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The role of individual differences in the development of
listening comprehension in early stages of language
learning

Theses of PhD dissertation

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Introduction

In recent decades, study of affective factors of second language learning has gained significant ground in addition to the research of the cognitive domain of teaching and learning second languages, which, according to researchers of the field, could considerably contribute to the understanding and interpretation of individual differences (*Gardner, 1985; Gardner & MacIntyre, 1992, 1993; Djigunovic, 2009; Dörnyei, 2006, 2009*). The underlying question of this research has been what might be the root cause of significant variance in the achievement of students from similar background in similar circumstances. Hence individual differences became the focus of study in the field originally covering two subfields, language aptitude and linguistic ability (e.g. *Skehan, 1989; Ottó, 2003; Kiss & Nikolov, 2005; Sáfár & Kormos, 2008*) and motivation for language learning (e.g. *Gardner, 1985; Dörnyei, 1998, 2001; Nikolov, 2003a; Heitzmann, 2009*). Later on the research of learning style (*Skehan, 1989; Dörnyei & Skehan, 2003*) and language learning strategies (e.g. *Wenden & Rubin, 1987; O'Malley & Chamot, 1990; Oxford, 1990; Nikolov, 2003a; Griffiths, 2003; Mónus, 2004*) received more attention as well. Yet, the question remained, what could account for the individual differences where no significant variance is perceived in internal and external circumstances. One possible explanation might be self-perception that fostered the investigation of variables such as attitude to language learning, anxiety, interest or beliefs (e.g. *Csizér, Dörnyei, & Nyilasi, 1999; Dörnyei & Csizér, 2002; Csizér, Dörnyei & Németh, 2004; Hardy, 2004; Tánczos & Máth, 2005; Tóth, 2008, 2009.; Brózik-Piniel, 2009; Rieger, 2009; Bacsa, 2008, 2012a; Bacsa & Csikos, 2011, 2013*).

It is widely accepted that second language comprehension does not directly result from language teaching, but rather the outcome of several factors related to student achievement. Moreover, the majority of these factors are not static but dynamically changing over time. It is also clear that these factors are not independent, instead they affect learning outcome in interaction with each other (*Gardner & MacIntyre, 1993; Nikolov & Djigunovic, 2006, 2011; Dörnyei, 2009, 2010*). Original research on individual differences in language learning studied the relationship between single variables and learning outcome in general. However, studies today have much narrower scope, targeting one skill area. Hence the subfields of research on the motivation, anxiety or learning strategies in reading, writing, listening and speaking skills were developed (e.g. *Woodrow, 2006; Goh, 2008; Kormos, 2012*).

The research described in the dissertation was based on a special segment of language learning, listening comprehension and more specifically in early stages of second language learning. The review of the relevant literature suggests that listening comprehension is a cornerstone of early language learning, since early second language learning is based on the processes of first language acquisition, relying primarily on memory, where language input is provided largely through listening (*Skehan, 1998; MacWhinney, 2005*). The development of listening comprehension is vital to achieving verbal expression and well developed communicative competence, since high level speech production presupposes highly developed listening comprehension (*Dunkel, 1986; Mordaunt & Olson, 2010*). In addition, rapidly spreading digital technology redefines language teaching by providing auspicious possibilities in language learning, more specifically in listening to authentic second language sources. On the contrary, research on the topic found that listening comprehension is one of the most neglected areas of language teaching even though primary school language teaching ought to be focusing on listening and speaking skills (*Bors, Lugossy & Nikolov, 2001*).

Relevance of this dissertation is based on the following: (1) Similarly to the international tendency, research on listening comprehension is underrepresented in the Hungarian scene as well (*Simon, 2001; Zöldi Kovács, 2009; Nikolov & Szabó, 2011b; Szabó & Nikolov, 2013*). (2) A number of studies suggest that listening comprehension is one of the most dynamically developing skills in early stages of language learning, yet its teaching is much less emphatic among the four basic language skills (*Józsa & Nikolov, 2005*). (3) No longitudinal studies are known that would investigate the achievement of early stage language learners in listening skills in school context. (4) There is a lack of research on development of listening comprehension of early stage language learners in interaction with the multicomponent construct of individual variables. (5) This research was among the first to apply diagnostic measures of the development of listening comprehension in school context for testing

for learning purposes in addition to testing of learning. (6) This research attempted to apply a multi-faceted approach to understanding the development of listening comprehension, seeking an answer to the potential individual development tracks and at the same time providing basis for effective training programs.

Theoretical background

The literature review accounted for all the factors that several decades of research would relate to second language acquisition. This construct has been modelled in various ways, and all of the models emphasize the variables of individual differences to a larger or smaller extent (e.g. *Naiman, Frohlich, Todesco & Stern, 1978; Krashen, 1985; Spolsky, 1989; Gardner, 1985; Gardner & MacIntyre, 1993*). Besides identifying the variables effecting learning outcome, these models describe the relationship between the individual variables as well.

Findings of prior research draw a varied picture about the relationship between individual differences and student achievement. There has been a consensus that cognitive, affective and additional background factors all impact the success of language learning, however, the significance attributed to individual factors varies across the studies (*Csapó & Nikolov, 2009*). Consequently, the study of student achievements could only be carried out covering a wide range of interactions between individual variables (e.g. examining several variables in various contexts) (*Nikolov & Djigunović, 2011*).

