motivation explicitly, students' extramural activities, the tasks they claimed to be the most enjoyable, their response time to complete a task during the online period, their comments on the evaluation, and my observations during the longitudinal study indicated that they were highly motivated. The cross-references to studies on with similar findings are so numerous that I mention only a few most important ones.

In the theoretical background section, I relied on Dörnyei and Skehan's (2003) interpretation of motivation (see chapter 3). In their view, motivation has three characteristics. Why, how long, and how hard people do something. Students liked most of the tasks and listed many extramural tasks they enjoyed doing in their free time; some of these activities and tasks overlapped. The longitudinal study showed that they were willing to sustain the effort they invested into these activities; in some cases, classroom tasks became extramural activities. This momentum of working with English outside the classroom did not stop because of the lockdown period; therefore, students' English language proficiency test scores increased, and correlations became more robust and more significant. I found that most participants were already motivated and had positive attitudes toward the English language. My role was simple, I only had to encourage my students to find additional authentic activities in English and involve them in their language learning as much as possible. Asking

for regular feedback was essential to adjust tasks and methods to their needs where possible. Deci and Ryan (2000) emphasized the importance of intrinsic motivation and I found it to be a key aspect of my students' learning. The most popular extramural activity, watching series, was an excellent way to sustained students' intrinsic motivation without any external reward or impact in a self-regulatory form. Intrinsic motivation patterns emerged from students' profiles in section 7.3.7. The number of different extramural activities also indicated that students were motivated intrinsically, although not all by the very same things.

7.3.8.10 The role of the teacher. The teacher's role in the participants' English language learning was not the focus of this study, but I cannot exclude it completely as an important factor. Several studies in Hungary have examined teachers' roles in the teaching process. Lugossy's (2018) study emphasized that language learning needs to be contextualized and as best practice, her findings suggest, it is to connect students' daily routine to language learning. Even though her study related to pre-and primary school children, I believe it has relevance to the secondary school context. In this study, participants reported using the English language in their free time and successfully built them into their daily routine (Table 7.40). Students liked watching series, playing games, and spending countless hours with digital media, all of which were intrinsically motivating for them, independent of external rewards. It was enough to encourage them to do the same or find new activities in English. My very first English teacher played the guitar and sang in English; the impact has been long-lasting, as I pointed out in my introduction. Over the years, I found English to be a practical tool for my free time activities (learning to play musical instruments, designing in AUTOCAD), and so far, all my jobs have been related to using English before and during teaching English in a secondary school (IC ticket inspector, interpreter and translator for IFOR, SFOR, music store shop assistant, webmaster).

In a recent study, Farkas (2019) examined L2 teachers' knowledge of their impact (LTKI). He identified eight conceptual domains to frame his construct of LTKI. 1) L2 teachers' knowledge of teaching methods, 2) professional communication, 3) teaching style, 4) personality, 5) interpersonal knowledge, 6) intrapersonal knowledge, 7) cultural knowledge, and 8) knowledge of language development. I found that all of these domains have played an important role in my teaching.

I chose an example to demonstrate the occurrences of LTKI in a task used in Study 3. Our school was in the process of establishing a twin partnership with a Turkish secondary school in 2018. I saw the opportunity to develop tasks promoting the use of the English

language in an authentic and meaningful way to contribute to the development of the four language skills. The tasks were developed together with Groups A and C (by contacting the school, corresponding with the English teachers, and solving emerging issues). While finding their Turkish partners, students found examples, first for formal and then for informal writing. Eventually, we arranged for students at the two schools to exchange email addresses and they started communicating with their partners. Thus, all Group A and C students had a digital pen friend from a secondary school in Istanbul. Students could choose the form of communication, which evolved from writing to speaking through the platform they chose. Students created electronic postcards of their homes and the food they liked, they took photos, and sent the created content to their partners. Digital media let them inform each other about daily activities, school life, favorite subjects, music, series, and interests depending on the topic of the coursebooks. Later, when the pandemic started, they shared their problems, experiences, and coping mechanisms during COVID19. Seven students out of ten in Group A and five out of eight in Group C managed to exchange messages first in writing then in speaking. These activities became even more useful during the online teaching period. The original plan was to establish contact before a visit of Turkish students; this phase will be realized in the future.

7.3.9 Additional findings

7.3.9.1 Changes in language and music aptitude constructs. According to the original conceptualization, aptitudes (language and music) are innate and relatively stable constructs (Carroll, 1993; Seashore, 1919). In Hungary, Sáfár and Kormos (2008) examined the stability of language aptitude. In their study, 40 students attended a dual language (bilingual) school and 21 learnt at a regular school, the authors measured students' language aptitude with MENYÉT two times. They found that the aptitude tests scores changed over the academic year in both groups, and phonetic coding, grammatical sensitivity and the total MENYÉT score changed more significantly in the intensive language learning group than in the regular group. Sáfár and Kormos (2008) explained aptitude score changes by the practice effect. Phonetic coding is conceptualized less as an aptitude and more as a skill, also in a study by Nijakowska (2008). The author claimed that systematic training could affect phonetic coding in students with dyslexia.

When comparing Sáfár and Kormos's (2008) findings with the present study, fundamental differences need to be addressed. In their project, intensive language learners had

16 lessons a week, whereas the regular class had four 45-minute lessons. Group A and C students had seven 45-minutes lessons a week, which was drastically reduced to one online synchronous lesson per week during the lockdown period. Students in their study had higher scores on MENYÉT: regular group (M=58.38, SD=8.48 the first time, and M=60.67, SD=8,21 the second time), intensive group (M=53.41, SD=7.39 the first time, and M=60.82, SD=7,19 at the second time), whereas Group A (M=38,50, SD=8,10 at first time, and M=47,40, SD=11,14 at the second time), Group C (M=36,25, SD=4,95 at first time, and M=40,87, SD=6,77 at the second time).

Over the almost four-year longitudinal study, in Group A significant correlations were found between the total MENYÉT scores (0.675, p<0.05), rote learning (0.822, p<0.01), and phonetic coding (0.68, p<0.05). The total MENYÉT and subtests scores in Group C did not show significant correlations between 2019 and February 2021. Results of this study are in line with previous research, as phonetic coding is sensitive to spontaneous practice (Sáfár & Kormos, 2008) and systematic training (Nijakowska, 2008). Therefore, it may be less a stable aptitude and more a trainable skill. This outcome also supports Dörnyei (2005) view that the original construct needs to be updated. The similarities between this study and Sáfár and Kormos' (2008) project concerns that phonetic coding and total MENYÉT scores changed significantly. The differences are visible in the fact that language aptitude total and subtest scores did not change significantly between a short period (September 2019 and February 2021).

If we exclude all other unknown variables (tasks, extramural activities, motivation) we may conclude that (1) students with lower language aptitude needed more time to achieve significant changes in their language aptitude scores; and (2) regardless of the intensity of instructions the stipulated strong practice effect only emerged in the trainable phonetic coding subtest and thus, in the total MENYÉT scores.

7.3.9.2 Integrating mixed language background students into intensive language learning. From a pedagogical perspective, it is a common problem in Hungary that students with no previous language learning background are placed with students with many years of previous language learning. This practice is especially true in generally underdeveloped areas of the country, where schools cannot stream students according to their language level. Three

participants out of the ten in Group A did not have any prior English language learning experiences, whereas their peers had learnt it for 6 to 8 years.

Figure 7.47 shows the mean scores in percentage of the three beginners and seven experienced English language learners on three English tests (listening and reading comprehension and speaking) and two aptitude tests at two points. The line chart shows that the beginners' mean (Dia, Evelyn and Teo) showed higher language aptitude (55) mean scores than those of the students who had already studied English (experienced group) in their primary school (45.2). Therefore, most probably they were able to develop at a faster rate than their peers.

