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Literacy attainment in a second language submersion context

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ABSTRACT
The purpose of this study was to describe the first and second language literacy levels of a sample of 222 Turkish children living in the Netherlands and to identify the factors that are related to individual variation in their literacy performance. Measures of both school literacy and functional literacy were taken in the target languages, Turkish and Dutch. Data of monolingual control groups were used as benchmarks. To explore individual variation in biliteracy scores, background characteristics originating from the child, the family, and the school were examined. The results of the study indicated that the children in the Netherlands attained lower levels of literacy than their monolingual peers. The level of biliteracy of the children in the Netherlands turned out to be primarily related to the factors of home stimulation, parents' motivation for schooling, and children's self-esteem.

Over the past few decades there has been a rise in societal concern about literacy development throughout the world. Advancements in research have given way to new definitions and models of literacy, incorporating personal and social needs. In addition to school-based literacy, the term "functional literacy" has been introduced to refer to the demands of literacy in a complex world (see Verhoeven, 1994a).

With respect to defining literacy competence, the particular sociolinguistic position of minority groups should be recognized (cf. Fishman, 1980, 1989; Verhoeven, 1994b). In a multilingual society, minority groups use various written codes, which serve partially discrete functions. Whether more than one language is used for literacy instruction in school and which literacy abilities are taken as educational objectives for minority children depend on local educational policies. In most industrialized countries minority children learn to read and write in a second language (L2) submersion context. Submersion programs at school are usually set up for children from a low socioeconomic background who speak a low-status language. They follow a L2 literacy instruction approach with only limited support from the teacher or the parents. Children learning to

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read in a L2 are faced with a dual task: in addition to the demands of written language, they have to learn an unfamiliar language, one that partly refers to an unfamiliar cultural background. There is reason to believe that the sudden home–school switch in submersion programs may lead to poor academic achievement and an inadequate command of both the native language (L1) and L2. In support of this argument Cummins (1991) brought forward the interdependency hypothesis, which assumes that the development of L1 and L2 abilities is interrelated and that, in cases in which the L1 is not sufficiently developed outside the school, high exposure to an L2 in the school will hamper children's continued academic development.

It is by no means clear what effect the specific linguistic and sociocultural background of minority children in a submersion context has on literacy success or failure in comparison with monolingual peers. Migration processes in recent history have stimulated social and scientific interest in the literacy development of minority groups. However, there has been a clear bias in the orientation of research towards literacy in the L2 (Extra & Verhoeven, 1993a). This biased interest is reflected in an almost exclusive focus on the use and acquisition of literacy in the dominant language. This biased orientation in literacy research on immigrant communities which speak a nonindigenous minority language has been noted in North America (Grosjean, 1986; Hakuta, 1986), Australia (Clyne, 1991), and Europe (Extra & Verhoeven, 1993a, 1993b). Only recently has there been a shift in research from an almost exclusive attention to literacy in the dominant language to a broader focus on the social and cognitive dimensions of multilingual literacy.

Both the level of achievement and the rate at which reading and writing is learned in an L2 submersion context appear to be related to characteristics originating from the child, his or her family, and the institutional care the child has encountered. With respect to child characteristics, sociocultural orientation and self-esteem can be seen as critical variables. Cultural orientation, defined as the attitudes minority children develop toward the minority language and culture versus the majority language and culture, may determine both L2 achievement and L1 maintenance (see Lambert, 1978; Verhoeven, 1991). Self-esteem can be seen as relevant since a L2 submersion context may represent a threat to the L1, which usually has low prestige. As a consequence, the social environment may create ambivalence toward the minority language and the minority group, in addition to promoting low self-esteem among its members (cf. Skutnabb-Kangas, 1995). Another relevant characteristic is the amount of reading the child does. It has been shown that the amount of reading by minority children in the L1 and L2 may have an effect on the level of literacy in either language (Leseman, 1994; Spratt, Seckinger, & Wagner, 1991).

Research on the relationship between family characteristics and minority children's literacy achievement has focused on how and to what degree the family creates an effective in-home learning environment. Home stimulation, school support, and motivation for schooling seem to be critical intermediate factors between socioeconomic status and children's school success (cf. Dronkers, 1990). Wells (1985, 1990) demonstrated that the rate of language and literacy development is associated with the language input to the child. In a longitudinal

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study by Snow, Barnes, Chandler, Goodman, and Hemphill (1991) on the literacy development of lower socioeconomic children, the literacy environment at home, the mother's education, the mother's expectations for the child, and the contacts between parents and teachers regarding academic matters emerged as powerful predictors of literacy success.

