

Are Immersion Programmes Appropriate for Students with Special Needs?

Margot Kinberg

Knox College, Galesburg,
USA

ABSTRACT

Foreign language immersion programmes are programmes of second language study in which the target language is the medium, rather than the topic, of instruction. Students enrolled in such programmes are thus exposed to the second language in all content areas throughout the school day, with the exception of native language arts instruction. Early immersion programmes begin in Kindergarten or Grade One or their equivalents. Late immersion programmes begin in junior high school or high school or their equivalents (Met, 1993).

Research into the efficacy of immersion programmes has produced mixed results. Some studies have shown that immersion programme students achieve near-native proficiency (e.g., Pawley, 1986; MacFarlane & Wesche, 1995). Others, however, suggest that students in immersion programmes do not approach native-like proficiency (e.g., Lyster, 1987). While these studies have yielded a great deal of information about language acquisition in immersion programmes, they have focused on regular-education students. Little information on the suitability of immersion programmes for special-needs students, particularly those with language deficits, is available. This paper seeks to fill this gap in our understanding about immersion programmes.

First, background information on immersion programmes is provided. Here it will be argued that, while certainly not perfect, these programmes are successful in helping regular-education students achieve high (though not native-like) levels of second-language proficiency. Next, the question of the suitability of immersion programmes for special-needs students, particularly those students with language deficits, will be raised. A study bearing on this question will then be presented. In this study, US immersion programmes were assessed as to the level of services they provide to special-needs students, their instructional adaptations and the success of their students. Finally, results of this study, together with conclusions and implications for immersion programmes and for the education of children with language deficits will be presented.

KEY WORDS: Second Language Learning, Immersion Programmes, Special-Needs Students, Proficiency, Foreign Language Learning, Disabilities

Are Immersion Programmes Appropriate for Students with Special Needs?

Many studies of foreign language immersion programmes have focused on whether they are successful at producing proficient speakers of target languages. This research has added much to our understanding of how these programmes function, their strengths and weaknesses and whether students enrolled in them become proficient. However, little research has been conducted on the experiences of special-needs students enrolled in immersion programmes. Are these students successful in such programmes? Are immersion programmes appropriate for this population? If not, how might they be adapted for special needs students?

This paper addresses these gaps in our knowledge. Background information on immersion programmes is provided. A brief review of the literature on immersion programmes is used to argue that, despite limitations, they can be successful language learning environments for regular education students.

Following this, the paper addresses the question of the appropriateness of immersion programmes for special needs

students, particularly those with language deficits. The paper then describes a study bearing on this issue. Finally, the results of this study, together with conclusions and implications for immersion programmes and for the education of students with, especially, language deficits are presented.

INTRODUCTION

Before any discussion of whether immersion programmes are suitable for those with language deficits and other special needs, let us establish what is meant by an immersion programme. It is difficult to characterise these programmes since they vary greatly; nevertheless, one feature distinguishes them from other approaches to foreign language instruction. In an immersion programme, the target language is the medium of instruction, rather than its topic. That is, content areas (e.g., Mathematics, History, Science) are taught in the target language (Met, 1993).

All immersion programmes share some characteristics, including target language content area instruction by a native speaker of that language, emphasis on communication and daily exposure to the target language. However,

there are several different immersion models within the general category. Many of these models are *full immersion models*, in which students are exposed to the target language during the entire school day, except for native Language Arts instruction.

FULL IMMERSION MODELS

The Conventional Immersion Model

The conventional model is the classic immersion model. Conventional immersion models are designed for majority-language students learning a minority language. Students in these programmes begin their exposure to the target language early in their school careers (pre-Kindergarten, Kindergarten or Grade One). All instruction in these programmes takes place in the target language and teachers are either native speakers of the target language, or second-language dominant bilinguals. Immersion programme students begin studying Language Arts in their native language later in their school years, usually in Grade Three (Genesee, Holobow, Lambert, & Chartrand, 1989). Two forms of the conventional immersion model have evolved.

Early Immersion Programmes (EIPs)

The EIP is the most common form of the conventional immersion model, possibly because of the strong support for the theory that underlies it. Much research (e.g., Johnson & Newport, 1991) suggests that childhood is the optimal time for learning language. If this is true, then children who begin learning a second language early in life become more proficient than those who begin later. EIPs are based on this assumption.

