The study presents the situation of education policies concerning bilingual and minority bilingual education in Rumania, the bilingual models in education, as well as the legislation regulating the input of the second language (Rumanian). In the development of efficient pedagogical strategies within bilingual education there is need for understanding the social and linguistic environment of the pupils. In the case of the Hungarian community in Rumania this bilingualism is given due to the social and linguistic environment, but it is far from being uniform: the linguistic variation as well as its different regional variants produce a very differentiated linguistic situation both from the point of view of mother tongue usage as well as the learning of the Romanian language. In this context, there are important improvements in the bilingual research conducted in Rumania, which – reflecting on results obtained by international studies – strives to diagnose the background of bilingual minority education as precisely as possible in an approach focusing on educational policies, sociolinguistics, linguistics and pedagogy. Taking into consideration the varied social and linguistic environment, the paper presents the most important result of a psycholinguistic research, which, through the contrastive survey of speech understanding and production of Hungarian-dominant Hungarian-Rumanian bilingual pupils, provides specific data in connection with the criteria which need to be taken into consideration during the understanding of the pupils as well as the conscious choice of pedagogical strategies.

Keywords: Rumania, bilingualism, educational models, educational policies, legislation, input regulation, psycholinguistics, speech understanding, speech production, pedagogical strategies

Die Lage des zweisprachigen Unterrichts der ungarischen Minderheit in Rumänien: Ein pädagogischer und psycholinguistischer Ansatz: Die Studie erörtert die bildungspolitische Lage des zweisprachigen Unterrichts sowie des zweisprachigen Minderheitenunterrichts in Ru-

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Schlüsselbegriffe: Rumänien, Zweisprachigkeit, Unterrichtsmodelle, Rechtsvorschrift, Aufnahmeregelung, Psycholinguistik, Sprachverstehen, Sprachproduktion, pädagogische Strategien

1. Introduction

In the Rumanian educational system – due to historical traditions and the ethnical structure of society – the problem of bilingual or multilingual education is not unknown and not at all new. Although the Transylvanian attitude towards multilingualism, which considers it to be a normal linguistic environment, has changed over time due to several simultaneous factors, the interest in learning languages has increased as a result of new, general European language teaching goals.

Though the value of traditional multilingualism and that of learning languages has increased (or perhaps as a result of this increase), bilingual education in the Rumanian educational system has proven to be a challenge to the development of education from the point of view of educational politics, regulations, as well as pedagogy and methodology.

In the discourse of the development of education we can clearly differentiate bilingual education and minority education. The term of bilingualism denotes the teaching of foreign languages, while education in languages other than the official language is considered to be minority education. Still, the decision-making mechanisms that can be traced in educational politics do not differentiate the forms of bilingual minority education. From this point of view minority education is defined as a unified, uniform subsystem, independent of the proportion of the given community, its linguistic situation based on the geographical location, its needs or traditions. Still, linguistic diversity and its different regional varieties require not only the differential handling of the mother tongue education of the different ethnicities on the level of language and educational policies, but also the consideration of the following fact: from the pedagogical or methodological point of view the teaching
of the official language as a second language cannot be uniform, and it can be effi-
cient only if – included in a contrastive perspective with the mother tongue – it
takes into account the specific characteristics of the mother tongue usage of the
students as well as the different linguistic contexts, which have an effect both on the
preservation/development of the usage of the regional and standardized variants of
the mother tongue usage as well as on the proper acquisition of the official lan-
guage.

Though bilingualism in the educational context was mainly a question of edu-
cational policies, the theoretical and empirical research, which takes into consid-
eration the above-mentioned characteristics, could offer important points of view
for the more efficient organization of bilingual education. They can offer a more
detailed understanding and handling of the issues due to the application of language
policies, language planning, sociology and sociolinguistics, pedagogy and psycho-
linguistics.

In this paper we mainly focus on the presentation of the results of a psycholin-
guistic study and of the fact that bilingualism (in our case Rumanian-Hungarian
bilingualism), though it results in developmental stages with different paces and
dynamics, has no negative effect on the linguistic and cognitive development of the
pupils, contrary to general belief.

The contrastive survey of the speech understanding and production of the
monolingual and bilingual children supports the fact that bilingualism is not a hin-
drance in the linguistic and cognitive development of children, and in some areas
the bilingual environment even constitutes an advantage. This advantage can be-
come obvious in third language acquisition as well.

1 In Rumania the questions of minority education and that of the official language have mainly been
subject to educational and minority policies bargaining. Nevertheless, in the last few years more and
more diagnostic and prognostic research has been conducted – using the applicable results of
international research – in order to discuss the questions of bilingualism and its educational
characteristics from a more detailed point of view, other than its political determination, in a context
formed by language policies, sociology, sociolinguistics, pedagogy, as well as the organization of
education. The most important research concerning our topic is that which emphasizes the varying
characteristics of the regional variants of bilingualism from a sociolinguistic point of view (BAKÓ
NOREL 2008; TŐDOR 2008), as well as the ones focusing on the pedagogical problems raised by the
teaching of the Rumanian language (DÉGI 2008; NOREL 2008; TŐDOR 2009).