The school presents minority children with a set of new interpersonal relationships. Interaction with peers using the L1 or L2 will enhance their language and literacy development (cf. McLaughlin, 1985). Moreover, an extensive set of studies conducted in the Canadian context has demonstrated that children participating in bilingual literacy programs enjoy metalinguistic and cognitive benefits and learn to appreciate their own linguistic and cultural membership (see Cummins, 1991; Cummins & Swain, 1986). According to previous research in the Netherlands (Tesser & Mulder, 1990), the percentage of minority students in the school has an influence on the school results of children. Also, the amount of instruction in Turkish seems to have an effect on the literacy level in this language (cf. Driessen, 1990).

The present study

The present study deals with the literacy levels of Turkish children in the Netherlands, who are faced with an L2 submersion context of literacy instruction. We conducted a descriptive study of the levels of literacy attainment (on two types of literacy assessment: school-based vs. functional) of the bilingual group, using monolingual groups in Turkey and in the Netherlands as benchmarks. In all public schools in Turkey, Turkish is the language of instruction. Though there is a high participation in basic education, it is estimated that only two-thirds of the population finishes primary school. However, due to great efforts by the Turkish authorities, the level of illiteracy has decreased in the past thirty years from 54% to 24% of the population (UNESCO, 1990). According to figures from the Turkish State Institute of Statistics (1998), in 1990 19.5% of the population (9.5 million people) was illiterate. The degree of illiteracy over the years seems to be highly dependent on sex: in 1985 and in 1990 there were almost three times as many illiterate women as illiterate men (cf. Turkish State Institute of Statistics, 1998; UNESCO, 1990). The level of education in Turkey is also related to the region in which one lives (cf. Baloğlu, 1990); the degree of illiteracy is much higher in urban provinces (e.g., Istanbul) than in rural areas (e.g., Kayseri), and in the eastern provinces the degree of illiteracy is even higher (e.g., Kars). There is also a relationship between the variables of region and sex: the more rural the area, the greater the difference between the two sexes in degree of illiteracy (Baloğlu, 1990).

For several decades, Turkey has typically been characterized as a labor-exporting nation, helping industrialized countries to expand their industrial and economic base. There are sizable numbers of Turkish immigrants working in the Middle East (225,000) and in Australia (20,000). However, the largest concentrations of Turkish migrants can be found in northern and western Europe. In the early 1960s, Turkey responded to the request from European countries for the recruitment of labor for temporary employment, and there was a wave

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of migration from 1961 to 1973. After that period, however, the migration rate of Turkish workers dropped sharply, mainly as a result of economic recession. Since then, new policies toward migrant workers were developed to permit the reunion of families. As a result, migrants were no longer regarded as a temporary workforce. Recent estimations by the Turkish Ministry of Labour indicate that almost 2 million Turkish migrants reside in northern and western European countries (see also Keyder & Aksu-Koç, 1988). In the countries where they settled, Turkish immigrants make use of a variety of written codes. The dominant language (i.e., German or Dutch) is used for interethnic communication within the larger society, whereas Turkish is used for intragroup communication with other immigrants or those at home and for the expression of ethnicity. In addition, Arabic fosters religious identification by enabling the reading of religious texts, such as the Koran.

Since the labor migration in the 1960s, a large group of Turkish immigrants has settled in the Netherlands. Coming from rural areas in Central Anatolia and the Black Sea region, they constitute the largest minority group in the Netherlands. Given the predominance of their L2 (Dutch), a shift in language choice patterns is not unexpected (see Boeschoten, Dorleijn, & Leezenberg, 1993). The first generation of immigrants predominantly speak Turkish and have only limited competence in Dutch. Because of the requirements laid down by labor-demanding institutions, the educational status of Turkish migrant workers has always been above the average of the Turkish population. This suggests that the vast majority of them may be considered literate in their L1. The children of these immigrants are involved in a linguistic network which is quite complex. Their early language input is in Turkish, but soon Dutch enters into their lives by way of playmates and daycare. By the age of 6, these children are often bilinguals whose Turkish and Dutch language systems are in a state of flux (Verhoeven, 1987). At school they are submerged in a Dutch curriculum that includes home language instruction for a few hours a week. The question is, to what extent do second and subsequent generations of Turkish immigrants give up their L1 for oral and written communication within the minority group? Verhoeven and Boeschoten (1986) found that, between the ages of 4 and 8 years, the acquisition of L1 skills by Turkish children in the Netherlands can best be characterized as stagnant. In the long run, however, the norms of intergroup communication need not necessarily be adopted for intragroup communication. Shifts in language and literacy patterns within minority groups do not primarily result from the basic need to understand or be understood but from changing patterns in sociocultural orientation.