Figure 7.47

Beginners' and experienced language learners' scores on the three English and two aptitude tests at two points of measurement
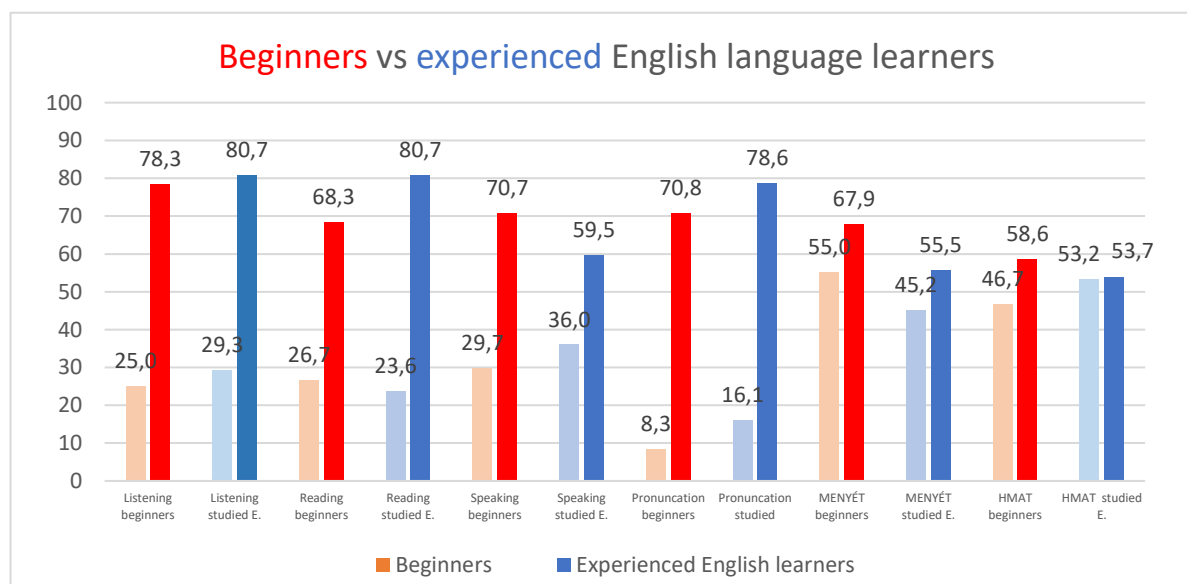
However, the experienced group scored higher on the music aptitude test than the beginners (53.8 and 46.7, respectively) at the first point of measurement. The beginners' listening and speaking scores improved more by 53.3 and 41 percent, respectively, whereas the experienced group's results increased only by 51.4 and 23.5 in the same domains. The development of the beginners in their reading comprehension scores was smaller (41.6 percent) than that of the experienced group' scores (57.1). Experienced learners scored higher in pronunciation at both points of measurement (16.1 and 78.6, respectively) compared to the lower test results of the beginners (8.3 and 70.8), while the increase in both groups was identical (62.5). Beginners' and experienced English learners' language and music aptitude levels also improved at a different rate. While beginners' language aptitude increased by 12.9

percent, experienced English learners' increase on the same tests was 10.3 percent between the two points of measurement. A similar trend is indicated in the changes of music aptitude tests. Here the increase was 11.9 vs .5 in favor of the beginners. If we consider only this result, we can assume that the three beginners' higher aptitudes resulted in better listening comprehension and remarkably better speaking scores. So, their aptitude allowed them to learn at a faster rate and to catch up with the other students.

7.3.9.3 Negative correlations. The cause of negative correlations has to be addressed. Statistical analysis software can only work with the data entered into the data field, and calculating meaningful results requires adequate samples. I was limited to using convenience samples, as I could work with my classes comprising a limited number of participants (Group A N=10, Group C N=8). Even a single participant's performance greatly influenced the final results. SPSS indicated (see Table 7.14, Table 7.16, Table 7.17) three significant negative correlations from the 519 correlation pairs in Group A. When I examined each case, I always found one or two participants whose most probable lack of concentration or exam fatigue must have distorted the results.

For example, I cannot find any other explanation for the result of the last subtest in music aptitude, the meter discrimination test in April's (Profile 5) case, whose low score would have meant that she unrealistically must have lost her sense of rhythm between the two points of measurement, resulting in a drastic 40 percent drop in her performance. It was also April, whose interval discrimination decreased from 60.7 to 53.6 between 2017 and 2021 (see: Figure 7.26). Furthermore, when I investigated her results on MENYÉT, I found that almost all her subtest scores decreased. Her grammatical sensitivity result declined in 2021 (from 10 to 5), and on the last subtest, her rote learning ability decreased from 50 to 15. I noticed that it was again the last subtest of the aptitude test, similarly to her music aptitude test, where her performance decreased the most. I believe she gradually lost her focus and failed to concentrate during the tests, and on the final subtests, she ultimately gave up. These results did not appear in SPSS as outliers; excluding these participants from the study would have further diminished the sample. Language and music aptitude tests were constructed to measure language and music-related abilities. Instances like April show that even implicitly, they can measure other cognitive skills. The fact that I knew my students well helped me interpret their test results and figure out reasons of odd scores.

7.4 Conclusion of Study 3

Students prefer interactive speaking tasks and real-life-like and playful activities, but these were the least frequent activities in classroom observation studies (Nikolov 2007, 2011). A recent study mapped the needs of secondary school students' extramural activities (Szabó & Nikolov, 2019). The present study aimed to show what happens when the message is heard, and students' needs are successfully integrated in the classroom and online learning context. Visiting lessons, participating in activities, and spending time with the school subject in an engaging way are three very different ways of experiencing learning. Finding the appropriate teaching materials and methods are critical elements in successful language learning and teaching.

As was expected, after a four-year-long period in Group A, and after two years in Group C, students' English language proficiency developed. The longitudinal research design allowed me to follow how language and music aptitude changed and contributed to my students' English learning. The role of extramural activities and tasks they did in and out of the classroom context further modified the development and strategies they used in Study 3. The main finding of Study 3 documented how two components of language aptitude (phonetic coding, grammar sensitivity) and one component of music aptitude (pitch discrimination) interplayed with engaging tasks and extramural activities in the development of the participants' English proficiency. However, I did not find significant correlations between scores on the rote learning test and English proficiency test scores over the years.

The role of auditory skills was easy to identify. Phonetic coding and pitch discrimination abilities are clearly related to speaking and pronunciation. However, the significant development of grammar sensitivity by 2021 can be linked to the facts that tasks and activities encouraged noticing, use of inductive reasoning, and rote learning must also have played a role. Lyricstraning is a good example for this process. I cannot agree more with the statement made by Sundqvist and Sylvén (2016) on the integration of the extramural activities into classroom work: 'Only the imagination of the individual teacher and learner sets the limits' (p. 170).

7.5 Limitations

As with all case studies, small sample size does not allow me to generalize conclusions from the findings. All correlations and findings in the chapters in this dissertation should be approached bearing in mind this point. P value is just an indicator of a possible relationship in a small sample study like this. As the case studies indicated, what statistics could reveal were modified by individual students' specific characteristics and health issues.

Having a larger sample size could have shed light on several exciting processes, but with three English language beginners and a total of 10 students, there was no point in conducting multiple regression analysis, which could have indicated the contribution of other factors.

Another limitation concerns the lack of data on speaking and writing. The lockdown period did not allow me to measure speaking in Group C, and writing was beyond the scope of the chapters. Measuring both productive skills could have revealed additional interesting findings, but as a practicing teacher-researcher and a father of two, many times I felt I had reached the maximum limit concerning time and energy. I could have used specific software (Praat) to detect the development of prosodic changes of the participants oral performance and many other features of their English productive skills. Examining additional individual differences could have explain more underlying processes of learning in both groups. Despite these limitations, I feel that I have learnt a lot and I hope the findings of my study can inspire other practicing teachers to conduct classroom research with their students. Experimenting with new tasks, involving students in their own learning can be motivating and thrilling for teachers and students alike.

Chapter 8 - General Conclusions

8.1 Summary of the main findings

The overarching aim in the three studies was to examine see how language and music aptitude was related to learning English over the years. I focused on a few additional perspectives: how my students' language aptitude, music aptitude and motivation interacted in their English language development in light of what they did to improve their English not only in the classroom but also beyond the classes I had with them. Some of these points are often, others are rarely researched areas of applied linguistics. This study aimed to examine how these domains interact with each other and in what ways they may contribute to success in language learning in a specific secondary school context in three groups of learners I taught English.