When defining the theoretical framework of the research described in the dissertation a language learning model had to be found that would meet the requirements of complexity, interactivity and dynamism (flexibility, versatility) in terms of the context and components of language learning. The second language acquisition model of *Gardner & MacIntyre (1993)* is one of the most cited models in the field which attempts to describe the place and role of influencing factors (individual differences) of language learning in the language learning process. It perceives the learning process as being embedded into a comprehensive socio-cultural context, and highlights four different aspects, related to each other: (1) *Antecedent factors*: e.g. age, gender, prior learning experience and beliefs; (2) *Individual difference variables*: e.g. intelligence, language aptitude, strategies, attitudes, motivation, anxiety; (3) *Language acquisition contexts*: formal and informal learning contexts; and (4) *Outcomes*: linguistic and non-linguistic *achievements*. The authors differentiate between cognitive and affective variables of individual differences. The cognitive category includes variables representing different aspects of cognition (e.g. intelligence, language aptitude, language learning strategies), while the affective variables include attributes that represent the reaction of individuals to the given situation, covering variables of attitude, motivation, language anxiety, language confidence, personality traits and learning style. In addition to the two major domains the authors created another category (e.g. age, socio-cultural experience) which bears aspects of both domains (*Gardner & MacIntyre, 1992. p. 211*). The model describes the factors influencing language learning as interrelated, exerting direct and indirect impact on the process of language acquisition which effects achievement. The authors note that the model is extendable, since several additional cognitive and affective factors might be present in language learning influencing learning outcome. This model was the first to place emphasis on the interaction of variables, perceiving language learning as a dynamic process influenced by several interrelated factors. At the same time it is passive on a certain level (*Kim, 2001*), since it defines the amount and direction of interactions excluding the possibility of integrating further interactions of variables into the model.

In his revision of individual differences *Dörnyei (2010)* challenges the dichotomy of the above conception, i.e. the separation of cognitive and affective factors, stating that the two domains overlap. He interprets individual differences as a multifactor „umbrella term”, including several underlying factors as well. Hence, he replaced the modular approach (individual variables perceived as a multitude of separate factors) with the interpretation of individual differences and their roles (in themselves and in interaction with each other) as dynamic interaction of hierarchically organized components. Instead of investigating the interaction and effect of isolated areas *Dörnyei* suggests the identification of existing (viable) constellations in which the cognitive, motivation and affective

subsystems of human intellect constructively cooperate (Dörnyei, 2010). So the dissertation was based on Gardner & MacIntyre's (1993) model of second language acquisition as a foundation, keeping the socio-cultural framework and its set of variables, yet accepting the interpretation of Dörnyei (2010). Hence variables of individual differences were perceived as multi-factor constructs „in constant interaction with each other and their environment, changing and driving changes, consequently creating a fairly complex pattern of development” (Dörnyei, 2010, p. 267).

Based on the above and relying on findings of prior research among early stage language learners, this research was conducted in a classroom context. Age, gender and parents' education were included in the study from a group of antecedent (background) variables (Csapó, 2001; Józsa & Nikolov, 2005; Csapó & Nikolov, 2009; Mattheoudakis & Alexiou, 2009). Additional individual differences were represented by variables of language aptitude, strategies of listening comprehension, beliefs related to language learning, attitude towards and motivation for language learning and anxiety to listening comprehension (Kiss & Nikolov, 2005; Kiss, 2009; Csizér & Dörnyei, 2002; Dörnyei, 2006, 2009; Nikolov, 2003a, 2003b, 2006, 2007, 2009; Djigunović, 2009; Nikolov & Djigunović, 2006, 2011; Bacsa, 2008, 2012a, 2012b). The context of language learning (formal vs. informal) appears in the analysis as a background variable. Aspect of achievement was restricted to the results of diagnostic listening comprehension tests (Nikolov, 2011; Nikolov & Szabó, 2011a, 2011b; Szabó & Nikolov, 2013) and school grades in English as a second language. Following Dörnyei (2010), the dissertation interprets the variables involved in the research as multifactor constructs, rather than independent modules, and attempts to draw conclusions on changes in student achievement factors affecting the development of listening comprehension by exploring the relationships and constellations of these factors (Bacsa & Csikos, 2013).

Methods

Objective

The objective of this empirical research was to explore and identify the internal structure, roles and relationships of individual variables in the development of early language learners' listening comprehension based on a multi-factor dynamic model of language learning (Gardner & MacIntyre, 1993) and its reinterpretation (Dörnyei, 2010). A further objective was to understand the development of early language learners' listening comprehension and the influencing factors of its individual differences along with exploring how these factors affect each other creating a unique pattern in the language learning context and contributing to listening comprehension achievements. It was expected that the research findings would help us to understand the development of listening comprehension and individual differences as well as to explain early language learners' achievements and foster the facilitation of developing listening comprehension effectively.

Research questions

The review of the relevant international and Hungarian literature lead to the research questions that governed the directions of investigation and contributed to the exploration, understanding and interpretation of the below:

- 1) Context of language learning, more specifically of listening comprehension,
- 2) Student achievement in pre- and post-test and diagnostic assessments,
- 3) Specifics of early language learners:
 - a. Characteristics of their language learning ability,
 - b. Their strategies in listening comprehension,
 - c. Their language learning related beliefs,
 - d. Their attitude and motivation to language learning,
 - e. Their anxieties about language learning.