2 The positive effect of bilingualism in third or fourth language acquisition is emphasized by several
scholars. According to Péntek (FÖRIS-FERENCZI & PÉNTEK in press) the advantages of bilingual
speakers in the formal or informal acquisition of foreign languages can be influenced by the regional
differences and the ones constituted by settlement types in the way that big cities offer more
opportunities in the field of motivation, language choice and language learning. NAVRACSICS (2008,
24), when presenting the possible advantages of early bilingualism (e.g. meta-cognition, the realization
of language use, analytical abilities, decisional mechanisms, a higher degree of tolerance) considers
the proper contexts for language learning a determining factor, but he also states that these skills and
abilities are determined by the type of bilingualism, as its subtractive variant, which means second
language dominant bilingualism, can result in the decrease of confidence as well as socio-emotional
disturbance. AMBRUS (2008, 222–23), referring to the results and experience of international research,
The presentation of the results of the present research is important not only because it complements the educational and language policies, sociolinguistic, pedagogical research on bilingualism, offering a unique psycholinguistic approach, but also because it offers specific points of view for the understanding of children as well as the pedagogical and methodological preparation of bilingual education. Based on the results, we can conclude that in the case of children who live in a bilingual environment the pedagogical-professional concept of the teaching of the two languages (both in formal and informal education) as well as the specific methodological techniques can influence (hinder or help) the linguistic and cognitive development of the pupils. The development which takes into consideration and works with the different developmental characteristics not only requires the setting of basic concepts and strategies of language pedagogy in contrast with mother tongue teaching, but is connected in a natural way to the regulation of language educational input (mother tongue, second language, foreign languages).

In the following study we take into consideration the above points of view and we offer a broader presentation and interpretation of the results of the research. First we present the possible bilingual educational models based on the educational forms, then we briefly introduce the situation of the education of the official language (the Rumanian language). In the most important chapter of the paper we combine these findings with the results emerging from the psycholinguistic approach.

2. Bilingual educational models in the Rumanian educational system

In the Rumanian educational system bilingual education refers to the different forms of foreign language teaching. There are three main variants of this, which can be identified based on the different forms of education within the system: a) the institutions teaching one of the most widely used languages, these being urban, elite schools; b) institutions which – simultaneously with the classes of different profiles taught in Rumanian – organize special, intensive foreign language classes; a special subsystem of these are the minority educational facilities where the language of teaching is the mother tongue, this being complemented with the intensive foreign language education; c) the teaching of foreign languages in regular school classes. In the bilingual educational system, which teaches a certain widely-used language, the language of teaching is Rumanian and one foreign language (English, German, French, etc.). In this model foreign languages are taught in 5–7 classes per week, this being complemented with the foreign language teaching of some subject matters, which are connected to the geographical, historical, cultural context of the
chosen foreign language (depending on the chosen language the geography of the language in the 9th form, its history in the 10th, culture and civilization in the 11th and 12th forms).

Intensive language teaching makes the increase of the number of classes taught possible (five classes per week).

The teaching of foreign languages in the regular school classes allows learning the first foreign language in elementary school, and the second in junior high, respecting the number of classes determined by the curriculum. Within the minority education system the first foreign language is taught with regard to the number of classes stipulated by the curriculum, while the introduction and number of classes of the second foreign language can be decided by the school, but the number of weekly classes may not exceed the cornerstone figures determined by the national curriculum. The entrance exam in the intensive foreign language classes is strictly regulated, these rules being detailed concerning the proportion of the oral and written exams, the structure of the exam as well as evaluation.

If we contrast these bilingual educational programs and the international educational models, we can conclude that the Rumanian variants of foreign language education represent the different models of bidirectional bilingual education. The analysis of bilingual educational models which have emerged in the international practice also emphasizes the fact that the application or efficiency of any given model depends on the aim of foreign language learning: for example as a result of emigration the need for quick language assimilation in the United States of America, the efficient acquisition of any foreign language with the help of immersion educational programs for example in Canada. This cannot be considered independent of the social, ethnical-linguistic characteristics of a given country or region: for example bidirectional education in South Tirol, or trilingual education in Catalonia (Hockley 2008, 32–33).

The fact that the bilingual educational models are determined by several factors stresses that they cannot be directly applied, as every particular social, political, ethnical and linguistic condition results in specific bilingual educational models not only in every country, but also in every region. If we apply this point of view to the situation of the Rumanian minorities, we need to accept the fact that – although educational policies unify the minority education of several ethnicities – its variations are not uniform, as the usage of the mother tongue as well as the acquisition of the official language depends on the proportion of the minority in question, its traditions, as well as the linguistic situation due to regional factors (whether it lives in a compact region or a diaspora).

2.1. Bilingual minority education

As opposed to the above-mentioned bilingual models, minority education in the Rumanian educational system denotes the specific bilingual situation, in which the
language of teaching is mainly the mother tongue of the minorities; this is supplemented with the education of Rumanian language and literature (and/or the teaching of several subject matters in the official language). In the bilingual minority models not the education of foreign languages, but the proper education of the mother tongue and of the official language constitutes the basis for the bilingual model. In this context we can state the following:

The characteristics of minority bilingualism important from the point of view of the community are: a high communicational competence in both languages, keeping the dominance of the mother tongue, stability and symmetry in both languages in connection with the standard variant. The ideal situation is additive bilingualism, in which the primary language keeps its dominance, symbolic and pragmatic extra values together with its regional and substandard versions. This can be connected to the requirement according to which the primary cognitive and integrative role of the mother tongue needs to be present as well.