In her small lens approach, Ushioda (2006) suggested that motivation-related research should target specific real people and classroom activities instead of mapping general motivation and broadening theoretical research. Even though these three empirical studies did not focus on measuring motivation explicitly, motivation and engagement were included in all studies as crucial factors that positively influenced students' English language development. Ushioda also pointed out the general lack of pedagogically oriented teacher-led classroom research. In my case, teacher-led study of my classes was a necessity, as my full-time job has been at a secondary school. Being a researcher and a teacher allowed me to involve my students in the research naturally. Students were ready to express their thoughts openly in the questionnaires and interviews, which allowed me to interpret their test results, especially regarding the connection between extramural activities and their English language development. Mercer and Dörnyei (2020) and Sunday et al. (2021) warned of the potential danger of using modern technology and its negative impact on academic performance. (e.g., smartphone addiction, lack of concentration, social media and so on). I found that students, all representing the Generation Z, found their own ways to utilize their mobile devices in a positive way, which helped them to establish autonomous learning activities in several instances. So, finding a healthy balance between excessive use of mobile devices and learning not only English but also about the world were possible in my secondary school groups. This outcome is aligned with what Ushioda (2009) labelled as the Person-in-Context Relational view, as 'learners shape and are shaped by context' (Ushioda, 2015, p. 48).

8.1.1 Study 1: An exploratory single case study of a musically and linguistically gifted successful EFL learner.

Study 1 was an exploratory enquiry into how a musically and linguistically talented secondary school student, Maggie, developed. As a first step in my dissertation, I drew a portrait of an able and highly motivated learner of English. I aimed to answer two research questions by conducting a case study.

Q1 How do music and language learning aptitude interact in a student's life?

Maggie attended a special music program in kindergarten when she was five, and she started to learn English at the age of six. She had a highly supportive family who nurtured her talents. All favorable conditions predestinated her to be successful in both domains. Later, she won several local singing competitions and became a reliable and most professional member of the school's music band. Her talent contributed to high-quality performances at school and town programs. Music, especially singing, played a central part in her life.

Her English receptive skills test scores were high both on the state language exam (B2) and the final school leaving exam, and her achievements in English speaking were even higher. As for her aptitude, she reached the maximum score in rote learning ability (language aptitude) and interval discrimination (music aptitude), and her phonetic coding and pitch discrimination scores were also high. Extramural activities like watching films or videos were not typical, but she listened to music in English a lot in her free time. She was critical of her primary school English teachers except for the last one in grade 8.

Her extensive listening to music and singing allowed her to make the most of her aptitudes which contributed to her excellent English language proficiency.

Q2 How does the participant evaluate her strengths in language and music learning?

Interview and observation data showed that she was highly aware of her abilities and how she could improve them: for example, she explained how listening to songs helped her remember lyrics in English and how her musically rich childhood facilitated her English proficiency. She was convinced that her musicality and language aptitude can be linked: good ears for music helped her develop good pronunciation. She thought that she had inherited her excellent aptitudes and made the best of them.

This single case study offered evidence of important relationships between English language proficiency, language aptitude, and music aptitude, as well as a nurturing home and

school environment. Maggie' outstanding aptitude allowed her to develop fast, as she passed a B2 language exam with excellent results in grade 10 and complete her English school leaving exam in grade 11. She set herself clear goals and was able to achieve them.

8.1.2 Study 2: How two groups of high-school students benefited from playful and engaging tasks

Study 2 explored and quantified how innovative tasks contributed to developing students' English receptive skills in two groups. One group consisted of grammar school (Group A) and the other group vocational school students (Group B). Participants in the latter group are hardly ever included in classroom-based research projects, therefore, the project was unique in this respect and allowed me to offer insights into less successful learners' experiences and some of the reasons why students in Group A and B differed in their trajectories.

Q3 How did students in Group A and B benefit from doing innovative tasks?

Participants' individual difference variables as well as their English language proficiency were different in the two groups, therefore, students in the two groups benefited from the treatment period partly similarly and also differently. Group A students' English listening and speaking skills developed significantly in the 12 weeks; however, the T-test did not show significant differences between Group B pre-test and post-test scores. Group B students were less motivated when the treatment period started, plus they had fewer weekly English lessons. Their self-confidence in their English was lower than in Group A. Additionally, I observed that Group B students had more difficulties working in groups and comprehending instructions even in Hungarian. Students in Group B had many more difficulties when they created quiz games, whereas their peers in Group A relied confidently more on their more advanced English language skills. Both groups liked playful games, and all participants were deeply engaged in the activities to the extent that they wanted to stay in the classroom during the break so that they could finish the games. A more extended treatment period could have shown more increment in the scores of Group B's receptive skills. Kahoot quiz games enhanced motivation in both groups, and I believe this outcome could be most relevant for Group B students; they experienced success.

Q4 How did students perceive their progress in English after the treatment period?

The survey results revealed that students in both groups felt they had learned by doing the tasks. Interestingly, Group A students were less optimistic than Group B students. I think this can be explained by vocational school students having few opportunities to experience what success feels like and being engaged in classroom activities in connection with their academic development. Group A students were more realistic in their survey responses.

Q5 How did students' language aptitude results relate to their progress in English?

There was a significant difference between the two groups' language aptitude scores. Phonetic coding and inductive language learning were significantly different in favor of Group A. A smaller difference was indicated in grammar sensitivity and Group A outperformed Group B in their rote learning ability scores. These differences in students' aptitude and lower motivation were responsible for the slower development of Group B. Low language aptitude scores tend to impact the rate of language learning. The subtests of the Hungarian language aptitude tests, phonetic coding (short term phonological memory), inductive language learning, grammar sensitivity (inductive reasoning), and rote learning (short term memory) are all required in general learning, not only the learning of a new language.

Additional findings

Based on the English proficiency test results, it may seem that Group A benefited more from the twelve weeks than students in Group B. Despite the statistical results, I would approach the findings differently. The smaller and non-significant increase in the results of vocational school students in Group B could be interpreted as an important success for them, perhaps even more than the better scores for grammar school students in Group A.

- Superior results were expected from grammar school students, as they participated in a more intensive course in seven lessons per week.
- Aptitude results were significantly higher in Group A; therefore their faster progress was also expected.
- Overall, Group A students had more opportunities to play and create engaging quiz games and received more instruction.
- Group A students had better socio-economic background.
- Most importantly, success was less common in the school context for Group B students! Playful games in the long term can help vocational students regain their self-confidence and feel less like the underdogs of the education system.

8.1.3 Study 3: A longitudinal classroom-based study on the development of language aptitude, musical aptitude and English skills in two groups

Study 3 examined the complexity of interactions in two groups of students: Group A and Group C. This longitudinal project aimed to document, measure, and observe how students' language aptitude, music aptitude, their engagement in extramural activities and playful tasks in and beyond the English classes contributed to their development in English over two to four years.

Q6 How did students' scores change over the years on the components of the language and music aptitude and English proficiency tests?

Students' listening and reading comprehension abilities in both groups, and additionally speaking skills in Group A improved significantly during the longitudinal study. In Group C, I did not measure speaking skills. There is nothing special in this development as it is expected that students benefit from attending English lessons for multiple years. However, the two groups were different in many aspects. In Group A, there were three beginners, while in Group C, all students had studied English for 6-8 years. The scores on their first proficiency tests (in Group A in 2017, in Group C in 2019) revealed large and significant differences between the mean scores in the two groups. The mean scores were almost twice as large for the more experienced Group C students at the first measurement point. Between 2017 and 2021, Group A was close to catching up with the scores of Group C in 2021. The results of the English proficiency tests reflected that previous language learning experiences greatly impacted later outcomes.

Key outcomes of the study offered evidence that both students' language and music aptitude scores changed between the points of measurement. Group A's MENYÉT and HMAT scores improved between 2017 and 2021 twice as much as Group C's scores between 2019 and 2021. Furthermore, on the Hungarian language aptitude test, in Group A's phonetic coding subtest improved significantly.

In Group A interval discrimination, in Group C, interval discrimination and pitch discrimination changed significantly at the points of measurement. These important results in these small samples raise questions about the aptitude constructs' stability over time and they are in line with results indicating that aptitudes are dynamic constructs and can change over time.

Q7 What is the relationship between participants' music aptitude, language aptitude, and their level of English language proficiency over the years?