This research on the development of early language learners' listening comprehension and its influencing factors was centered four separately defined areas.

The research sought answers to the following arrays questions:

I. Methods

1. How reliable are the quantitative measures (diagnostic, pre- and post-test) applied in the research in capturing the development in the sample of early language learners' listening comprehension?
2. How reliable are the quantitative measures (questionnaires) applied in the research in capturing the variables of individual differences in the sample early language learners?
3. How could the applied qualitative instruments (interview, think-aloud) complement the information captured by the quantitative measures?

II. Characteristics of listening comprehension development

4. How could the context of language learning be described in the schools and groups involved in the research?
5. What roles do diagnostic measures play in the assessment of language learning?
6. How are diagnostic tests evaluated by the language teachers?
7. What tendencies could be seen in the development of students' listening comprehension over a semester?
8. Is there any difference between the subsamples regarding the development of listening comprehension?
9. How are the results of placement tests related to background variables?

III. Characteristics of individual differences

10. How could the variables of individual differences be described?
11. What pattern could be detected in individual differences based on the variable components?
12. How do separate components of individual differences change over the assessment period?
13. To what extent do the pretest results predict the post-test results?

IV. Relationships between individual differences and student achievement

14. What relationship could be detected between the components of individual differences and how are they related to the students' results in listening comprehension assessments?
15. What relationship (roadmap) could be described between components of components of individual differences and student achievement?

Hypotheses

Based on the results of the previous research findings we presume:

1. The diagnostic tests applied in the research are reliable instruments of permanent monitoring and developing of early language learners' listening comprehension.
2. The diagnostic tests are welcomed by the teachers and students and these also received positive reviews as a measurement instruments.
3. The pre- and post-test applied in the research are reliable instruments of measuring the development of the students' listening comprehension.
4. The instruments applied in capturing the variables of individual differences measure reliably the constructs of variables.
5. Regarding the listening comprehension of the students a development was experienced by the end of the semester.
6. The level of listening comprehension in grade 6 is higher than in grade 5.
7. Girls achieved higher scores than boys on the listening comprehension tests.

8. The listening performance of the students and the parents' education are closely related.
9. Language aptitude is the primary predictor of the students' achievements.
10. The students apply a large scale of strategies of listening comprehension, in which there is no difference between genders or between grades. The students' listening strategies change dynamically in the interaction with the learning environment.
11. The students have various beliefs about English language learning, in which there is no difference between genders or between grades. The students' beliefs change dynamically in the interaction with the learning environment.
12. The students are highly motivated and have a positive attitude to language learning, in which there is no difference between genders or between grades. The students' motivation and attitude to language learning change dynamically in the interaction with the learning environment.
13. Low level of anxiety is experienced by the students with relation to listening comprehension, in which there is no difference between genders or between grades. The students' anxiety about listening comprehension changes dynamically in the interaction with the learning environment.
14. The variables of individual differences are seen as dynamic interactions of subcomponents, which affect on different levels and measure learners' performances.

The research design considered the possibilities of methodologies and measures applied on the field and the characteristics of the sample with a preference of mixed methods based on the principle of triangulation (Nikolov, 2009). A longitudinal design has been over the period of a semester, involving qualitative as well as quantitative instruments (Nunan & Bailey, 2009). The gathered data was analyzed with the help of SPSS 15.0 and AMOS 20.0 softwares.

Sample

The development of listening comprehension was investigated among elementary school students in grade 5 and grade 6. 150 students and 8 teachers were involved in 10 school classes. Regarding sample size this research did not target representativity, yet it did attempt to select the sample to be representative with regards to gender, ability levels of the student groups and socio-economic status.

Instruments

Diagnostic listening comprehension tests (Nikolov & Szabó, 2011a, 2011b) were applied for measuring and monitoring the development of listening comprehension and *placement tests* (Nikolov & Józsa, 2003) were applied for measuring listening comprehension achievement. Relevant adapted and self-developed questionnaires were applied to capture individual differences in the following areas: *language aptitude* (Kiss & Nikolov, 2005), *strategies of listening comprehension* (Vandergrift, 2005), *beliefs related to language learning* (Bacsa, 2012a), *attitude and motivation to language learning* (Nikolov, 2003) and *listening anxiety* (Kim, 2005). All the questionnaires applied a 5 point *Lickert scale* to assess statements on the topic. Self-developed *questionnaires* were used to capture background variables. *Interviews* and *thinking aloud protocols* were used to gain in-depth insight into the functioning of listening comprehension. In addition to the student assessments a self-developed questionnaire and *interviews* were conducted with the teachers as well.

Results

I. Methods

Reliability measures of diagnostic tests meet the requirements for similar tests (*Cronbach- α* =0.75–0.89), reflecting equivalent values to prior research where the same instruments had been applied (*Nikolov & Szabó, 2011b*). Hence it was concluded that the tests reliably measure the construct and are appropriate instruments for testing *of* learning and testing *for* learning in the field.

In case of the placement tests, pretest reliability figures were lower than expected (*Cronbach- α* =0.51) or found in prior research (*Józsa & Nikolov, 2005*), which might partially be explained by the lower item and sample size (*Dörnyei, 2007*), as well as the lower number of distractors, however, the extension of the tests provided sufficient differentiation in the post-test (*Cronbach- α* =0.79).