In the past few years, the number of Turkish people in the Netherlands has increased because of net immigration and natural growth. In 1995, their total number was 264,000 (Huls & van der Laan, 1996). The Turkish community shows an underrepresentation of females (45.6%) and an underrepresentation of older age groups (more than 20% of all Turkish immigrants in the Netherlands are under the age of 10). Family size shows wide variation. The number of interethnic marriages with Dutch partners remains low. The highest concentration of Turkish immigrants (37%) is found in the four largest cities of the Netherlands. Although there are no precise statistics on registered unemployment,

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there has been a continuous decline in the employment of Turkish people compared to the increase in the employment of Dutch people. These trends may be attributed in part to weaker work qualifications and high regional unemployment rates. However, other factors, such as discrimination in the labor market, also contribute to these divergent patterns. In 1990, 27,000 out of 63,000 Turkish immigrants belonging to the professional population and falling within the age range of 15 to 64 were unemployed. Presently, family reunification (including marriage) is almost the only way for Turkish people to immigrate legally into the Netherlands. Although a significant increase in immigration and birth figures has been forecasted for the 1990s, remigration figures are expected to remain low.

Minority children in Dutch primary schools make up about 10% of the population. In primary schools, home language instruction is being offered if the parents deem it necessary. These lessons are limited to 2 to 3 hours a week within the school curriculum. In 1993, 33,000 Turkish students were involved in home language instruction in primary school (77% of the population). And now home language instruction is also offered as a school subject in secondary schools. A target proficiency level for Turkish has been defined in great detail by the national examination board. As far as school results are concerned, there has been a marked increase in the number of minority children in special education. It is quite common for minority students to be overrepresented in lower level schools and underrepresented in higher level schools. Moreover, the dropout rate for minority students is relatively high; for example, in 1990 50% of the Turkish students left school without a diploma (cf. Crul, 1996). The low school results of these students have been attributed to low socioeconomic status; weak educational support by the parents; a low level of proficiency in Dutch; limited contact with Dutch people; poor housing conditions; inadequate schools, curricula, and funding; and low teacher expectations (cf. Roelandt & Veenman, 1990).

The present study offers a descriptive account of the levels of literacy attainment of Turkish children in the Netherlands by the end of primary school. The goals of the study were threefold. First, we wished to assess the school and functional biliteracy level of Turkish children in the Netherlands. We set out to compare the literacy level of these children, both in their L1 and L2, with the literacy levels of monolingual peers in Turkey and the Netherlands. Second, we wanted to discover if there were interrelationships between school and functional literacy in L1 and L2. Third, we wished to explore individual variation in the biliteracy levels of Turkish children in the Netherlands with regard to pupil, family, and school characteristics.

DESIGN OF THE STUDY

Subjects

In the Netherlands, 222 Turkish pupils enrolled in 45 primary schools participated in the research. They were randomly selected from primary schools throughout the country. All were in the final grade (grade 8) of primary school.

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Their ages varied between 11 and 14 years; the mean age was 12;7. Of the pupils, 54% were boys. The number of siblings varied between 0 and 9; the mean number of siblings was 3. The socioeconomic status of the children was generally low. One-third of the fathers and two-thirds of the mothers had not completed primary education; 20% of the mothers and 2.5% of the fathers were illiterate. Most (83%) of the mothers and 23% of the fathers did not work; 50% of the fathers and 13% of the mothers performed unschooled labor (i.e., they worked in factories or ran small shops). All the pupils had entered primary school in the Netherlands. Although a number of them were born in Turkey, they did not enter school there; they came to the Netherlands at a young age.

In addition to the group of Turkish pupils, a randomly selected group of 140 Dutch pupils participated in the research. The aim was to compare the level of functional literacy in Dutch as an L1 and as an L2. These children came from the same classrooms as the Turkish children. They were matched for socioeconomic background, age, and sex.

We also established a control group in Turkey comprised of 276 pupils at the end of primary school. The Turkish authorities allowed us to perform our investigation in six primary schools in Central Anatolia, the region where most of the Turkish immigrants in the Netherlands came from. The schools were located in a big city in the south and in a provincial town in the middle of Turkey. Schools in the center of town as well as schools in the poorer suburbs (*gecekondu*) were selected. In the control group, 52% were boys. The number of siblings varied between 0 and 8; the mean number of siblings was 3. The age of the pupils varied between 10 and 12 years; the mean age was 10;6.