(FÓRIS-FERENCZI & PÉNTEK in press, our trans.)

Based on the analyses connected to the models of bilingual minority education (HOCKLEY 2008, 34−36; HORVÁTH 2008, 40−44; NOREL 2008, 65−66; MURVÁI 2002, 2004) as well as the practice of minority education, we can distinguish several forms of bilingual education in the Hungarian minority education. The Hungarian-speaking pupils who go to a Rumanian school can study their mother tongue as a facultative subject matter as well as the history of the given minority.

This integrative model results in the development of diglossia. Péntek identifies this as the form of suppressive minority education (FÓRIS-FERENCZI & PÉNTEK in press).

In the second model, the language of teaching is Hungarian, Rumanian language and literature are taught as a separate subject matter, while the subject mat-

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3 Original text: ‘A kisebbségi kétnyelvűségnek a közösség szempontjából fontos jellemzői: a magas nyelvi és kommunikációs kompetenciaszint mindkét nyelvben, az anyanyelv elsődlegességének meg-tartásával, a stabilitás és a szimmetria mindkét nyelvben a standardváltozat szintjén. Az ideális tehát a hozzáadó kétnyelvűség, amelyben az 1. nyelv a helyi regionális és szubstandard változataival együtt örzi meg dominanciáját, szimbolikus és pragmatikus többletértékeit. Ehhez társítható még az a követelmény, hogy az oktatásban az anyanyelv elsődleges kognitív és integráló szerepének is érvényesül-nie kell.’

4 According to the Education Act, ‘Pupils who belong to the national minorities and attend educational institutions where the language of education is Rumanian have the possibility – based on request and based on the law – to study as a subject matter the language and literature of their mother tongue as well as the history and traditions of the respective national minorities.’ (Our trans.) Original text: ‘Elevilor aparţinând minorităţilor naţionale, care frecventează unităţi de învăţământ cu predare în limba română, li se asigură, la cerere şi în condiţiile legii, ca disciplină de studiu, limba şi literatura maternă, precum şi istoria şi tradiţiile minorităţii naţionale respective.’ (‘Legea . . . nr. 84.’ 1995, Art. 211. [Education Law No. 84.]).

5 Based on MURVÁI’s analysis, this educational form is chosen by the Lipovan, Bulgarian, Greek, Gipsy, Armenian and Italian minorities (2004, 4).

6 Besides Hungarian minority education this model characterizes the German, Ukrainian, Serbian, Slovakian and Czech minorities (MURVÁI 2004, 4). Turkish and Croatian minorities, though the minority educational legal frameworks are uniform, apply the second-language dominant educational model, in which approx. 30% of the subject matters are taught in the mother tongue.
The situation of the Hungarian minority’s bilingual education

ters stipulated by law (the geography and history of Rumania) are taught in Rumanian, in the forms and with the number of classes determined by the national curriculum. The development of language competences besides linguistic education facilitates the teaching of subject matters in a second language and the development of a higher level second-language competence.

This model can result in balanced bilingualism (ambilinguism). Although in the sociolinguistic approach it focuses on the balance and symmetry of the two languages, the constant efforts of minority politics after 1989 focused on the teaching of geography and history in the mother tongues of the minorities. The basic reason for this effort was that the teaching of these two subject matters in the official language does not aim the pedagogical efficiency of second-language teaching, but – as subject matters considered to be crucial in the formation of the national conscience and identity – had a primarily ideological basis (Horváth 2008). According to Pén-tek, ‘Both subject matters . . . transmit the ideology of the majority about its geography and history, with results such as the Hungarian pupils not being able to learn the Hungarian Transylvanian geographical names or names of settlements’ (Füris-Ferenczi & Pén-tek in press, our trans.).

The 2011 variant of the Education Law which will be introduced in the academic year of 2011/2012 constitutes a turning point from the point of view of minority education to the mother tongue dominant bilingual model, in which the language of education is principally the mother tongue, while the teaching of Rumanian language and literature – in a separate number of lessons – aims at the development of linguistic competences:

In the educational system with teaching in the languages of national minorities, all subject matters are learnt in the mother tongue, except for Rumanian language and literature . . . In the History and Geography textbooks, in the chapters which refer to the history of the Romanians as well as the geography of Rumania, the toponyms and proper names will be kept in Rumanian language as well.

(‘Legea Educației Naționale nr. 1.’ 2011, Art 46., 1., 8. [The National Education Law], our trans.)