Individual differences were assessed by the application of quantitative and qualitative research methods. The majority of the questionnaires applied was constructed for the age of the sample in the first place or adapted to its age specifics, mostly reproducing the original factor structure, measuring the construct reliably. This statement is supported by several findings of the qualitative investigations. Yet the reliability indices of subscales deriving from the internal factor structures of the questionnaires were found to be lower in some cases than expected in social scientific research, hence, only those factors were included in the components of individual differences which reliably measured the construct (*Cronbach- α* >0,70). Based on this criterion, the final model was constructed by nine individual components: *parents' education, language aptitude, strategy of focusing on key words, attitude and motivation to class, self-concept of the learner, anxiety about test, anxiety about difficulty of comprehension, anxiety about unknown words and beliefs on the difficulty of language learning*. Three additional achievement variables were included in the analysis as well: *pretest results, post-test results and English as second language grades*.

Qualitative findings on the one hand reinforced the results of qualitative assessments, while on the other hand corrected them. Student interviews and thinking aloud provided a deeper insight into the strategies applied in listening comprehension and highlighted some details of feelings and motives related to language learning as well. The qualitative protocol clearly supported the system of relationships laid out in the final model. The teacher interviews on the one hand supported and validated student data, yet on the other hand contributed valuable additional information to the understanding of the development of listening comprehension in school context and to the understanding of the functioning of diagnostic tests.

II. Characteristics of listening comprehension development

Circumstances of language learning and teaching

It was found in the investigation of the circumstances of listening comprehension that based on the data provided by the teachers and students that schools involved in the research are fairly equipped, most of the English language classes were held in dedicated classrooms and all the classes were conducted in smaller groups set up based on the skill levels of students or on the second foreign language chosen of the students. Both inter- and intragroup differences were detected (*Csapó, 2002*), which are reflected in the experience and beliefs of the teachers as well.

Significant improvement was found in the circumstances of the teaching of listening comprehension. On the one hand, rapid development of digital technology provides more beneficial circumstances to listening comprehension on the other hand the textbooks used also come with considerable audio material. Both the teachers and the students agreed that the popularity of listening tasks is among the highest in language learning tasks and that students achieve relatively well in this area, since they spend the most time with this type of exercise besides reading and developing their vocabulary. It seems that this area is no longer among the most neglected areas of language teaching,

which is a significant improvement over the prior research findings (Bors, Lugossy & Nikolov, 2001; Józsa & Nikolov, 2005).

However, the rapid improvement in technological circumstances had not brought along visible departure from the textbooks and other textual materials. Teachers prefer to use the audio material provided to textbooks for teaching listening comprehension, and only sporadic mentioning was recorded of the integration of more authentic sources to the language classes. Since the audio materials provided by textbook publishers are becoming richer and more varied, most teachers do not feel the need or find the time in the classes for the integration of additional sources.

Statistical analysis suggested that the majority of students have positive feelings and experience regarding language learning and listening in particular, and, although this positivity has decreased to some extent by the end of the assessment period, circumstances of language learning and listening comprehension are ultimately beneficial. Additional findings are also positive, since some of the learners reported several additional possibilities of language learning and language usage that they take advantage of (e.g. listening to music in foreign language, computer games, chatting over the internet, usage of webpages dedicated to language learning). All these findings suggest that this age group is more open to independent language learning and usage based on their interest.

The above findings confirm prior research where it was found that foreign language learning is in superior position to other school subject in terms of self-regulated learning. This might be explained by the various possibilities of language learning both in and out of school helping the students to develop a more responsible behaviour regarding their learning outcome (Bacsa, 2012b). These findings are also in line with other research findings regarding school achievement of grade 6 students showing significant positive correlation with their beliefs related to language learning aids – methods and devices.

Diagnostic assessment of listening comprehension

The diagnostic tests used in this research for the first time were welcomed by most teachers and students and they also received positive reviews as measurement instrument. The results of the series of assessments monitoring the development of listening comprehension show that the majority of the sample continuously developed throughout the assessment period. While 40% of the sample achieved a 30% or lower score on the pretest, this rate dropped to 24% on the post-test. On the other end of the scale the rate of students achieving 75% or higher increased from 43% to 49%.

The teachers' opinion showed considerable variance on the difficulty and further application of the tests which derived primarily from the heterogeneity of language levels of the participating students and student groups. The teachers articulated critical remarks related to the tests which might worth considering in the further development of the tests. It was also clearly seen that diagnostic assessments and their role and significance in the learning process is still remains a little known area in language teaching yet. Further steps in this field would require establishing the conditions for diagnostic assessments in the classroom and facilitating the emergence of a new, internal classroom based culture of assessment, where the assessment itself would not involve excess time and tasks, rather integrating into the process of learning and teaching. This, however, besides the availability of diagnostic measures would require a shift in teachers' perception which could be fostered through teacher training and further trainings (Nikolov & Szabó, 2011a).

Assessments monitoring the development of listening comprehension

In addition to the diagnostic test, placement tests were applied to capture the development of listening comprehension in English as a second language in a pretest–post-test design. The selection criterion of the placement tests had been the comparability of results. The findings suggest that student achieved is influenced by the task types applied, yet, in a peculiar, inconsistent manner, since in case of the diagnostic tests students achieved lower in the definition tasks, while in case of the placement tests they struggled more with dialogues. High achievement in this age group presupposes appropriate

background knowledge and experience as well, since the most widely applied strategy was found to be the conclusion based on prior knowledge complementing linguistic abilities in several cases.