The younger age of the Turkish control group has to do with two factors. The first factor is that Turkish primary school only includes five grades. Another option would have been to select students from secondary school. We decided against this because a large proportion of children in Turkey leave the school system after finishing primary school. According to figures of the OECD (1989) for the 1985/1986 school year, 98% of the children attended primary school, but only 54% of the children attended secondary school. The second reason for the age difference is that a large number of Turkish pupils in the Netherlands had to repeat a grade in primary school.

Instruments

School literacy proficiency. To measure school literacy in Turkish we used the Turkish School Literacy Test; this test consists of five different tasks which assess various linguistic levels. At the grapheme level, a Word Decoding task was constructed in which a word was spoken as the child was shown four written word representations, one of which corresponded with the correct representation of the word. The child was asked to mark the correct representation. The task included a total of 35 items. At the word level, two tasks were constructed. The Word Spelling task, consisting of 35 items, required the child to mark an incorrect spelling out of four alternatives. In the Reading Vocabulary task, 36 items were offered in which a word was presented along with four definitions of the word, one of which was correct. At the sentence level, a Syntax task was

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Table 1. *Overview of the tasks of the Turkish School Literacy Test and Cronbach's alphas for the tasks as established after administration in the Netherlands and Turkey*

Level	Task	*n* of items	Netherlands	Turkey
Grapheme	Word Decoding	35	.73	.91
Word	Spelling	35	.86	.88
Word	Reading Vocabulary	36	.79	.82
Sentence	Syntax	31	.78	.81
Text	Reading Comprehension	19	.64	.78

developed, consisting of 31 items. In each item, four syntactic constructions were offered, one of which was incorrect. The child was asked to mark the incorrect constructions. Finally, at the textual level, a Reading Comprehension task was constructed which consisted of four text fragments and 19 multiple-choice questions. For a detailed overview of this test, see Aarts, De Ruiter, and Verhoeven (1993). Table 1 presents a summary of the tasks and the Cronbach's alphas that were established after the administration of the tests in the Netherlands and in Turkey.

To assess school literacy in Dutch, we obtained the results for the Turkish pupils on the Eindtoets Basisonderwijs [Final Assessment of Primary School], a standardized test which is administered to pupils at the end of primary school (see Uiterwijk, 1994). The results of two subtasks were used, one measuring grammatical abilities and the other measuring discourse abilities in written Dutch. The Grammatical Abilities task consisted of 60 multiple-choice items in the areas of vocabulary, spelling, and syntax. The Discourse Abilities task involved 60 multiple-choice reading comprehension items.

Functional literacy. The Functional Literacy Test was designed to measure the abilities and knowledge required to perform literacy tasks in everyday life. It has become evident that the literacy skills taught in schools may not be relevant to everyday literacy tasks. Spratt et al. (1991) developed the Household Literacy Assessment, an instrument composed of a series of tasks representing the sorts of literacy activities that arise in Moroccan households. The Household Literacy Assessment measured the children's ability to make sense of the written features of four items: a letter, a newspaper, an electricity bill, and a box of medicine.

Taking this test as an example, we developed our own Functional Literacy Test. For our test we used items that are commonly found in Turkey and in the Netherlands; these included a letter, a page of a TV guide, the frontpage of a newspaper, an application form, and a map. Children encounter these items in everyday life; therefore the literacy activities these items require are functional activities. We gathered authentic material in Turkey and in the Netherlands. The tasks were constructed in a parallel fashion for the two languages. The 31 questions concerned, for example, the addressee and the sender, the time a certain program starts, the data of the newspaper, the place to sign the form, etc. The

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reliability of these tasks was established using Cronbach's alphas. Cronbach's alpha for the Functional Literacy Test in Turkish was .71 for the children in the Netherlands and .74 for the children in Turkey. Cronbach's alpha for the Functional Literacy Test in Dutch was .70.

Background characteristics. To gather the relevant sociolinguistic data, we used questionnaires developed separately for the pupils and their teachers. The background characteristics explored the characteristics of the pupil, the family, and the school.