In the longitudinal Study 3, meaningful relationships were not indicated between the total language aptitude and English proficiency test scores. However, the same subtests correlated significantly in both groups. In Group A, reading comprehension and grammar sensitivity scores in 2021 and listening and grammar sensitivity scores in 2021. Group C's subtests correlated with the same skills; the only difference was that the correlation between listening and grammar sensitivity was more significant than that between reading and grammar sensitivity scores. The correlations between English reading and grammar sensitivity scores were stronger in both groups.

I found no significant correlations between the total Hungarian music aptitude test battery and English proficiency test scores. Significant relationships were indicated between pitch discrimination and pronunciation and pronunciation and interval discrimination in Group A. I expected to find meaningful relationships between auditory-related skills and abilities such as phonetic coding and English listening comprehension test scores, and phonetic coding and pronunciation scores; however, no significant relationships were indicated in Study 3.

Q8 What is the relationship between participants' extramural activities using English and their level of English language proficiency over the years?

In both groups, extramural activities were similar; the most popular ones related to the extensive use of auditory skills. Watching series/videos/films was the most frequently mentioned activity. Listening to music was the second favorite in both groups; playing games in Group A and speaking with friends in Group C were marked as activities students believed helped them most in their English learning. On average, students reported that they spent two hours a day watching authentic programs in English. This indicated a lot more intensive exposure to English than school instructions. I believe that students' extramural activities greatly contributed to their English language development. The formal classes supplemented by the students' own choices most probably impacted their English development favorably.

Q9 How did students assess classroom and online tasks, and how did these tasks relate to their English language proficiency?

The outcomes of the survey using a Likert scale showed that all students enjoyed playing Kahoot quiz games more than creating them. The lyricstraining game was the second favorite task in both groups. I found it helpful to see that students also enjoyed working with

coursebooks. However, the popularity of using workbooks and textbooks decreased in Group C and increased in the other group who took the school leaving exam in three months from the time I asked them in February. In the light of the findings to Q6, the significant correlation between the English reading and listening comprehension and grammar sensitivity scores could be linked to the popular classroom tasks. My conclusion is that students found using their inductive reasoning skills motivating in the activities, and they enjoyed using them while doing classroom tasks as well as when they watched and listened to authentic programs and music.

Furthermore, SPSS indicated significant and strong correlations between students' preferences for working on and creating Kahoot quizzes and their reading scores, between their enjoyment of using lyricstraining and pronunciation, and creating Kahoot games and tasks in coursebooks in Group A. The latter may look unusual, but the task was to create quiz games based on the unit they studied in the book. Therefore, students must have realized that creating a link between fun and less fun activities resulted in enjoyable and motivating experiences in both groups, although to a lesser extent than playing games.

8.1.4 Additional findings and connections between the studies

8.1.4.1 The relationships between the two constructs of aptitude. No meaningful relationship was found between the total MENYÉT and HMAT scores in either group at any time of measurement. This outcome means that the two aptitude constructs comprise different abilities. Out of the large correlation matrixes, I found only one instance of a significant correlation between language and music aptitude: pitch discrimination (2019) and rote learning (2021) in Group C.

8.1.4.2 Differences in the English proficiency development in musician and non-musician students. There were five musicians in Group A, so I could compare their language and music aptitude and language proficiency scores. The five musicians' receptive skills improved similarly to those of the non-musicians; however, musicians outperformed non-musicians in their speaking and pronunciation performances. Musicians had higher language and music aptitude scores, which could explain why they developed faster. The largest differences were indicated between phonetic coding and pitch discrimination scores in favor

of musicians. Therefore, I assume that the musicians' better auditory skills were manifested in their better speaking and pronunciation results in English.

8.1.4.3 Differences in the English language development in beginners and more experienced students. Group A students were more heterogeneous than Group C in their previous language learning experience. Three students started learning English at secondary school. The three beginners' higher language aptitude scores resulted in a significant increase in listening and speaking scores. Musicians' higher scores on the aptitude tests resulted in a faster rate; by the end of the last measurement, they managed to achieve similar results to the more experienced students.

8.1.4.4 The positive and negative effects of COVID19. The lockdown periods of COVID19 overlapped with the school teaching periods between March and June 2020 and November and February 2021. This fact was especially critical for students in Group A as they had to take their school leaving exam in May 2021. Nevertheless, despite the significantly fewer English classes in the classroom, both groups' English proficiency scores increased by the end of the research period. From the survey of extramural activities, patterns of regular autonomous learning emerged.

Carreira et al. (2013) found that teacher created context can promote learners' autonomy and intrinsic motivation in primary school students. Even though their study was conducted at a primary school I believe this approach could be equally successful in secondary school context.

8.2 Limitations of the studies

Case studies are not meant to find general tendencies; generalization of findings is not possible or very limited. Results of the case studies in this dissertation are only valid within the framework of this school and these students. Statistical analysis based on small sample studies is only indicators and, without additional data, difficult to interpret. Hence, mixed method was used, and qualitative data allowed me to go beyond the surface and understand the results of descriptive and interferential statistics better by comparing and contrasting them with the students' reflections. Specific statistical calculations were not possible and practical to run. The variance was so too small for regression analysis; therefore, I could not work towards building a model based on my datasets.

An additional limitation concerns my dual role of teacher and researcher. As a teacher I had to follow the curriculum and experiment with innovative teaching techniques and tasks within the rules and regulations of the school. I invited my students to take multiple tests, involved them in their own English development and my research project at the same time. In my view, the studies I implemented have impacted their motivation and learning of English in positive ways, and by using member checking I could make sure that their voices were also heard and included. However, my biases and beliefs cannot be ruled out.

Assessing students' English speaking and writing abilities would have allowed me to offer a fuller picture of their English proficiency. Writing skills were not examined, and speaking skills were tested only in Group A. Even though it would have been more insightful to document the development and relationships of all the four skills and aptitudes in all groups, I had to limit my focus to those skills and abilities I was the most interested in. I had to bear in mind what is and is not feasible in a specific period. The unexpected lockdown periods also limited my options of what to measure, how, and when. The available time to work on the studies further narrowed what I could aim for. As a full-time in-service teacher at a secondary school and a part-time teacher at the Faculty of Music, University of Pécs, plus my role as a webmaster and translator for a Music Instrument Company, and a father of two, I had to make sure I had time for what I set out to study.

8.3 Pedagogical implications

All studies agree that motivation is one of the critical components of success in learning a new language. From the learners' and parents' perspectives, it is the teacher's role to motivate students over time and to establish and maintain a positive learning context. However, motivational strategies do not come automatically for teachers. Therefore, as a teacher I had to think about ways of making my teaching as motivating as possible and to vary the tasks I set for my students. This process of trying to match what students find worth engaging in, what I assume to be conducive to their learning of English, integrating what the curricular goals include is challenging and rewarding at the same time. Involving my students in their own learning has been one of the most exciting outcomes of my studies. The fact that my datasets document how my students became autonomous learners and found the most beneficial ways of improving their English on their own is my own reward.

There is a tendency in teaching material developers to promote their new products, which include downloadable media files instead of CDs or DVDs. This is a welcome

approach but far from being enjoyable for students. Instead of simply adding supplementary audiovisual materials to coursebooks, students' needs should be reflected in the coursebook-related tasks and content.

Based on my findings of this research, I found that gamification elements in playful tasks contributed to motivating students, regardless of their English proficiency and language aptitude. Teaching material developers should create platforms like Kahoot and use gamification elements in language tasks either by integrating them into their materials or by supplementing the coursebook materials. This would establish a bridge between focus on forms, focus on content, and focus on authenticity. Immediate feedback on results is a key element which provides useful information for students on their own development. As all results appear immediately as diagnostic test results, students and teachers get a clear picture of what is understood and what needs more clarification and practice.

From a testing perspective, engaging quizzes with gamification elements can replace the need to use quick tests. High stakes tests function as demotivating factors for language learning, and most probably any learning. Implementing playful low stakes quizzes as a special form of additional assessment can help students overcome their anxiety and save time for teachers. Even though I only have initial results of this using quiz games as a tool for assessment, students' responses were unanimously positive about getting marks based on their game playing results. The average of the three marks from playing games equaled a full value mark.