7 The Education Act stipulates the following: ‘In elementary and high school education the History of Romanians as well as the Geography of Rumania are taught in Rumanian, based on curricula and textbooks identical with the ones used in Rumanian classes. The examination in the History of Romanians and the Geography of Rumania is performed in the language they were taught.’ (Our trans.) Original text: ‘În învățământul gimnazial și liceal Istoria românilor și Geografia României se predau în limba română, după programe şcolare şi manuale identice cu cele pentru clasele cu predare în limba română. Examinarea la Istoria românilor și Geografia României se face în limba de predare a acestora.’ (‘Legea . . . nr. 84.’ 1995, Par. 2., Art. 120.).

8 Original text: ‘Mindkét tantárgy . . . a földrajzzal és a történelemmel kapcsolatos többségi ideológiát, szellemiséget közvetíti, olyan nyelvi következményekkel is például, hogy a magyar tanulóknak nincs lehetőségük megtanulni az erdélyi magyar földrajzi neveket, helységneveket.’

9 Original text: ‘În învățământul preuniversitar cu predare în limbile minorităților naționale toate disciplinele se studiază în limba maternă, cu excepția Limbii și literaturii române. . . . În învățământul primar, gimnazial și liceal cu predare în limbile minorităților naționale, disciplinele Istoria și Geografia României se predau în aceste limbi, după programe şcolare și manuale identice cu cele pentru clasele
Minority bilingual education models can be differentiated only by their practical realization, based on the quality of mother tongue education that can be supported by the different minorities, in decreasing numbers and living more and more in a diaspora situation. Pén-tek’s analyses of this topic present the problems of the uniformized characteristics of minority education in detail. He emphasizes the fact that, on the legislation level, the equal rights of minorities cannot be debated, but apart from the basic concepts and legislation, in the organization of education, in connection with the number of textbooks, in the realization of pedagogical and methodological strategies of second-language teaching there is an urgent need for a differential approach, as the different linguistic communities greatly differ in number, regional distribution, clear aims (which are connected to the centuries-old educational traditions), in the intellectual potential stemming from the number, as well as the characteristics of the languages (type, standardization, etc.) . . . In practice a different form of education is needed for each language . . . This is always much more complicated and costly for the authorities, but it is the basic condition of efficient education. One could add that these typologies and uniformization least serve the needs of the largest national community. (FÓRIS-FERENCZI & PÉNTEK in press, our trans.)

2.2. The Rumanian language in the bilingual minority education

In the Rumanian educational system the teaching of the Rumanian language has / should have an important role from the point of view of the development of symmetrical, additive bilingualism. The official language status of the Rumanian language, the continuous emphasis on its common and compulsory nature masks the real situation in which the Ramanian language is a secondary or even foreign language in daily communication for the members of the different minority communities. This is supported by HORVÁTH’s (2008, 51) sociological survey of several

10 In the Rumanian education system based on the previous legislation, Rumanian language is taught in elementary and secondary school using special textbooks, developed mainly for minority language speakers. Nevertheless, these textbooks do not meet the standards of the ones used in the Rumanian mother tongue education both professionally and regarding the level of knowledge. On the other hand, they are uniform for every minority, and thus in their concept they cannot apply the important concept according to which in second language teaching the contrastive and usage-centred approaches applied to the different characteristics of minority languages as well as the pedagogical strategies developed using these approaches are the basis of conscious language acquisition. The publication of alternative textbooks needs a great amount of professional and material investment both from the point of view of professional preparation and publication in low numbers; nevertheless, this is contrary to the conditions of effective education.

11 Original text: ‘Nyelvi közösségek között jelentős különbség van lélekszámban, regionális elhelyezkedésben, határozottan megfogalmazott igényekben (amelyek az iskolázás több évszázados hagyományához kapcsolódnak), a létszámából fakadó szellemi potenciáliban, továbbá a nyelvvek jellegében (típusban, standardizáltságban stb.) . . . A gyakorlatban minden egyes nyelv önálló oktatási formáját kellene kialakíta . . . Ez a hatóság számára mindig körülményesebb és költségesebb, a hatékony oktatásnak viszont ez elemi feltétele. Ehhez még hozzáfűzhető az is, hogy az ilyen jellegű típológia és uniformizálás a legnagyobb nemzeti közösség igényeinek felel meg a legkevésbé.’
Rumanian minorities, according to the results of which one third of the Hungarian population in Rumania live in linguistic environments where they can learn the Rumanian language informally, but the other two thirds are very rarely or even never part of communication situations where they need to speak Rumanian. Thus, the Rumanian language does not have a significant presence in the everyday communication of the majority of Hungarians in Rumania. In order to ensure the efficient formal teaching of the Rumanian language, one needs to take into consideration these regional differences. The pedagogical research concerning the education of the Rumanian language to minorities attempts to use terms such as second language, not mother tongue (Norel 2008; Tódor 2005, 2008), or foreign language instead of ‘official language’, which do not question the political status of the language, but they more precisely denote the effective presence of this language in the linguistic environment of the given persons from the learners’ point of view (Horváth 2008, 52).