Pupil characteristics included age, sex, number of siblings, sociocultural orientation, self-esteem, and the amount of reading at home. With regard to sociocultural orientation, 13 questions concerned the behavior and attitude of the child towards the minority and majority language and culture (cf. Gardner, 1985). These questions included the following: Which language do you speak at home? Which language do you prefer to speak? Are your friends mostly Turkish or Dutch children? Are you most interested in Turkey or in the Netherlands? Children answered these questions using a 5-point scale, ranging from "mostly/preferably Turkish" to "mostly/preferably Dutch." To measure the self-esteem of the pupils we used the part of the Piers–Harris Self-Concept Scale (Piers, 1984) which assesses the relation between self-esteem and achievement in school. This scale has proved its validity in several investigations. In our research, 15 statements were put to the children, to which they had to give a direct "yes" or "no" reaction. Statements included: I behave well in school. I get nervous when the teacher calls on me. It takes me a long time to finish work in school. I am important in my class. I perform well in school. If it gets difficult I give up soon. To estimate the amount of reading at home, 3 questions were asked which probed how often the children read a newspaper or a book and how often they wrote a letter.

Characteristics of the family included socioeconomic background, home stimulation, school support, motivation for schooling, language contact, and the amount of reading by the parents. Since there was no opportunity in our research project to interview the parents directly, we had to get the information concerning the family from the teachers and children. All teachers reported that they had direct contact with the parents via home visits and school talks, so that the information gathered can be seen as reasonably valid. In line with earlier research (Dronkers, 1990), the socioeconomic background of the family was measured by asking the teacher about the educational and professional status of both the father and the mother. With regard to home stimulation, 4 questions were put to the teacher. These questions probed whether the home environment offered a stimulating environment for the child. School support by the parents was measured by means of 7 questions. The questions related to the contacts the parents had with the teacher, their level of interest in the results of their child in school, their discussions with their child about school, etc. The parents' motivation for their children's schooling was measured by asking the first language teacher 3 questions regarding the importance the parents attributed to the education of their child. These questions were addressed to the Turkish teachers because in most cases they were in close contact with the parents and had an insight into

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the background of the pupils. Finally, language contact was measured through questions about the use of both languages at home and in the neighborhood and about the proficiency in Dutch of the parents. To determine the amount of reading by the parents, the pupil was asked to indicate how often each parent read a newspaper and a book and how often each parent wrote a letter.

Factors related to the schools the pupils attended were also considered relevant predictors. The school factors we measured were the make-up of the school population and the number of hours of instruction in Turkish at school per week. The presence of peers using the L1 or L2 was examined by computing the proportion of L1- or L2-speaking peers at school. The number of hours of instruction in Turkish was determined by computing the average number of home language instruction during the child's period of formal schooling.

The internal consistency of all the questionnaires used was satisfactory. Cronbach's alpha yielded values greater than .74.

Procedure

The tests and questionnaires were administered at the end of primary school in the Netherlands and in Turkey. In the Netherlands the questionnaires were written in Dutch, and in Turkey they were written in Turkish. The researchers were bilingual. Turkish research assistants who lived in the Netherlands administered the tests and questionnaires at the two locations. If necessary, they were allowed to help children who had difficulty with the questions in Dutch. The tests and questionnaires were, in most cases, administered in the classroom used for Turkish lessons and during the hours spent on Turkish. Sometimes the Turkish teacher was present.

To assess the children's literacy abilities in Turkish and in Dutch, means and standard deviations on each measure were computed. Using *t* tests, the differences in test performances between the groups of children living in a monolingual environment and the group of children living in a bilingual environment were tested for significance. Factor analyses were also conducted, clustering the scores on the tasks for school literacy and functional literacy in either language. By computing correlations between these factor scores, the interrelationship between school and functional literacy in the L1 and L2 was explored.

To uncover the relationship between literacy scores and the background characteristics, correlations were computed between the children's factor scores on both school literacy and functional literacy, obtained in each language, and the selected child, family, and school characteristics.

RESULTS

Literacy attainment

Table 2 presents the means and standard deviations of the children in the Netherlands and in Turkey on the subtasks of the Turkish School Literacy Test. On the measures for Word Spelling, $t(537) = 11.33$, $p < .001$, Reading Vocabulary, $t(535) = 10.88$, $p < .001$, and Syntax, $t(536) = 3.99$, $p < .001$, the children in Turkey scored significantly better than their peers in the Netherlands. On Word

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Table 2. *Means and standard deviations of the pupils in the Netherlands and in Turkey on the tasks of the Turkish School Literacy Test*

Task	*n* of items	Group	Mean	*SD*
Wording Decoding	35	Netherlands	33.66	2.05
		Turkey	33.62	3.37
Spelling	35	Netherlands	19.24	6.61
		Turkey	26.53	6.24
Reading Vocabulary	36	Netherlands	23.18	5.35
		Turkey	28.55	5.00
Syntax	31	Netherlands	21.30	5.38
		Turkey	23.38	4.90
Reading Comprehension	19	Netherlands	10.37	3.20
		Turkey	10.09	3.98