Another platform would be helpful where students and teachers could create content for engaging games using a template. Similar to Kahoot, the content could be uploaded and would be accessible to all students and teachers worldwide using the same coursebook. These authentic tasks could create a potential for creating meaningful content based on the specific units of the coursebook.

Knowing as much as possible about my students, involving them in the interpretations of the datasets also have their advantages. Even though I have been using end of term surveys for more than twelve years to find out what tasks, activities work for students, these studies helped me to understand in more detail how the examined individual differences work within the groups and in different ability groups. According to the findings of these studies, I feel more secure that focus on learners' needs, involving them as much as possible in their learning process by encouraging them to use and enjoy extramural activities in English could promote my students' more and more autonomous learning.

8.4 Further research

Initially, the dissertation aimed to examine SLA from a broader perspective. Data on tasks and coping mechanisms during school lockdowns in primary school were also collected. I was also interested to see what tasks were used in English teaching and how these tasks worked in a primary school (involving two primary school teachers and two students) and in a secondary school (three secondary school teachers and 18 students) context. MENYÉT and MAT tests were administered, and interviews were recorded with students at the Faculty of Music, University of Pécs. I wanted to examine students' learning strategies and methods at a higher level of proficiency than the B2-level language exam. I was also curious to find out how the two aptitudes and learning strategies related to students' English language proficiency and musical instruments. The role of the absolute pitch was also to be examined in two students with this unique ability.

As a next step, it would be useful to try to work towards building a model and see how the variables included in these studies would interact with one another in a larger sample. I assume that it would be interesting to draw parallels with studies proposing models. For example, Carreira et al. (2013) found that teacher-created contextual factors can promote learners' autonomy and intrinsic motivation in primary school students. Even though their study was conducted with younger language learners, this current study showed that this approach could be equally relevant and meaningful in the secondary school context.

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APPENDICES

Appendix A – Kahoot template used in Study 2 and Study 3

Appendix B – Study 1 Semi-structured interview questions:

- How long have you been learning English?

- How long have you been learning music?

- What do you think about your music aptitude?

- What are your strengths in music?

- What do you think about your language aptitude?

- What are your strengths in language?

- Do you listen to background music while you are studying?

- What is the role of lyrics in your language learning?

- Can you give examples of learning new words from specific songs?

Appendix C –Survey on Kahoot games used in Study 2 in Group A and Group B

Kedves Diák!

A következő kérdőívben szeretném megismerni a véleményét a Kahoot játékokkal kapcsolatban. A kitöltött kérdőíveket szeretném a disszertációs munkámban felhasználni. Az adatait lekódolva név nélkül kezelem.

Köszönöm szépen az együttműködést, ☺
Hetesi Sándor

Milyen mértékben ért egyet a következő állításokkal? Kérem értékelje 1-től 5-ös skálán a következő állításokat.

1=egyáltalán nem ért egyet 2=kis mértékben egyetért 3=közepes mértékben egyetért 4=nagy mértékben egyetért 5=teljes mértékben egyetért.

1. Szeretek a Kahoot játékokkal játszani.

1	2	3	4	5

2. Szeretek Kahoot játékokat készíteni.

1	2	3	4	5

3. A Kahoot játékokkal úgy érzem, tanultam.

1	2	3	4	5

4. Javasolnám másoknak is a Kahoot játékokat.

1	2	3	4	5

5. Jól éreztem magam a Kahoot játék közben.

1	2	3	4	5

6. Élveztem, hogy a játékban versenyeztünk egymással.

1	2	3	4	5

7. Az olvasás készségem fejlődött.

1	2	3	4	5

8. Az íráskészségem fejlődött.

1	2	3	4	5

Appendix D – Survey 2018 used in Study 3 in Group A

1.Kérem írjon pár sort magáról, amit fontosnak tart.

2. Kérem írja le pár mondatban, hogy eddig milyen tapasztalatai voltak az idegennyelvtanulással kapcsolatban.

3. Kérem értékelje angol tudását a következő állítások alapján.

Milyen mértékben ért egyet a következő állításokkal? Kérem értékelje 1-től 4-es skálán a következő állításokat.

1=egyáltalán nem ért egyet 2=kis mértékben egyetért 3=nagy mértékben egyetért 4=teljes mértékben egyetért.

1. Olvasott szövegértésem nagyon jó.

1	2	3	4

2. Hallott szövegértésem nagyon jó.

1	2	3	4

3. Beszédkészségem nagyon jó.

1	2	3	4

4. Gyakran hallgatok angol nyelven zenét.

1	2	3	4

5. Gyakran játszom számítógépes játékokkal angol nyelven.

1	2	3	4

6. Gyakran nézek angol nyelven filmeket.

1	2	3	4

Mit gondol a játékok, dalok, filmek milyen hatással vannak az angol nyelvtanulására?

Mi a véleménye az eddigi eredményeiről?

Appendix E – Questionnaire used in Group A and Group C in June 2020 and February 2021 in Study 3

Diák kérdőív a 2019-2020 tanév második felében végzett feladattípusokkal kapcsolatban

Kedves Diák!

A következő kérdőívben szeretném megismerni a véleményét a 2019-2020-as tanév második felében végzett feladattípusokkal kapcsolatban. A kitöltött kérdőíveket szeretném a disszertációs munkámban felhasználni. Az adatait lekódolva név nélkül kezelem.

Köszönöm szépen az együttműködést, 😊
Hetesi Sándor

*Kötelező

Milyen mértékben ért egyet a következő állításokkal? Kérem értékelje 1-től 4-es skálán a következő állításokat.

1=egyáltalán nem ért egyet 2=kis mértékben egyetért 3=nagy mértékben egyetért 4=teljes mértékben egyetért.

1 Ezek a feladattípusok nagyon érdekesek voltak

1. Kvíz típusú Kahoot.com játékokkal versenyzés *

Soronként csak egy oválist jelöljön be.

	1	2	3	4
	◯	◯	◯	◯

2. Kvíz típusú Kahoot.com játékok készítése egymásnak *

Soronként csak egy oválist jelöljön be.

	1	2	3	4
	◯	◯	◯	◯

3. Lyricstraining.com *

Soronként csak egy oválist jelöljön be.

	1	2	3	4
	◯	◯	◯	◯

4.   Magyar-török kapcsolatépítés *

Soronként csak egy oválist jelöljön be.

	1	2	3	4
	⬭	⬭	⬭	⬭

5.   Feladatok a tankönyvben *

Soronként csak egy oválist jelöljön be.

	1	2	3	4
	⬭	⬭	⬭	⬭

6.   Feladatok a munkafüzetben *

Soronként csak egy oválist jelöljön be.

	1	2	3	4
	⬭	⬭	⬭	⬭

3. Soroljon fel legalább három olyan dolgot, amit iskolán kívül szabadidejében szívesen végez, és közben az angol tudása is valószínűleg fejlődik :

7.   1 *

_____

8.   2 *

_____

9. 3 *

_____

Thank you 😊

_____

Ezt a tartalmat nem a Google hozta létre, és nem is hagyta azt jóvá.

Google Űrlapok

Appendix F- Interview transcriptions of Group A students

HS: Üdvözlök mindenkit és akkor azt hiszem kezdhetjük is, ugye? Szóval mindenki látta az eredményeket és akkor most kíváncsi vagyok, mit gondolnak róluk. Menjünk sorba és közben próbálom mutatni itt is. Ja, ha valakinek kérdései lennének, azok is jöhetnek. Kezdjük akkor, April, szóval mi a véleménye?

April: Jézusom, nekem így változott a beszédem?

HS: Igen. Itt megvan a felvétel, és nagyon sokat meghallgattam, illetve mással is értékeltettem, hogy ne csak én pontozzam, hogy ne legyen elfogult az értékelés. Itt a legnagyobb a javulás. April az a kérdésem, hogy mit gondol ezekről a százalékokról?

April: Hát láttam. Szerintem jó, mert sokat fejlődtem ezek szerint.

HS: De ez miért lehet? Ezt várta körülbelül vagy nem?

April: Azért lehet, mert gyakoroltam.

HS: Sorozatot néz?

April: Sorozatot, meg, amiket így mondtam, hogy ilyen idézeteket, meg verseket próbálok lefordítani fordító nélkül, meg ilyenek.