Overall listening comprehension reflected a significant increase over the semester long assessment period ($t=-4.268$; $p<0.001$). Subsamples divided by age and gender did not show significant variance, yet boys achieved somewhat lower than girls, as did the grade 5 subsample compared to grade 6, where insignificant difference reoccurred on the post-test as well. Significant inter-group variance was found on both pretest [$F(9.127)=4.90$; $p<0.001$] and post-test [$F(9.128)=13.20$; $p<0.001$] along with a considerable intragroup variance. The comparison of the current results to a 2003 assessment shows a lower pretest achievement (56.8% compared to 59.5% in 2003), but higher post-test achievement (3% difference). The division of results by subsamples is consistent with the results of the earlier assessment (Józsa & Nikolov, 2005).

The relationship between student achievement and background variables was consistent with prior findings (Csapó, 2001, 2002; Nikolov & Józsa, 2003, 2005), meaning that parents' education showed significant, but not very strong, correlation with student achievement, with coefficients higher in case of English language grades ($r=0.376$; $p<0.001$) and lower in listening comprehension ($r=0.277$; $p<0.001$).

III. Characteristics of individual differences

Language aptitude

The language aptitude test applied in the research measured four areas which explained nearly equal shares of the variance perceived, with the exception of one component. Word memorization contributed less to the variance than the other factors. The mean language aptitude of the sample was slightly above average (60%). This corresponds to the results of grade 6 students in prior research (Kiss & Nikolov, 2005). This cohort was found to be most successful in the area of word memorization, with fairly developed analogical thinking. The results in sound-symbol association and listening comprehension run parallel to the achievement curve of the sample. Grammatical thinking was found to be less developed at this age. Language aptitude was found to be a variable that explained 39% of the variance in listening performance. All these findings are in line with the specifics of the language learning process of early language learners (Kiss & Nikolov, 2005; Nikolov & Djigunović, 2006; Nikolov, 2009).

Listening strategies

The statements formed four factors, *directed attention* having the strongest internal consistency and being most widely applied (3.68). Thinking aloud findings confirmed the quantitative results, since it was observed that when the text became more difficult for the students to comprehend, they inclined to pay attention to the keywords and also tried to conclude meaning evoking their prior knowledge on the topic. In other words they relied on top-down and the bottom-up processing in listening comprehension as well. It seems that both forms of information processing occur at the same time, and the students use these strategies quite effectively (Field, 2004).

Several students mentioned translation as a strategy, yet it was unclear what exactly they meant by this. Metacognitive strategies, such as monitoring, controlling and correcting understanding appeared in addition to the cognitive strategies as well. Some instances were found of the usage of socio-affective strategies, namely questioning and asking for help. Less successful students in comprehension frequently applied guessing as a strategy. They quickly figured out that certain tasks could be solved by capturing a keyword from the text (e.g. connecting definitions to pictures), hence they started concentrating on these.

The questionnaire study found that there was no significant difference between the two grades in strategy use. On the other hand, girls inclined significantly more to use directed attention and self-recognition more, meaning they are more aware of monitoring the listening process than boys. This, however, was not confirmed by the qualitative analysis.

No significant difference was found between the means of the two assessments, self-reported strategy use hardly changed compared to the original state. Yet, this does not necessarily mean that regular assessment and evaluation had been ineffective. The correlation found between strategy use and achievement on the post-test suggests rather that there was a shift in strategy use from the level of self-reports by the post-test (Wenden, 1986, Cohen, 1998), opposed to the pretest which did not reflect any correlation with the reported strategy use.

Beliefs about language learning

The statements of the beliefs questionnaire gave eight scales corresponding to the original factor structure. The analysis revealed that most students consider learning English important and are confident in their ability to learn a foreign language as well as certain to have several opportunities of using and benefitting from the knowledge of this language. The majority of the students considered the facilitating role of the teacher crucial, too. Learners do not fully agree with class facilitation solely using target language and with the claim that Anglo-Saxon cultural knowledge would be fundamental to the successful language learning outcome, or that the key to fast and successful learning would be private language classes, either.

Significant gender related differences were found only in the perception of the role of the teacher. Girls attribute more importance to teacher facilitation than boys ($t=-2.451$; $p=0.015$). Grade 6 students were found to recognize the importance of independent learning significantly more than grade 5 students ($t=-2.629$; $p=0.01$). Student achievement was more closely related to the beliefs on feeling competent and being aware of the difficulties of language learning ($r=0.389$; $p<0.01$) as well as to those on the potential of individual learning and the usage of modern devices in language learning ($r=0.270$; $p<0.01$). Socio-economic background of the students also showed correlation with the beliefs on the difficulty of language learning ($r=0.295$; $p<0.001$) and on self-efficacy ($r=0.191$; $p=0.035$). These results correlate with the results of prior research (Bacsa, 2012a).

It was found that students' beliefs did not show significant change over the semester, though the decrease in the role of teacher as organizer of learning and „error corrector” by the end of the assessment period is a considerable result. It is assumed that regular self-assessment, correction and evaluation through the use of diagnostic tests could contribute to the development of independent, more responsible language learning already in early stage. The scales of the pretest explained 23.3% of the variance of achievement, with beliefs on difficulty of language learning being accounting for the highest proportion (13.4%).