Table 3. *Means and standard deviations of the pupils in the Netherlands and in Turkey on the Turkish Functional Literacy Text*

Task	*n* of items	Group	Mean	*SD*
Total test	31	Netherlands	23.46	3.79
		Turkey	25.40	3.28
Letter	6	Netherlands	5.43	1.20
		Turkey	5.55	.96
TV guide	8	Netherlands	5.50	1.56
		Turkey	6.17	1.54
Newspaper	9	Netherlands	6.78	1.46
		Turkey	7.74	1.36
Form	4	Netherlands	3.50	.82
		Turkey	3.69	.69
Map	4	Netherlands	2.24	1.21
		Turkey	1.92	1.11

Decoding and Reading Comprehension, there were no significant differences in mean scores. Common factor analysis, carried out on the scores attained by the pupils in the Netherlands, showed that one factor in the test explained 60% of the variance.

On the Dutch School Literacy Test, the Turkish children scored about half of the items correct. For the whole Dutch school population, the average score was 70% correct. On each of the two subtasks for Grammatical Abilities and Discourse Skills, the differences in mean scores were significant ($p < .001$).

Table 3 presents the results of the pupils in the Netherlands and in Turkey on the Turkish Functional Literacy Test. In general, the children in Turkey performed better than the children in the Netherlands on the test, $t(387) = 5.06$,

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Table 4. *Means and standard deviations of Turkish and Dutch pupils on the Dutch Functional Literacy Test*

Task	*n* of items	Group	Mean	*SD*
Total test	31	Turkish	22.47	3.56
		Dutch	23.22	3.22
Letter	6	Turkish	5.26	1.45
		Dutch	4.54	1.81
TV guide	8	Turkish	5.02	1.56
		Dutch	5.76	1.65
Newspaper	9	Turkish	6.69	1.31
		Dutch	6.85	1.31
Form	4	Turkish	3.17	.78
		Dutch	3.26	.81
Map	4	Turkish	2.35	1.13
		Dutch	2.82	1.01

$p < .001$. However, the results varied over the subtasks. The children in Turkey did significantly better on the subtasks involving the TV guide, $t(448) = 4.47$, $p < .001$, newspaper, $t(437) = 6.62$, $p < .001$, and application form, $t(424) = 2.18$, $p < .05$. The pupils in the Netherlands scored significantly higher on the subtask involving the map, $t(424) = -2.64$, $p < .01$. Common factor analysis, carried out on the scores attained by the pupils in the Netherlands, showed that one factor explained 37% of the variance.

Table 4 presents the results of the Turkish pupils and a control group of Dutch pupils ($N = 140$) on the Dutch Functional Literacy Test. The Dutch children scored significantly better on the total test, $t(313) = 2.75$, $p < .01$. On the subtasks using the TV guide, $t(325) = 4.72$, $p < .001$, and map, $t(313) = 4.63$, $p < .001$, this was also the case. However, on the letter task the Turkish pupils scored significantly higher than their Dutch peers, $t(326) = -3.81$, $p < .001$. Common factor analysis on the scores of the Turkish pupils on the subtasks of the Dutch Functional Literacy Test showed that one factor explained 40% of the variance.

Comparison of the level of functional biliteracy among the Turkish children in the Netherlands showed that their total scores in their L1 were significantly higher, $t(163) = 5.34$, $p < .001$. The same result was obtained on the following subtasks: letter, $t(186) = 2.06$, $p < .05$, TV guide, $t(185) = 4.41$, $p < .001$, newspaper, $t(182) = 2.30$, $p < .05$, and application form, $t(178) = 5.44$, $p < .001$. Furthermore, the level of functional literacy in the two languages turned out to be significantly related. The Pearson correlation coefficient yielded a value of .54.

Correlational analysis

Table 5 presents the correlations between the factor scores on school literacy and functional literacy in Turkish and Dutch. It can be seen that school literacy

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Table 5. *Correlation matrix of Turkish School Literacy, Dutch School Literacy, Turkish Functional Literacy, and Dutch Functional Literacy of the Turkish pupils in the Netherlands*

	Turkish School Literacy	Dutch School Literacy	Turkish Functional Literacy	Dutch Functional Literacy
Turkish School Literacy	—			
Dutch School Literacy	.56**	—		
Turkish Functional Literacy	.46**	.37**	—	
Dutch Functional Literacy	.40**	.50**	.54**	—

**$p < .01$.

Table 6. *Pearson correlations between the background characteristics and factor scores on the Turkish School Literacy Test and the Turkish Functional Literacy Test*