HS: Sorozatot mennyit néz? Mondjuk órában egy nap.

April: Most lett vége annak a sorozatnak, ami angolul ment, magyar felirattal. Meg most van egy olyan sorozat, aminek most fognak kijönni az ötödik évad új részei, és ami szintén angol magyar felirattal. Úgyhogy majd meglátjuk, milyen lesz.

HS: Én közben felírtam. És ez mit jelentett, hogy egy nap hány sorozatot néz, átlagban?

April: Amikor így is sok időm volt, akkor volt, hogy megnéztem egymás után hat részt.

HS: És egy hétre mennyi jött ki átlagban?

April: Hányszor? Egyszer, kétszer biztos, 1 nap 2 részt biztos néztem.

HS: És mikortól kezdett el sorozatokat nézni? Az is érdekes lehet.

April: Tizedikben. Hát tavaly már a karantén alatt, amióta bejött ez a Covid, azóta nagyon.

HS: Tehát 2020-tól. Milyen eredményre számított, és mi az, amin megdöbbent?

April: Hát ezen nem látom, itt hol az a táblázat? A beszéd volt 66% vagy mennyi?

HS: Máris mutatom - erre gondol?

April: Igen, itt azon nagyon megdöbbentem.

HS: Mert rosszabbra számított?

April: Hát igen, azt hittem, hogy nem lesz ekkora a fejlődés.

HS: És mi az, amit elvárt? Mi az, amire gondolt?

April: A hallásom, sokat fejlődtem. Azt érezem is, hogy sokat.

HS: Oké, valami más hozzáfűzni való? Nem? Akkor én kérdezném, hogy miért lehet, hogy képesség teszteknél vannak részek, ahol kevesebb pontot ért el, mint korábban?

April: Nem tudom, én igyekeztem. Így sikerült.

HS: Jó, de mégis miért?

April: Tényleg nem tudom.

HS: Oké, Menjünk tovább, akkor a Daniella? Jó. Ő a következő. Itt van Daniella! Akkor ön is nagyítson rá, legyen szíves. Mit gondol a saját eredményeiről? Én is nagyítok azért, amennyire tudok.

Daniella: Szerintem érzem magamon. Fejlődtem, leginkább a hallásomban, azt nagyon érzem.

HS: Szokott sorozatot nézni?

Daniella: Meg játszani is. Meg voltak olyan barátaim, akikkel angolul beszélgettem, s így játék közben is érdekes szavakat is tanultam tőlük.

HS: Melyik sorozatot nézte és mennyit?

Daniella: Rengeteget, én is néztem a Riverdale-t a Netflixen, mint April.

HS: Daniella, mikortól kezdett el sorozatot nézni?

Daniella: Ez nagyon passzív volt. Szerintem tizedik nyarától, talán. Talán még tavaly, tavaly, amikor bekerültünk karanténba, akkor nagyon.

HS: És akkor kezdett sorozatot nézni?

Daniella: Főleg akkor, nagyon durván, igen.

HS: Az mit jelent? Nagyon durván napi hány sorozat fért be?

Daniella: Hát ugye egy teljes sorozatot, miután egy rész egyórás, és én megnéztem kb. 20-at, szóval 20 órát töltöttem a gép előtt.

HS: De várjunk. Most egy napról beszélünk, átlag egy nap?

Daniella: Igen, egy napon 20 órát néztem. 20 rész. Igen.

HS: Na várjon! Na de 24 órából áll egy nap.

Daniella: Hát de úgy mondom, majdnem egy órát, miközben ettem, kint voltam meg ilyenek.

HS: Én ezt nem nagyon értem. A többiek értik?

April: Azt, hogy 20 órát töltött sorival.

Dia: Hogy mindennap nézte a sorozatot.

HS: De várjon, várjon, várjon! Nem a rekordra vagyok kíváncsi, hanem minden héten. Mennyi sorozatot nézett átlag?

Daniella: Megnéztem egy sorozat, két sorozatot legalább egy napon.

HS: Akkor nézzük, mennyi időt töltött játékkal?

Daniella: Még annál is többet. De a játékkal nyolcadikos korom óta egészen sokáig foglalkoztam.

HS: Oké, akkor mondjunk, egy nap, mondjuk, hány órát játszott?

Daniella: 5-6.

HS: És hányadikos kora óta?

Daniella: Nyolc, hét vagy nyolc.

HS: Milyen típusú játékokkal játszott?

Daniella: Ilyen stratégiai játék, ami csapatban volt, és az volt a lényege, hogy másokkal kellett játszani. Meg ilyenek és a külföldiekkel voltunk együtt. Tehát nagyon ritka volt, hogy magyar társat kaptam.

HS: Ez azt jelenti, hogy angolul kellett beszélgetni a játékosokkal?

Daniella: És akkor megtanultam, nagyjából az angolt, az angol alapszavakat a játékon belül.

HS: Annak a játéknak a nevét, úgymond, tudja? Emlékszik a játék nevére?

Daniella: League of Legends, még most is játszok néha.

HS: Értem. Jó, oké. És akkor Daniella mit gondol az eredményeiről?

Daniella: Hát csodálkozom, hogy ennyit fejlődtem zenéből, én ezt nem éreztem egyáltalán. Szerintem azért lettem jobb angolból, mert jobban hozzászoktam iskolán kívül. Nem igazán lepett meg, hogy fejlődtem a teszt eredményeimben. A Covid alatt szerintem a hallásom fejlődött leginkább.

HS: Esetleg van még megjegyzése hozzá?

Daniella: Nincs. Köszönöm szépen, hogy megmutatta az eredményeket, nincsen.

HS: Én köszönöm, hogy elmondta a gondolatait. Mehetünk tovább akkor? Lia a következő. Kedves Lia! Nem tudom mennyire látszik, próbálok nagyítani. Itt van, akkor. Csak azt nézem, hogy szinte mindenből sokkal jobb lett. Mi a véleménye az eredményeiről?

Lia: Elégedett vagyok.

HS: Mire számított? Mi az, amin meglepődött, és mi az, amitől jobbat várt?

Lia: A hallásomon, azon azért lepődtem meg, mert most tényleg nem akarok itt izélni, de szerintem az egyik fülem nagyon rossz. Tehát alapból nem hallok meg dolgokat, ezért így van, úristen! Lehet, hogy angolból jobb a hallásom, mint magyarból, de nem tudom, azon lepődtem meg.

HS: Oké, mit szerettem volna még kérdezni. Van-e esetleg valami megjegyzése vagy észrevétele, amit én nem kérdeztem?

Lia: Talán én azért fejlődtem angolból sokat, lehet, hogy ez ciki lesz, de én nagyon sokat beszélek egyedül, magammal hangosan, angolul mindig, anyukám szokott rám szólni. Ő

szerinte pszichiátriai eset vagyok, de szoktam beszélni magammal angolul. A tükörbe. Mindegy. De igen, szoktam.

HS: Mivel kapcsolatban, ha szabad ezt megkérdeznem?

Lia: Hát főleg, amikor néztem, a Daniella biztos tudja a Kim Kardashian sorozatát, azt néztem, és azok a részletek itt annyira belementek a fejembe, hogy hangosan mondtam magamnak, én mindig, úgy ki szoktam beszélni sérelmeimet valamikor, angolul oltok valakit.

Flóra: ha ez egyáltalán téged vigasztal, én is szoktam magamban angolul beszélni.

Csilla: Én is.

Dia: Hát nálam is van ilyen, főleg a zuhany alatt.

HS: Abszolút nem ciki. Egy részből azért, mert a feszültségtől megszabadítja magát olyan módon, ami nem ártalmas. Másrészről pedig itt vannak az eredmények. Köszönöm.

HS: Oké. Na nézzük akkor a Teot. Teo eddig nem tanult angolul. Teo látja a táblázatokat?

Teo: Igen.

HS: Jó, tehát ezek az ön eredményei. Szóval, mit gondol ezekről az értékekről, Teo?

Teo: Hát, szerintem nagyon jó. Igazából én idén az olvasáson lepődtem meg, nem gondoltam, hogy ennyit fog fejlődni. Szerintem az osztályban lehet a legjobban nyelvet tanulni.

HS: Jó és miért lehet, hogy 21-re a hallásértés teszten kevesebb pontot ért el? Mit gondol erről?