Attitude and motivation to language learning

The questionnaire items formed three factors as predicted by the theoretical framework, where three levels of attitude and motivation emerged: the classroom level, the learner level (self-concept) and the linguistic level (Dörnyei, 1998).

Students reported positively about the classroom environment. Most students consider language learning useful, and they are satisfied with the textbooks and their teachers. Self-concept of the students was also found to be positive. They feel that they could acquire the language easily and rejected the label of being „hopeless language learner” or encountering failures in the learning process. They mostly preferred or very much preferred English language and were interested in native English people and Anglo-Saxon culture. They reported their teachers to be well prepared as well as fair and they feel they possess their teachers' sympathy.

No significant differences were found between grade 5 and grade 6 in the attitudes and motivation of any areas. Yet significant gender related differences were detected on the linguistic level, the girls having more positive feelings to English language and being more interested in it as well as praising their teachers more than boys ($t=-2.028$; $p=0.045$). The pretest scales together would explain 12% of the variance in achievement of which 9% was accounted for by the linguistic level.

The findings revealed that attitudes and motivation to language learning is a continuously changing, dynamic construct in constant interaction with the learning context. The post-test reflected

significant change compared to the pretest results. The overall positive attitude and self-confidence decreased in several aspects by the time of the post-test. The most significant changes were found on the classroom ($t=8.262$; $p<0.001$) and learner (self-concept) ($t=5.390$; $p<0.001$) levels. These negative changes could be explained by the year-end-exhaustion and increasing requirements etc. No significant changes were found, however, in the attitude to English language, integrative and instrumental motivation ($t=1.551$; $p=0.123$), which suggests more stability in these areas corresponding to the relatively unchanged beliefs on language learning. The findings are consistent with those of prior studies (e.g. *Nikolov, 2003; Martin, 2009; Spinath & Spinath, 2005; Dörnyei, 2009; Heitzmann, 2009*).

Anxiety about listening comprehension

The adapted questionnaire formed five scales. The majority of the students felt confident when listening to English text, perceiving it as a rather easy task and rarely reported negative feelings (nervousness, uncomfot, difficulty etc.) during listening. Regarding the level of anxiety the sample was found to be homogenous, no significant differences were found between the subsamples (based on age and gender). The scale means suggested that *following foreign language speech, unknown words and factors biasing comprehension* (e.g. too fast pace) created more anxiety in the learners.

Variables of anxiety about listening comprehension explained 12% of the variance of achievement. Scales indicating the *difficulty of comprehension* (4.5%) and referring to emotional state, tension or anxiety regarding *unknown words* (2.5%) in the text were found to be significant predictors of achievement in listening comprehension tests.

The post-test showed significant increase of anxiety in three scales: in determining the *difficulty of listening comprehension* ($t=-4.904$; $p<0.001$), being nervous about *unknown words* ($t=-2.049$; $p<0.001$), and in determining those factors that are related to *testing of speech* in foreign language ($t=-3.561$; $p<0.001$). The student interviews supported these findings. The underlying reasons could be that the various diagnostic tests of diverse levels administered throughout the semester were not directly related to the learning material and probably influenced the students' prior positive conceptions of testing being based on the textbook, related to a certain unit and vocabulary. This suggests that anxiety could be considerably context dependent. The findings confirm prior research, showing that the practice of student evaluation was one of the factors causing anxiety that would not decrease with time or language progress (*Nikolov, 2003*).

IV. Relationships between individual differences and student achievement

A number of prior research suggested that language aptitude was the most reliable predictor of individual development in second language learning (*Robinson, 2001; Kiss & Nikolov, 2005; Sparks, Patton & Ganschow, 2011*) and that cognitive variables explain more of the variance in younger ages than older cohorts (*Csapó & Nikolov, 2009*). This research found that listening comprehension achievement is most strongly related to language aptitude ($r=0.593$; $p<0.001$). More specifically inductive reasoning, i.e. the conclusion of linguistic rules based on examples, explained the variance in student achievement to the highest degree ($r=0.536$; $p<0.001$), which is in line with the findings of *Csapó and Nikolov (2009)* who found a somewhat lower, yet still statistically significant correlation ($r=0.329$; $p<0.001$), between inductive reasoning and listening comprehension.

The regression analysis indicates that amongst the components of individual differences language aptitude (24.4%) was the only factor influencing achievement on the pretest, yet on the post-test parents' education (4.6%) also had an effect on achievement in listening comprehension in addition to language aptitude (29.6%). Affective variables in the traditional (*Gardnerian*) sense did not reach the level of significance.

This research found additional evidence for the claim that cognitive factors have primary importance in predicting student achievement in the case of early language learners (Kiss & Nikolov, 2005; Csapó & Nikolov, 2009). In addition, it was found that the variables of individual differences (e.g. attitude, motivation, strategies, beliefs) could not be perceived as stable constructs, but they react to the contextual changes (Robinson, 2001; Djigunović, 2009; Dörnyei, 2006, 2009, 2010).

It was also analyzed to what degree the components of pretest predicted the achievement in listening comprehension by the end of the assessment period (Table 1).