	Variable	Turkish School Literacy	Turkish Functional Literacy
Pupil	age	–.14*	–.21**
	sex	.12	–.06
	number of siblings	–.03	–.09
	sociocultural orientation	.11	–.03
	self-esteem	.27**	.29**
	reading Turkish	.19*	.15
Family	SES	.14	–.05
	home stimulation	.31**	.22**
	school support	.16*	.14
	motivation for schooling	.24**	.17
	language contact	.11	–.06
	reading Turkish, mother	–.09	.04
	reading Turkish, father	–.14	–.04
School	instruction in Turkish	.17*	.05
	% ethnic minority students	.03	.01

*$p < .05$; **$p < .01$.

and functional literacy were significantly related in either language. The correlations between the levels of both school and functional literacy in Turkish and Dutch also turned out to be significant, showing that the literacy levels of children in the L1 and L2 were related as well.

Table 6 presents the correlations between the background characteristics and Turkish school literacy and functional literacy proficiency measures. It can be seen that the children's age yielded significant negative correlations with their literacy levels. This is probably due to the fact that the poorest scores were

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Table 7. *Pearson correlations between background characteristics and scores on the Dutch School Literacy Test and the Dutch Functional Literacy Test*

	Variable	Dutch School Literacy	Dutch Functional Literacy
Pupil	age	−.23*	−.33**
	sex	.09	−.04
	number of siblings	−.07	−.09
	sociocultural orientation	.18*	.07
	self-esteem	.40**	.24**
	reading Turkish	.04	.02
Family	SES	.23**	.20
	home stimulation	.50**	.39**
	school support	.13	.14
	motivation for schooling	.40**	.25**
	language contact	.30**	.13
	reading Turkish, mother	.06	−.02
	reading Turkish, father	−.05	−.12
School	instruction in Turkish	−.06	−.01
	% ethnic minority students	−.12	−.02

*$p < .05$; **$p < .01$.

obtained by the oldest children in the class, who had failed a grade or two. The children's self-esteem and home stimulation showed significant positive correlations with both school literacy and functional literacy, whereas the parents' motivation for schooling and instruction in Turkish at school yielded significant positive correlations only with school literacy.

Table 7 presents the correlations between the background characteristics and literacy levels in Dutch. As was the case with Turkish literacy, Dutch literacy was also negatively correlated with age. Children's self-esteem, home stimulation, and parents' motivation for schooling showed positive correlations with both school literacy and functional literacy, whereas children's sociocultural orientation, the socioeconomic status of the parents, and language contact in the family yielded significant positive correlations only with school literacy.

CONCLUSIONS AND DISCUSSION

The comparison of the acquisition of literacy by Turkish children in a L1 and L2 environment yields some interesting conclusions. Presenting these conclusions, we have to keep in mind that, although we tried to match the research and comparison groups as closely as possible with regard to region of origin, educational experience, and socioeconomic background, there were some significant differences between the groups. First of all, due to differences in the educational systems of Turkey and the Netherlands, our sample of Turkish children

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in the Netherlands was compared with a younger group of children in Turkey. Furthermore, there were undoubtedly differences regarding the social class of the family, the literacy level of the parents (e.g., more mothers in the Netherlands were illiterate), the quality of schooling, and pedagogical approaches. These differences should be kept in mind as we discuss our conclusions.

In general, the Turkish children in the Netherlands did not arrive at native-like literacy proficiency levels in both Turkish and Dutch. They were two to three years behind in their literacy skills in Turkish when compared to Turkish children in Turkey. At the same time, they were substantially behind monolingual Dutch children on measures of literacy and school achievement in Dutch. In other words, the Turkish children in the Netherlands were incapable of competing with the monolinguals in either country.