In formal education, the input regulations of the Rumanian language are stipulated by the Education Law. In this respect in the elementary school system the minorities study the Rumanian language based on special curricula and textbooks, while in upper elementary school (5–8th grades) the curricula are the same, but the minorities can learn from alternative textbooks. In high school all the curricula and textbooks are identical. The chapters of the new Education Law, which refer to the teaching of the Rumanian language, show that on the level of input regulations the teaching of the Rumanian language on every level is based on special programs and textbooks developed for minorities, and these are taken into consideration at the exit exams as well.12

3. Bilingualism in the psycholinguistic approach

In the following we are going to present the results of a contrastive psycholinguistic survey, but before that we need to clarify a number of concepts, questions and problems in connection with bilingualism. In the research on bilingualism the definition of bilingualism and that of the concept of mother tongue is necessary. Definitions often do not explain the essence of the concept, rather they try to separate bilingualism from monolingualism and the concept of the mother tongue connected to this. Numerous scholars treat monolingualism as the norm, as a natural situation, and

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12 Based on paragraphs 2 and 4 of article 45 of the new Education Law: ‘The subject matter “Rumanian language and literature” is taught throughout elementary and secondary education based on the special curricula and textbooks developed for the particular minority. The “Rumanian language and literature” tests are elaborated based on the curriculum.’ (Our trans.) Original text: „Disciplina Limba i literatura română se predă pe tot parcursul învățământului preuniversitar după programe școlare și manuale elaborate în mod special pentru minoritatea respectivă. Testele la disciplina Limba și literatura română se elaborează pe baza programei speciale.” (‘Legea Educației Naționale nr. 1.’ 2011).
that is why they use monolingualism and the concept of the mother tongue as a benchmark.

The definition of the mother tongue varies based on the different criteria. We can consider mother tongue the language which is learnt as a first language, upon which the first sustainable communication is built, but it can be the best known or most widely used language, as well as the one with the most emotional charge. Based on this the mother tongue is the one with which one identifies (inner identification), or the one with which others identify the person (outer identification). We can conclude from this that a person may have one or more mother tongues.

It is obvious that classical bilingualism, the perfect or approximately equally advanced knowledge of two languages does not characterize the majority of bilinguals; the knowledge of the second language (or even first language) of the speakers can vary within the same language community (LANSTYÁK 2000).

Out of the several definitions of bilingualism it is practical to apply the wider, functional definition, according to which on the individual level a bilingual speaker is the one who uses an additional language in everyday communication besides his/her mother tongue (GROSJEAN 1997).

We can consider a community bilingual if the majority of the speakers who form the community use two or more languages (KONTRA 1996; LANSTYÁK 2000). The members of the community who speak the first or the second language more poorly can be considered bilinguals as well (GÖNZ 1991; LANSTYÁK 2000); the difference between them is based on their position from the two ends of the bilingual continuum. The level of language knowledge in some is close to the mother tongue for both languages, while in the case of others the level of competence in one language is higher.

Based on the latest research, the linguistic abilities of bilingual children who are subject to basically similar inputs in both languages show similar evolitional patterns: they reach the different levels of language evolution at a similar age, even though the two languages operate in different modalities (PETTITO et al. 2001). This survey expands psycholinguistic literature by emphasizing the well-known facts that bilingualism, the knowledge and use of two languages, does not constitute a cognitive disadvantage, and the flexible functioning of thinking may result in more flexible and more adaptable personality traits in the long term.

3.1. Speech understanding and production of monolingual and bilingual pupils

The contrastive psycholinguistic survey gives a more extensive insight into the linguistic development of Hungarian-dominant bilingual pupils from Transylvania, from Târgu Mureş (Marosvásárhely) in contrast with monolingual children from Hungary (Debrecen). The above-mentioned survey included 50 Hungarian monolingual fourth graders from Debrecen and 50 Hungarian-dominant Hungarian-Ru-
manian bilingual fourth graders from Transylvania (Târgu Mureș / Marosvásárhely), with an average age of 10.5. The starting period and method of research was Gósy’s (2005) concept of speech understanding and speech production and the test assessing these,\(^{13}\) which evaluates the acoustic, phonetic and phonological levels of perception and the characteristics of speech understanding (understanding of words, sentences and texts).\(^{14}\)

3.2. The assessment of the variants in the case of the two linguistic groups

In the four speech perception tests (identification of sentences in noise, identification of words in noise, identification of filtered frequency sentences, identification of high-speed sentences) the results of the two linguistic groups differ, with significant differences in all four cases. In the *sentence and word identification in noise* tests the monolingual pupils scored significantly better results than the bilinguals, while in the filtered frequency and high-speed sentence identification tests the bilinguals showed significantly better results.

The *sentence and word identification in noise* test aimed at the assessment of the acoustic, phonetic and phonological levels of perception. The *word identification* test gives us information about the lexical finding process. The significantly worse results of the bilinguals during this test show the slower developmental pace in their speech perception. This is a usual phenomenon characteristic of the first stages of second-language acquisition, where these automatisms have not evolved yet, and lexical finding is not without obstacles. A bilingual environment, daily bilingual stimulus can slow the development, which does not mean any linguistic handicap, as they usually catch up. Simultaneously with the intensive language learning, some (previously mentioned) aspects of language development can have a slower pace. Sentence and word identification in noise in the case of bilingual elementary students is a bigger challenge compared to the kindergarten pupils, mainly because the efficient selection and production of the linguistic information they have gathered by this age requires more work and more concentration on the part of the child. In situations where perception was made difficult (sounds, words, sentences were covered with noise) the need to apply all the linguistic rules may slow down the process of perception and preparation.