Teo: Nem tudom, talán fáradtabb voltam már vagy nem figyeltem.

HS: Ok, akartam még kérdezni, hogy mi az, ami a fejlődésben önt a legjobban segítette?

Teo: A zene talán, még most is sokat hallgatok. 0-24-ben szól.

HS: És a dalok angol nyelvűek vagy magyar?

Teo: Tessék?

HS: Milyen nyelven énekelnek, angol vagy magyar?

Teo: Ötven-ötven körülbelül.

HS: És a dalszövegeket mennyire érti meg?

Teo: Hát, ha figyelek, akkor megértem, úgy 80-90 %-ban, de csak a dallam miatt szoktam. De ha figyelek, akkor megértem.

HS: Ok, van-e még esetleg más észrevétele?

Teo: Nincs.

HS: Akkor köszönöm. Jöhet Kevin. Itt van?

HS: Kevin, látja ugye, ön is?

Kevin: Igen.

HS: Mi az, amit várt, és mi az, amin csodálkozik?

Kevin: Hát, én a halláson, hogy ez ennyi lett, az olvasáson is, igazából mind a kettőn.

HS: Minek tudható ez be ön szerint?

Kevin: Hát például a videó. Az nagyon sok. Meg egyszer, amikor rájöttem, hogy igazából teljesen érthető és már tudja az ember, akkor meg már nézze is.

HS: A videón, a Youtube-ra gondolt, Youtube videókra?

Kevin: Igen. Ha meg hát Instán van, amit szoktam nézni, de hát ugyanaz a YouTube-on is fenn van.

HS: És sorozatot ugyanakkor nem is néz rendszeresen?

Kevin: Nem szeretem, nem kedvelem annyira.

HS: Na és mikortól kezdett Youtube videókat nézni?

Kevin: Ó, hát szerintem 2-3 éve.

HS: Tehát akkor még a középiskolában.

Kevin: Igen, meg a Covid alatt, amikor ugye elkezdődött, akkor még jobban.

HS: Jó. Nagyon jó eredményeket ért el, hát én nagyon remélem, hogy az érettséginél is nagyon sok pontot szerez majd. Sokat fejlődött, az biztos. Jó, valami más hozzáfűznivalója esetleg?

Kevin: Hát nincs.

HS: Akkor köszönöm és folytassuk, Evelyn, itt van?

Evelyn: Igen.

HS: Jó. Na nézzük. Látszik a táblázat?

Evelyn: Igen, látom.

HS: Mit gondol ezekről a százalékokról, az eredményeiről?

Evelyn: Örülök nekik. Már azt jelenti, hogy fejlődtem is. Nem? Ugyebár?

HS: Igen, de arra értettem, hogy minek tudható be. Mire gondol? Ez minek köszönhető?

Evelyn: Annak, hogy minden nap tanulok. Minden házit megcsinálok és körbeveszem magam angollal, ahogy lehet. Napról napra tanulok.

HS: Ön szokott beszélgetni a rokonával Angliában, ugye, rendszeresen? Ugye?

Evelyn: Igen.

HS: Sorozatot néz?

Evelyn: Attól függ, hogy milyen sorozat fog meg. Ha Netflixes, akkor egyértelműen, mert azon van és ott meg csak angolul tudom nézni.

HS: És ez mit jelent akkor egy heti lebontásban?

Evelyn: Elnézést, ezt még egyszer, mert nem hallottam.

HS: Ez mit jelent? Napi leosztásban, egy nap körülbelül átlagban mennyit néz?

Evelyn: Hát attól függ, milyen kedvem van, amikor fennmaradok éjjel 4-ig, és nézem folyamat. Viszont van, amikor egy nap se nézem, szóval kb. két óra naponta.

HS: Jó. Játszik számítógéppel vagy játszott?

Evelyn: Hát nem számítógépen, hanem telefonon és igen, játszom.

HS: És ez mennyire rendszeres?

Evelyn: Hát őszintén, most nagyon rászoktam a játékra is, naponta játszok valahogy két órát vagy, akár hármat, de zenét hallgatok, naponta hallgatok, azt viszont folyamatosan, szóval én zenefüggő vagyok, szóval. Meg igazából, ha tetszik a zene, akkor rögtön lefordítom. Ha nincsen felirat, meg volt nem is egy olyan zeneszám, amit lefordítottam, hogy tudjam, miről énekelnek. Hogyha megfog egy szám, akkor tudjam, hogy mégis mit hallgatok.

HS: Nagyon jó, jó, ennek örülök. Volt olyan, amin nagyon meglepődött, és volt olyan, amiben esetleg jobb eredményre számított?

Evelyn: Hát, jobbra számítani, nem is tudom. Én megelégszek ennyivel, egyelőre.

HS: Vagy volt amint csodálkozott, vagy csodálkozik esetleg vagy meglepő volt?

Evelyn: Hogy ennyire ment, meglepődtem. Sokkolt.

HS: Mármint milyen értelemben?

Evelyn: Hát jó értelemben. Nem gondoltam volna, hogy négyszeresére nőttek az eredményeim.

HS: Jó, nagyon ügyes volt. Jó, esetleg valamit hozzá szeretne fűzni?

Evelyn: Hát szerintem, én kíváncsi lennék a maga véleményére is, maga szerint mennyit fejlődtem.

HS: Jó. Én azt vettem észre, hogy nagyon bátor. Például az aulában, amikor az angol vendégekhez jött, az Andyhez, és elkezdett beszélni angolul, az már azt mutatta, hogy minden teljesen úgy van, ahogy ön is mondta, hogy keresi az alkalmat, hogy körbevegye magát angol dolgokkal, és mert beszél, én egyértelműen arra gondolok, hogy a hozzáállása az angol nyelvhez pozitív és kész valamilyen szinten szívesen foglalkozni vele, ön olyan dolgokat csinál szabadidejében, aminek ez az eredménye. Ezt jól gondolom vagy nem? Mit gondol?

Evelyn: Szerintem ez minden egyes dologban így van. Az akarat, az sok mindenre képes.

HS: Jó. Mehetünk tovább, köszönöm! Csilla itt van?

Csilla: Igen.

HS: Köszönöm! Csilla itt van?

Csilla: Igen.

HS: Nézzük, akkor az eredmények látszanak?

Csilla: Igen.

HS: Nagyítok egy kicsit még. Mit gondol ezekről az eredményről?

Csilla: Hát igazán semmit, mert gondoltam, hogy fejlődtem.

HS: Mi az, amin meglepődött esetleg?

Csilla: Nem tudom, a beszédemen.

HS: Mert azt nem gondolta, hogy ennyivel jobb?

Csilla: Igen.

HS: Mivel szokott foglalkozni órán kívül? Mondjuk, hallotta a többieket, hogy van a sorozat nézés, van a zenehallgatás, játék vagy esetleg más, egyéb? Önre melyik a legjellemzőbb?

Csilla: Hát nekem a sorozatnézés. Az úgy van, hogy ha van valami, akkor azt nézem. Viszont, ha nincs olyan, ami megfog, akkor én akár hónapokig nem nézek semmit. Viszont én legtöbbször a nyomozós, meg ilyen hasonló sorozatokat nézek.

HS: Akkor mit gondol, hogy mi volt, mi az, ami a legjobban hozzájárult az ön eredményeihez?

Csilla: Hát nem tudom. A legjobban talán a Tik-Tok videók, mert azokat minden nap nézem és csak angolul.

HS: Hát jó. Van esetleg más hozzáfűznivalója?

Csilla: Nincs igazán.

HS: Jó. Hát akkor nagyon köszönöm. És akkor találkozunk majd jövő héten szerdán. Viszlát.

Csilla: Viszlát.

HS: Dia itt van?

Dia: Igen, itt vagyok.

HS: Akkor jön a következő, nézzük az eredményeit. Mit gondol az eredményeiről?