Table 1. Variables of pretest predicting listening comprehension achievement

<i>Individual differences</i>	β	$r*\beta$ (%)
Parents' education	0,185**	4,4**
Language aptitude	0,552**	28,3**
Strategy: <i>directed attention</i>	0,041	1,0
Attitude and motivation: <i>classroom level</i>	0,051	0,5
Attitude and motivation: <i>learner level (self-concept)</i>	-0,144	-1,2
Anxiety about listening comprehension: <i>following the text</i>	0,087	0,4
Anxiety about listening comprehension: <i>difficulty of comprehension</i>	-0,264**	5,7**
Anxiety about listening comprehension: <i>unknown words</i>	0,200*	3,2*
Beliefs: <i>difficulty of language learning</i>	0,162*	6,8**
<i>Total variance explained (R²)</i>		49%

** p<0,01; * p<0,05

49% of the variance was explained by the pretest components, more than half of which was related to *language aptitude*. *Parents' education* representing the socio-economic status of students was also found to significantly contribute to the prediction of achievement as well as three additional variables: *beliefs about difficulty of language learning*, *difficulty of comprehension* and *anxiety about unknown words*.

Finally the paths – supposedly – leading to listening comprehension achievement were drawn with the help of *path analysis* (Figure 1). The five variables in the model account for 47% of the total variance in achievement. The correlation analysis of individual differences and test achievements revealed that components of individual differences exert both direct and indirect effect on student achievement. The biggest direct effect on achievement ($\beta=0.57$) was found in case of *language aptitude*, which also directly effected the students' *beliefs on language learning* ($\beta=0.35$). Beliefs on the other hand indirectly influence achievement through *feelings related to the difficulty of listening comprehension* (anxiety or the lack of it). *Parents' education* both has a direct ($\beta=0.18$) and indirect effect on achievement through the related beliefs and feelings. *Anxiety concerning unknown words* was also found to have a significant impact on achievement directly ($\beta=0.24$) and indirectly through *anxiety about comprehension* ($\beta=0.46$).

It can be stated that students' beliefs act as a mediator of the effects of their language aptitude and their parents' education, making their way to achievement through emotional states. In other words, student beliefs – what they think about language learning – and their emotions – how they feel in the learning process – interact in determining the development of early language learners' development. The effect of beliefs on anxiety about listening comprehension ($\beta= -0.20$) and the effect of anxiety about listening comprehension on achievement ($\beta= -0.20$) are both negative as expected based on the correlations. Those who are less anxious would consider English to be easier and would have a more positive self-concept as a language learner. Consequently, those who are more positively

inclined toward language learning would achieve better, which is certainly true the other way around. Research suggests a close relationship between self-concept and anxiety despite the fact that negative correlation was not always found between these factors (MacIntyre, Clément, Dörnyei & Noels, 1998; Matsuda & Gobel, 2004; Brózik-Piniel, 2009).

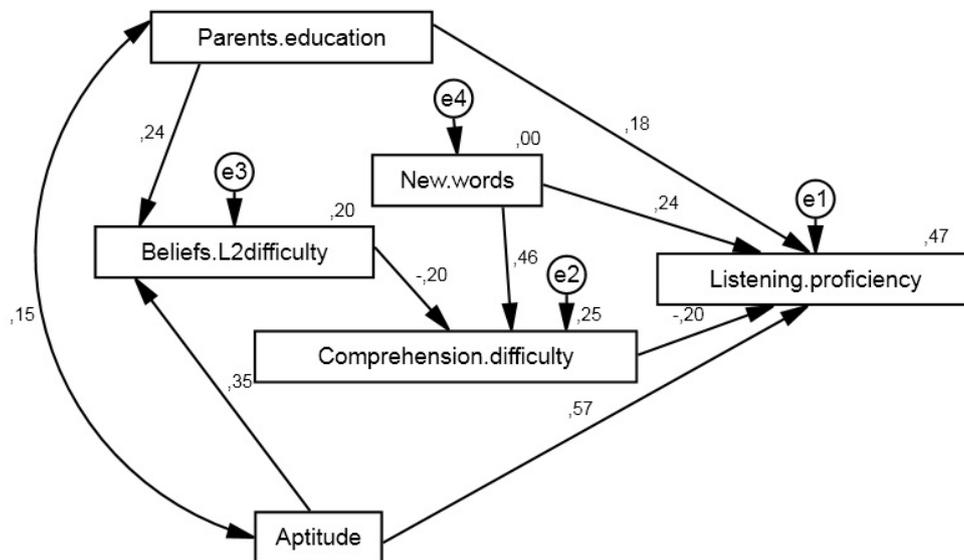


Figure 1. Variables of individual differences and causal relationships of listening comprehension achievement

There are different paths, however, leading to school grades, the other variable of student achievement (Figure 2). Also, the predictive force of individual difference variables was considerably lower (35%) in this case. The most reliable predictor of English language school grades was found to be *language aptitude* both directly ($\beta = 0.37$) and indirectly influencing school grades. In this latter case the effect of language aptitude was mediated by the *attention to keywords strategy* ($\beta = 0.22$) and learners' *self-concept as a motive* ($\beta = 0.33$). These variables had a significant direct effect on grades. It became clear that the two achievement variables – listening comprehension test achievement and English as a second language school grades – were explained by different variables of individual differences to different extents.