In connection with the *identification of filtered sentences and high-speed sentences* the bilingual students had significantly better results than the monolinguals.

\(^{13}\) The same survey and the same methods were used in other regions (e.g. Bulgarian-Hungarian, Slovakian-Hungarian) and in other bilingual situations as well, and showed similar results.

\(^{14}\) The items used in the survey were the following: identification of sentences in noise, identification of words in noise, identification of filtered sentences, identification of higher speed sentences, identification of natural sentences, the assessment of serial perception, lexicon activation, assessment of text understanding, assessment of understanding of sentences, assessment of the differentiation of speech sounds, the assessment of transformational perception. Every pupil was assessed individually, in a soundproof room. The time period needed for the assessment was approximately 45 minutes.
The identification of filtered sentences shows the connection between hearing and perception. In a case of bilinguals we can speak of a better functioning of acoustic keys, and a more efficient integration of these in the phonetic and phonological system.

Using the identification of high-speed sentences test we can find out whether the child shows speech perception corresponding to their age, through the partial exclusion of associations. Our results showed that the bilingual pupils had better results in this test as well: using minimal language input they are able to decode correctly. This result does not contradict the results of the sentence and word identification tests, as we found out in connection with both – the speech perception and understanding abilities of bilingual children are good, but they are slower.

The following table contains the results of the speech perception test of bilingual pupils:

| Table 1 |
The averages for the speech perception variants in the case of the two linguistic groups

<table>
<thead>
<tr>
<th>Monolinguals</th>
<th>Bilinguals</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 50</td>
<td>N = 50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Standard deviation</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence identification in noise</td>
<td>85.6</td>
<td>9.9</td>
<td>79.8</td>
<td>17.4</td>
</tr>
<tr>
<td>Word identification in noise</td>
<td>89</td>
<td>6.1</td>
<td>84.8</td>
<td>9.5</td>
</tr>
<tr>
<td>Identification of filtered frequency sentences</td>
<td>94.2</td>
<td>9.5</td>
<td>98.6</td>
<td>3.5</td>
</tr>
<tr>
<td>Identification of high-speed sentences</td>
<td>73.4</td>
<td>10.9</td>
<td>81</td>
<td>15.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T-test</th>
<th>T = 2.04</th>
<th>p &lt; 0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T = 2.6</td>
<td>p &lt; 0.01</td>
</tr>
<tr>
<td></td>
<td>T = 3.07</td>
<td>p &lt; 0.01</td>
</tr>
<tr>
<td></td>
<td>T = 2.8</td>
<td>p &lt; 0.01</td>
</tr>
</tbody>
</table>

Based on the criteria of the test on all four tests we can expect maximal performance and points (100% performance) from the children. In the case of both linguistic groups, taking into consideration the averages of the four tests we can notice a small difference: the monolingual group produced 10–15% while the bilingual group 15–20% worse results than the maximal values. These results do not mean major developmental hindrance in either of the groups; they can be explained by the under- or over-motivation resulting from the testing situation, the need to live up to the expectations of the test conductor, the unnatural communicational situation and environment, etc.

When we continue analyzing the results in speech perception, we can conclude in connection with the visual and serial perception that in the visual perception test there is no significant difference between the results of the two groups. Because of
the lack of research data we could believe that the bilingual children (even of kindergarten age) use the technique of reading lips more frequently in order to facilitate speech decoding, and that is why they have significantly better results in this test in comparison with their monolingual peers.

Nevertheless, it was found that the perception of lip reading works in a similar way in the case of both groups, meaning that bilingual children use lip reading or other visual stimuli. It is possible that during this stage and developmental period the auditive (as it was learned later on) and cognitive decoding and understanding become primary. This requires a higher degree of consciousness, of focusing and attention, as well as the more operative activation of thinking mechanisms.

In the serial speech perception test the bilingual group produced significantly better results than the monolingual one. It is considered to be an interesting finding that the monolingual pupils tried to give meaning to the meaningless combinations of sounds, and they had more problems pronouncing the words.

| Table 2 |

Visual and serial perception

<table>
<thead>
<tr>
<th></th>
<th>Monolinguals</th>
<th>Bilinguals</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 50</td>
<td>N = 50</td>
<td></td>
</tr>
<tr>
<td>Average Standard deviation</td>
<td>Average Standard deviation</td>
<td>T = 0.3</td>
<td>p = not signif.</td>
</tr>
<tr>
<td>Visual perception</td>
<td>56.2 22.3</td>
<td>54.8 17.6</td>
<td></td>
</tr>
<tr>
<td>Serial perception</td>
<td>86.8 11.5</td>
<td>93.6 8.2</td>
<td>T = 3.3</td>
</tr>
</tbody>
</table>

For them a different, foreign ‘squirrel language’ does not constitute a common ground contrary to the bilinguals, who had a more playful, more flexible approach to the task, and considered it one of the most interesting tests.