With respect to the attainment of Turkish literacy, it should be taken into account that the children in the Netherlands had received only a limited amount of home language instruction in the Dutch schools. In general, word decoding did not seem to be a problem for the Turkish pupils in the Netherlands. Their scores on this task were as high as those of the pupils in Turkey. This may be due to the fact that word decoding is a basic skill, which is mastered by the children at the end of primary school, regardless of the language environment in which the children grow up. Also, it is true that learning to read Turkish is relatively simple, because of the shallowness of the Turkish orthography (cf. Oney & Goldman, 1984); once the basic system of phoneme–grapheme correspondence is mastered, one can read. Also, given the fact that both Turkish and Dutch make use of the Latin alphabet, it seems that decoding skills can be easily transferred from one language to the other (cf. Verhoeven, 1994c). However, a word of caution should be offered, given the fact that our decoding measure reflected accuracy and not speed. Speed of word reading is a better predictor of reading comprehension; it is an achievement that requires practice and relates to the amount of time spent reading in the target language (cf. Stanovich, 1986). Therefore, it is entirely possible that the expatriate Turkish children could read Turkish words quite well but had limited comprehension because of effortful processing and therefore would not make continued progress in comprehension. On the reading comprehension task, the Turkish pupils in the Netherlands obtained similar scores as their younger peers in Turkey. Their current parity with the Turkish comparison group might reflect the fact that, since they are attending relatively poor schools, the children in Turkey in their fifth year of schooling are just emerging into the stage of fluent reading. It is also the case that the children in Turkey have more opportunities to read Turkish and thus develop fluency and comprehension—opportunities which inevitably are more limited in the Netherlands. On spelling, reading vocabulary, and syntax, the children in the Netherlands obtained reasonable scores, but their scores were substantially lower than those of their peers in Turkey. These tasks refer to typical school literacy skills, which are somewhat less fully mastered in a L2 submersion environment, in which only a limited amount of home language instruction is given. Turkish children in the Netherlands also obtained lower scores on functional literacy tasks than the children in Turkey. On these measures they also seemed to lag two to three years behind.

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With respect to the development of literacy in Dutch as a L2, it is clear that Turkish children generally lagged behind their monolingual Dutch peers. On school literacy tasks, the differences were quite substantial. This finding conforms to the results of earlier studies (see Uiterwijk, 1994; Verhoeven, 1990; Verhoeven & Vermeer, 1985). On functional literacy tasks, however, the children in the Netherlands attained almost native-like performance. This finding shows that, although Turkish children lag behind in the acquisition of the Dutch language, Dutch schools succeed in teaching functional language skills in that language.

The study on individual variation points to some interesting findings. Home stimulation, parents' motivation for schooling, and children's self-esteem were the factors that most strongly related to the children's literacy level in both Turkish and Dutch. Home stimulation in particular appears to be a crucial factor. This result is consistent with the outcome of earlier studies that examined the relationship between the involvement of parents and the language and academic performance of their children (see Snow et al., 1991; Stevenson & Baker, 1987).

Another finding is that Turkish language instruction in the Netherlands turned out to be effective in enhancing the children's school literacy in the L1. The number of Turkish books read by the child was also positively related to the acquisition of literacy in the L1. It is clear that sufficient support helps children maintain their L1. Furthermore, the children's school literacy in Dutch turned out to be related to their sociocultural orientation. This finding lends support to the claim that the degree of identification of minority children with the majority culture is a crucial factor for L2 development (see Lambert, 1976, 1978; McNamara, 1996). Furthermore, both the children's L1 and L2 literacy levels appeared to be negatively related to their age level. This finding shows that there are children in the Netherlands who continue school without being very successful over the years.

The present study also found that the children's school and functional literacy levels in Turkish and Dutch were interrelated. As such, empirical evidence for Cummins' interdependency hypothesis is found. It could be hypothesized that sufficient support to literacy in the L1 may enhance children's literacy skills in that language, which in turn may have a positive effect on their literacy skills in the L2. However, given that in this study we were dealing with cross-sectional data, we should be extremely cautious with casual reasoning (see also Verhoeven, 1994c).

Finally, our study made clear that children's functional literacy level in both the L1 and L2 was moderately related to their level of school literacy. School achievement in the Netherlands seems to share some important features with functional competence but does not necessarily include it. There is the risk that school practices make the beginning of literacy more difficult, especially for children with a low socioeconomic background. Because these children generally lack the full participation in literacy events in the home, they start primary school with little understanding of the meaning and purposes of written language. In most contemporary primary schools in the Netherlands, the social purposes of reading and writing remain outside the school setting. As a result, disadvantaged children learn that literacy is a function of an exclusive school

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activity. Repetition of classes and school drop-out may be the consequences of such a narrow scope of literacy. In order to overcome such problems, we recommend that children participate in small-group activities related to literacy experiences in which the (re)creation of written language is considered meaningful (cf. Verhoeven, 1996).

Naturalistic studies like the present one may be the first step towards answering questions about the attainment of literacy in a L2 environment. To arrive at a more complete understanding, we need longitudinal studies in which literacy data as well as detailed observations concerning the sociocultural and linguistic background of minority children are collected. In that case, causal explanations between background characteristics and differential patterns of L1 and L2 literacy under the conditions of submersion in a L2 environment can be uncovered.

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