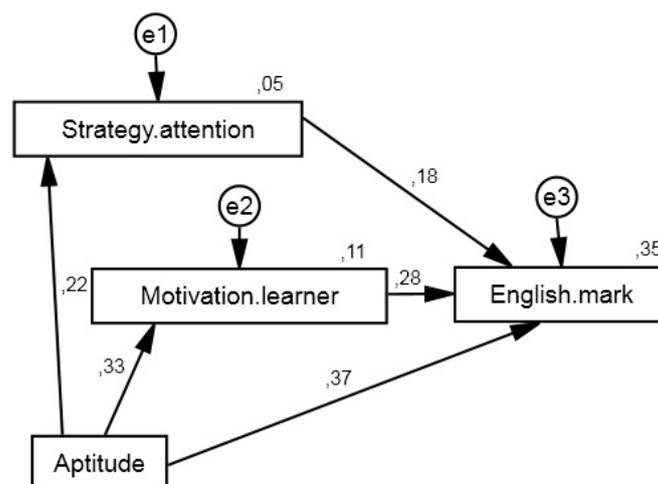


Figure 2. Variables of individual differences and English as a second language school grades

The resulting paths in the analysis seem to support Dörnyei's assumption (2010) when interpreting individual differences as dynamic interactions of hierarchically organized components and perceiving cognitive and affective factors as overlapping rather than dichotomic.

Summary and conclusion

The findings of the research described in the dissertation are in line with the predictions of the theoretical framework. According to this, the variables of individual differences are multifactor constructs in themselves, the constituents being in constant interaction with each other and their environment, changing and driving change, consequently creating a fairly complex pattern of development. Both the components of individual differences and systemic models of the connections in student achievement seem to support *Dörnyei's* assumption (2010) that traditional separation of cognitive and affective variables (*Gardner & MacIntyre*, 1992, 1993) can be problematic.

The findings of this research confirmed prior research findings in that language aptitude and parents' education are significant predictors of the achievement of early language learners and listening comprehension is no exception (*Kiss & Nikolov*, 2005; *Józsa & Nikolov*, 2005; *Csapó & Nikolov*, 2009). The other primary factor in the traditional sense (*Gardner & MacIntyre*, 1993), the motivational component, was excluded from the predictive model of listening comprehension achievement. This seems to contradict prior research findings, however, this factor was found to significantly predict school achievement in this research, too, which is again supported by prior findings (*Dörnyei*, 2009, 2010; *Djigunović*, 2009).

It was also evidenced that listening comprehension achievement is predicted by the interaction of individual differences and learning context which is constantly changing through the learning (development) process (*Dörnyei*, 2006, 2009, 2010; *Djigunović*, 2009).

Additionally, the findings shed light on the fact that learners' beliefs – beliefs and feelings related to the difficulty of language learning and students' own linguistic abilities in this research – have significant effect on each other and together on achievement (*Aragao*, 2011; *Bacsa*, 2012a). This means that what the learners think or believe about language learning and how they feel about it, collectively influence their achievement in listening comprehension. According to the model applied, these beliefs are rooted in their social background (parents' education) and language aptitude, and this relationship is exactly counteractive to the direction displayed in *Gardner and MacIntyre's* (1993) model.

Findings suggest that auspicious conditions are provided for the development of listening comprehension in early language learning, hence this is an area deserving special attention in early language teaching. In addition to favourable conditions for learners, foreign language input is becoming richer and more widely available in language teaching, referred to in the *Hungarian Core Curriculum* (2012) as well. Real development of listening comprehension could only be based on the meeting point of the two tendencies. This is a complex challenge, since it would presuppose methodological and conceptual change on the side of language teachers so that input provided to learners would not only be based on textbook tasks, but that they would be able to recognize and show the potential for listening to foreign language input in every available source. If students encounter authentic sources (internet based games, songs, movies etc.) in early stages of their language learning and get accustomed to using these sources in the language classes as well, it is probable that they would later also start using them independently. On the other hand, there is a need in Hungarian schools for moving toward the direction of getting students more involved in their (language) learning processes by having them take more responsibility for their learning outcome. Student interviews suggested that many of them are already prepared for this move at this young age.

Application of findings and direction for further research

There is a scarcity in the Hungarian research scene of instruments measuring early language learners' individual differences. This research has taken a step closer to developing the methods needed to explore individual differences and to understand the functioning of the already existing instruments (placement tests, diagnostic tests, questionnaires) for early language learners. This attempt contributed to the further development and revision of these instruments, since more accurate measures could enable a wider and deeper understanding of the field. Similarly, these findings could assist language

teachers in identifying the strengths and weaknesses of their learners and discovering the potential in developing listening comprehension of early language learners. Accurate diagnosis could lead to the facilitation of development and even development of training programs.

This research investigated the development of one single linguistic skill from the perspective of the multifactor construct of individual differences. Further research involving larger, potentially representative samples would be needed to test the reliability of the instruments applied and to gather more data from various perspectives for the accuracy focused revision and improvement of these instruments. More measures developed specifically for young learners would also be needed to explore additional hidden aspects of individual differences. Furthermore, it would be important to investigate the functioning of the other linguistic skills (reading, writing and speaking) in similar circumstances, using diagnostic measures. Hence it would be possible to come closer to the understanding of their development, the possibilities for fostering development and age specifics. This would help language teachers in optimizing their facilitation of second language skill development.

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