There is a more significant, almost 50% arrears in the case of both language groups in the visual perception test, which leads to the conclusion that during speech production the children do not utilize maximally (only partially) the visual stimuli which could be of help and could be used during speech (lip reading), and they prefer the auditory stimulus of speech. Based on these data we still cannot make any conclusions in connection with the lack of abilities of the children, as during communication the persons who prefer lip reading suffer from some kind of disturbance of hearing (impaired, or even deaf – we did not have any of these in the group).

In the serial perception test maximum points are expected from ten year olds or older. Both groups come close to the desired performance; there is only a slight difference: the monolingual children have a 14% deficiency, while the bilinguals show a 6% deficiency from the average imposed by the test. Based on the results obtained and the averages of the memory test there is an interesting difference be-
tween the two groups: in the verbal memory test there was a significant difference between the results of the two groups: the monolinguals had significantly better results than the bilinguals.

Because of the verbal overburdening of the bilingual children we would expect a higher performance in memory functions. During the visual memory test the averages obtained are almost the same, but in this case we did not find any significant difference between the performances of the two groups.

Table 3
Verbal and visual memory averages in the two language groups

<table>
<thead>
<tr>
<th></th>
<th>Monolinguals</th>
<th>Bilinguals</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Standard deviation</td>
<td>Average</td>
</tr>
<tr>
<td>Verbal memory</td>
<td>5.6</td>
<td>1.1</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual memory</td>
<td>6.8</td>
<td>1.6</td>
<td>6.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the point of view of bilingual pupils this mental activity needs specific attention, a cognitive effort, the choice of the proper linguistic code, language out of the ones at hand, and its ‘manipulation’ needs a state of constant alertness. The higher degree of expectations of the children towards themselves might activate a more emphasized consciousness, which can slow down or make this aspect of the functioning of memory harder.

Table 4
The averages for lexicon activization in the case of the two language groups

<table>
<thead>
<tr>
<th></th>
<th>Monolinguals</th>
<th>Bilinguals</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Standard deviation</td>
<td>Average</td>
</tr>
<tr>
<td>Word identification</td>
<td>6.2</td>
<td>2.4</td>
<td>5.6</td>
</tr>
<tr>
<td>ma-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word identification</td>
<td>5.7</td>
<td>2.4</td>
<td>5.2</td>
</tr>
<tr>
<td>ke-</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the case of short-term verbal and visual memory, 5-year-old children are expected to remember 5–9 or more previously heard words/pictures. In this case the
pupils met the requirements of the test, but in their performance their average was closer to the lower end. In the lexicon activization test, as seen in Table 4, there is no significant difference between the two groups in either of the one-syllable word activations. This result lets us conclude that though bilingual pupils are in the possession of two lexicons and probably two mental lexicons (they definitely retain a larger amount of information compared to their monolingual peers), this does not entail significant deficiencies in the mother tongue lexicon.

In the case of the word activization with the syllable ma-I was able to observe that the majority of Hungarian monolingual children mentioned the word magyar at the beginning of the list, while this was not very frequent in the case of their bilingual peers.

From the age of 10 we expect the activization of 4–5 words. Both of the teams met this criteria, the monolingual children had slightly better results, the difference between the averages of the two groups are not significant. The syllables heard activated the same amount of words with bilingual and monolingual children. Based on this we can determine that the gradual knowledge of the two languages, the often mentioned bilingual process does not mean linguistic deficiencies, hindrance. This is why parents and teachers, but mainly the pupils themselves can be encouraged to study two or more languages efficiently after learning the mother tongue.

The two linguistic groups had similar results in the text and sentence understanding tests as well. As we can see from Table 5, we cannot identify any significant difference between the averages of the two tests.

<table>
<thead>
<tr>
<th></th>
<th>Monolinguals</th>
<th>Bilinguals</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 50</td>
<td>N = 50</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>Standard</td>
<td>Average</td>
<td>Standard</td>
</tr>
<tr>
<td>Text understanding</td>
<td>77</td>
<td>71.1</td>
<td>16.1</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>16.1</td>
<td>23.8</td>
<td>23.8</td>
</tr>
<tr>
<td>Sentence understanding</td>
<td>95.8</td>
<td>93.4</td>
<td>6.4</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>6.4</td>
<td>7.7</td>
<td>7.7</td>
</tr>
</tbody>
</table>

The criteria of the test expect maximal, 100% performance from the age of 8–9 in both cases. As a result of this in the text understanding test I noticed a more significant deficiency of 25–30%, while in the second case a milder deficiency of 5–7% in both cases. According to this text understanding has proven easier, which was made possible by the lighter, more playful character of the fairytale, on the other hand the context could have had a positive effect in answering the questions.

The second speech understanding test was made harder by the fact that it is expected of the children to understand separate sentences, which – based on the
requirements of the test – were not connected to one another, which was even more
difficult because of the usage of prepositions, accusative case, different grammat-
ical structures, negation, reason and result, the syntactical representation of tenses,
and the need to identify these. It was an interesting thing to notice that in both tests
the monolingual children answered in one-word sentences, while the bilinguals
used more eloquent, longer, more complex sentences as well. This can be explained
by the different educational styles: the majority of the Transylvanian teachers asked
expected compound sentences from the children, they are not content with one-
word answers; nevertheless, this could be a bad habit in elementary education:
‘Answer in a full sentence’. Natural communicational situations usually do not re-
quire this. This requirement is not a very serious one in the opinion of the teachers
from Debrecen.