Dia: Hát mivel én ugye nem tanultam angolt, előtte még sosem. Az általánosban ugye németet tanultam. Jó, hát így ugye mindig érdeklődtem az angol nyelv iránt, tehát mindig is inkább az angol nyelvű zenék, a filmek meg így az angol nyelvű cuccok sokkal jobban érdekeltek. A magyar számokat annyira nem nagyon hallgatjuk, inkább az angolok jönnek be, meg szinte azokon nőttem fel. És hát most, az utóbbi időkben azt szoktam csinálni, hogy ha találok egy új számot, akkor először nem meghallgatom, hanem hozzánézem a dalszöveget, és nagyjából próbálom lefordítani magamnak. Leginkább a dalszövegek alapján választok mostanában zenét, hogy ami legközelebb áll, a lelkiállapotomhoz, a hangulatomhoz, vagy éppen az életem aktuális szakaszához. Ja, hogy depis vagyok, vagy mondjuk kirobbanok a boldogságtól, inkább olyan dalszövegeket, amik, úgy tetszenek.

HS: Úgy és mennyire érti ezeket?

Dia: Hát én úgy szoktam, hogy elolvasom a dalszöveget is. Ez alapján választok zenét, és próbálom először így magamtól értelmezni, és utána megnézem, hogy hogy van lefordítva magyarul, és akkor, hogyha úgy gondolom, hogy hát mert vannak hibák, akkor lefordítom újra jobban. Volt már ilyen, akkor én úgy igazából megpróbálom, rákeresek a szavakra, és összerakom a dalszöveget.

HS: Aha, nagyon jó, szokott játszani számítógéppel?

Dia: Régebben, régebben játszottam, mostanában inkább telefonon. Fiús játékokkal, ezekkel a lövöldözős játékokkal játszok, mostanában nagyon ráfutok a Call of duty mobilos verziójára, tehát az eszméletlen mennyiségben megy. Az unokahúgommal meg a tesómmal szoktunk játszani leginkább, és hát ott így nagyjából tudom már, mik vannak.

HS: Sorozatot szokott nézni angolul?

Dia: Néztem a Netflixen, mikor még volt, Netflixen ugye ott angolul vannak fent a filmek is, meg a sorozatok is. És ekkor volt olyan, hogy angolul néztem, magyar felirattal, de volt már olyan, hogy ami nem is volt magyarra lefordítva.

HS: Nagyon jó. Mit szerettem volna még kérdezni, mi az, amiben esetleg jobb eredményt várt, vagy volt-e esetleg olyan?

Dia: Ö……, szerintem nem, igazából. Meglepődtem, hogy jobb a beszédkészségem, meg így a hallgatáson vagyok én is meglepődve, mint ahogy mondták a többiek is. A hallgatásom, hogy úgy hallom, most már nagyjából kezdem érteni a dolgokat. Igazából ez a Snapchatnek is köszönhető, mert ott inkább ilyen külföldiek találnak meg mostanában. És akkor velük viszont nem tudok máshogy, csak angolul kommunikálni, mivel némethez igazából négy éve nem konyítok semmit. Van, amikor az unokatesómnak vagy a barátaimnak segítek a háziban, és idén középfokú nyelvvizsgára készülök. Meg hát van egy olyan rigolyám, amit mondott a Lia is, hogy beszél angolul. Én még olyat is szoktam csinálni, valamikor így angolba átkapcsolok és anyáéknak úgy magyarázok. Most anyuval könnyű a helyzetem, mert anya próbál érteni, meg ő tanult is angolt, de viszont apa, a tesóm is nagyjából tud, de apu viszont nem.

HS: Majd megtanulja. Nem baj. Nagyszerű, nagyon jó. Hát én mondhatom azt, hogy ön alkalmazza a nyelvtudását, ahol csak tudja.

Dia: Hát igen, próbálkozok, főleg, hogy most a nyelv, úgy látszik, beválhat az egyetem miatt, meg így hát éreztem is, hogy kelleni fog, de hogy ezt bevállaltam, én mostanában próbálom minden szabadidőmet ráfordítani.

HS: Nagyon jó. Esetleg van más észrevétele?

Dia: Szerintem nincs.

HS: Jó. Nagyon szépen köszönöm.

Dia: Viszlát!

HS: Na és akkor Flóra, itt van. Ön az utolsó?

Flóra: Ugye itt vagyok?

HS: Igen, jó. Már láthatja is az eredményeket. A legelső sorban látszik, hogy nagyon sokat fejlődött a nyelvi képessége. Mit gondol ezekről az eredményekről?

Flóra: Hát az olvasás, és ez teljesen meglepett egyébként, mert tudom, hogy ez nagyon alacsony volt. Dehogy én nem számítottam, hogy ez meg 90 százalékosra sikerült, nem érzem magam túl jónak ebben.

HS: Minek tudható ez be?

Flóra: Fogalmam sincs, ezért nem értem, de hát igazából sorozatokat, azokat nézek. Meg ott voltak a könyv hátulján szavak. A szavakat én azokat próbálgattam úgy megnézegetni, meg tanulgatni. Fogalmam sincs, hogy minek tudható be, mert én zenét nem nagyon hallgatok, angolul, magyarul se.

HS: És számítógéppel játszik?

Flóra: Hát nem igazán, néha, így egy-egy alkalommal. Így, ha rám jön. Dehát ez úgy kéthavonta.

HS: Sorozatot néz, esetleg?

Flóra: Sorozatot, azt igen, de azt is csak magyar felirattal, mert általában a barátommal szoktam, ő meg annyira nem, inkább németet, németet tanult, ugye ő, de angolul nézzük magyar felirattal.

HS: Akkor lehet azt gondolni, hogy ön mindent megcsinál, ami feladatokat kap, de az iskolai feladatokon kívül más dolgokkal annyira intenzíven nem foglalkozik, ha jól értem?

Flóra: Hát csak sorozatokat nézek. Meg mostanában ilyen varrós YouTube videókat szoktam nézni, mert nem hagy nyugodni, hogy valamit nem tudok megcsinálni, és magyarul nincs fönn, sehol sincs. Kénytelen vagyok, ennyi. Ezt nem bánom annyira. Meg miket? Ilyen szabásmintáknak az elmagyarázását, meg ilyeneket, ugye, hogy nagyon sok helyen csak angolul találok meg. Hát így csinálom.

HS: Akkor, akkor azt lehet gondolni, hogy az érdeklődési köre, az a varrás, szabás. És ezeket angolul elkezdte nézni, mikortól?

Flóra: Hát ez nem olyan nagyon régen, mert ugye nem is régóta varrok, egy ilyen egy-két hónapja.

HS: Jó, nagyon jó, hát örülök neki. Van, esetleg, van megjegyzése?

Flóra: Én is nagyon sokat beszélek magamban angolul, így hangosan, meg így láttam, ugye, meg utánanéztem, hogy hogyan tudok könnyebben tanulni, így a szabadidőmben is azt szoktam csinálni, hogy így angolul próbálom átgondolni a dolgokat, például este a fejemben, mielőtt ugye elalszom. Ezt szoktam játszani korábban magyarul. Hogy mi történt a napomban. Na, most próbálom ezt angolul elmondani saját magamnak.

HS: Nagyon jó. És ezt mióta próbálja?

Flóra: Hát ez úgy, egy ilyen, szerintem, itt több mint egy éve, így szinte minden nap megpróbálom magamban.

HS: Ez nagyon jó. Ez nagyon jó. Ez is egyébként hozzájárulhat az angol nyelvtudásához. Tehát amikor nem tudjuk, hogy miért nem. Ez lehet egy jó magyarázat arra, hogy ez így működik önnél. Mert az eredmény alapján lehet azt mondani, hogy sokkal jobb lett. Van esetleg valami, amit még szeretne hozzáfűzni?

Flóra: Hát nem tudom, igazából ennyit tudok. A sorozat, szerintem megnézek minden nap úgy hármat, egy rész, ugye, háromnegyedórás.

HS: Sorozatból?

Flóra: Igen.

HS: És ezt mióta?

Flóra: Hát igazából két éve kezdtem el sorozatokat nézni, de azt, hogy ilyen gyakran, inkább mióta itt karanténban vagyunk.

HS: Értem.

Flóra: Én próbálok úgy tevékenykedni szabadidőmben is, hogy azért valami hasznos legyen számomra.

HS: Jó, nagyon jó eredményeket ért el. Köszönöm szépen. És hát akkor jövő héten találkozunk majd szerdán és nagyon szépen köszönöm.

Flóra: További szép napot.

HS: Viszlát!