In connection with the speech rhythm of the children forming the two groups
we can state that most of the monolinguals had a proper speech rhythm, they could
reproduce the previously heard speech in a very similar time frame. One fourth of
the surveyed bilingual group had average and bad results, but the majority can be
characterized as having a proper speech rhythm. The effect of the official language
(in our case Rumanian) can be easily traced in word stress and intonation in the

We cannot find a significant difference between the results of the two groups in
the case of proper articulation of speech sounds or the proper pronunciation of
sound combinations (this is shown in Table 6).

| Table 6 |
The averages of mistakes in the case of speech sound differentiation in the case of the two
language groups

<table>
<thead>
<tr>
<th>Monolinguals</th>
<th>Bilinguals</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 50</td>
<td>N = 50</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>Average</td>
<td>T = 1.5</td>
</tr>
<tr>
<td>Standard</td>
<td>Standard</td>
<td>p = not signif.</td>
</tr>
<tr>
<td>deviation</td>
<td>deviation</td>
<td></td>
</tr>
</tbody>
</table>

Speech sound differentiation

This result can be explained with the fact that the bilingual children met a sec-
ond language, and this has made it difficult for them to concentrate solely on the
mother tongue (Hungarian), which can manifest itself in the decrease of perfor-
ance. As we can see, this means a decrease only in precision. They absolutely did
not have worse results than their monolingual peers.

The 7-year-old children are expected to have maximal achievement in this test
as well. As the points in the above table show, the children assessed had a minor
deficiency in the flawless performance of this test. In the transformation of the
sounds of the mother tongue, concerning the proper visual and tactile transforma-
tion of the serial perception, as Table 7 shows, there is no significant difference in the averages of the two groups.

**Table 7**
The averages of transformational perception in the case of the two linguistic groups

<table>
<thead>
<tr>
<th></th>
<th>Monolinguals</th>
<th>Bilinguals</th>
<th>T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 50</td>
<td>N = 50</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>84</td>
<td>86.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>20</td>
<td>13.7</td>
<td>p = not signif.</td>
</tr>
</tbody>
</table>

This result leads to the conclusion that the majority of the assessed pupils do not have any problems with reading and writing. Bilingual pupils had slightly higher averages in this test compared to their monolingual peers, according to which we presume that writing in two languages does not make it more difficult, nor have they a negative effect on one another. The condition for this undisturbed functioning is that they have a first language basis.

**4. Conclusions**

As a conclusion in connection with the speech understanding and production performances of the pupils we can say that we rarely find significant differences between the two groups. One of our conclusions is that bilingual education is a challenge for bilingual pupils, as it is a cognitive burden, especially if it is not preceded by a mother tongue base.

In the bilingual minority education in Romania it is of crucial importance to have this mother tongue basis, an education which takes into consideration the mother tongue. If not, the bilingual pupils will face a much larger burden, task, and very many times disappointments, which could be avoided in the interest of proper psychological as well as optimal linguistic, cognitive, etc. development. Time and space should be made for getting to know the second language (concerning mainly stress, intonation and other characteristics), and after this, education proper could start in a second stage. From kindergarten there is need for a much more attentive attitude towards the second language – especially from teachers and parents –, the teaching of which should not be limited to the learning of words, simple sentences and questions, but which should motivate the children through creating playful language situations in indirect education when there is time for the creation of the mother tongue base. The education of the languages which have become very fashionable (English, German) could wait to be introduced within the context of trad-
itional teaching conditions and environments, and it would be optimal to introduce these after Rumanian.

Thus in order to avoid overburdening the children as well as to be efficient, we have the following recommendations for Hungarian-dominant bilinguals:

– in kindergarten there is need for the mother tongue base, at the end of this period: ‘getting to know’ the second language (stress, intonation, rhythm), gradual collection of information in small steps;

– at the beginning of elementary school: further encouragement of mother tongue development, more direct and conscious teaching of the second language, gradual introduction of the second language by the end of the second period.

The mother tongue base is extremely important and needed in the linguistic development of children; otherwise bilingual children tend to have poor results. It is also important to encourage the continuous nature of bilingual skills, which means that we can count on a dynamic evolution in connection with both languages (which can even be life-long), and in this process it would be extremely positive if neither of the languages would ‘serve another’, meaning that the mother tongue does not facilitate the acquisition of the second language, the second language should not simply complement the mother tongue. It would be best if different skills were to form and develop in both languages. This is a school environment that requires the teacher to clarify his/her own attitude towards bilingual education (and if it is negative, filled with prejudice and stereotypes, the professional competence of the teacher is in question). On the other hand he/she has to live with linguistic stimuli and situations which help the students develop their second language (Rumanian) competence, knowing that they are an active part of the knowing of the world and not only the passive receivers of new words and expressions.

References


THE SITUATION OF THE HUNGARIAN MINORITY’S BILINGUAL EDUCATION