EIP students begin target-language instruction at age five or six; this instruction lasts at least until 14 and may last even longer, until age 17 or 18. The goal is to expose the child to the target language as soon and as extensively as possible. Children in these programmes do not begin native Language Arts instruction until Grade Three. After that time, instruction in native Language Arts takes place in the native language; however, instruction in all other content areas is in the target language (Met, 1992; Genesee et al, 1989).

Late Immersion Programmes (LIPs)

In contrast to the EIP, however, students in LIPs begin their target-language instruction in junior high or sometimes high school (Genesee et al, 1989). This option is used in school districts where implementing the EIP is impracticable or where the district chooses to keep to the US tradition of holding off on teaching foreign language until students are older.

The conventional immersion model was the original form of immersion education. For many, it is still the model most closely associated with the term, "immersion." However, several other full-immersion models have been developed which merit discussion.

The Two-Way Immersion Model

The two-way immersion model, like the conventional model, is built around a target language, with that language as the medium of instruction. What distinguishes this model is that it is designed to serve native speakers of two

languages, rather than one. In the US, two-way immersion models integrate native speakers of English with native speakers of a minority language. For each group of students, the other language is thus a target language. A major goal in this model is for each group to develop proficiency in both languages (Christian, 1996).

Two-way models have several possible organisations; however, an essential component of all two-way models is that children whose first language is English are taught in the same class with children whose first language is the other target language.

The usual approach to the two-way model is to separate language instruction in one of three ways. In some programmes, languages are separated by content area (e.g., Math and Science in one language and Social Studies and Language Arts in the other). In others, the languages are separated by days; instruction takes place in one language on some days and in the other language on other days. A third option is available when a classroom has two instructors. In this case, languages can be separated by instructor, so that one instructor in a given class speaks only the native language, while the other speaks the target language (Christian, 1996).

An example of the two-way immersion programme may be found in the Emerson Spanish Language Immersion Center (Minneapolis, MN). In this K-8 school, students whose first language is Spanish are integrated with students whose first language is English. Instruction takes place in some subject areas in Spanish; others are taught in English. Some instructors are native speakers of Spanish; others are English-dominant bilinguals. Thus all students learn in their own language and are also exposed to the other on a daily basis (Kinberg, 2000).

The two-way immersion model is seen by many as an effective approach to meeting the needs of the growing population of students in US schools whose first language is not English and who may not be sufficiently proficient in English to compete in a regular (English-only) classroom. The argument for such a model is that all students learn at least some content in their own language. Thus, they develop native-language proficiency and second-language proficiency while keeping pace academically. Furthermore, as each group is learning the other's language, tolerance and appreciation of diversity increases.

However, the two-way model does present challenges. For instance, Valdez (1997) mentions quality of instruction, power and social class issues and effects of two-way immersion on relations between groups of students as risk factors. That is, there may be many non-linguistic reasons for which English may become the dominant language in the two-way classroom. For instance, if minority students feel that English is the language of power or if they feel that they will not be accepted if they speak their own language, they may feel pressure to use English (McCollum, 1993). While that outcome would help minority students develop English proficiency, it is likely not beneficial in maintaining their native-language proficiency, cultural identity, or self-concept. Also, overuse of English in a two-way model defeats the purpose of helping speakers of English to learn another language.

Some studies of two-way models suggest that students use the minority (i.e., target) language in non-academic settings more often in elementary than in secondary grades (Tarone & Swain, 1995). If this is the case, then majority-language students have less exposure to the minority

language as they progress in school; therefore, they may not develop proficiency.

In order to preserve the balance of languages (and thus, of language use, proficiency, etc.), Christian (1996) suggests that teachers using two-way models should pay particular attention to which language is being used, so that the target language is used for both academic and social interaction at least 50% of the time. In fact, Christian claims that some research even suggests the balance should be weighted more heavily towards the target language than towards English.

The Double-Immersion Model

In the conventional immersion model and the two-way model, students who are native speakers of one language are taught content material in a target language. However, in the double immersion programme, students who are speakers of one language are taught regular content in two other languages. Genesee and Lambert (1983) describe one such programme in which English-speaking children who attended a Hebrew day school (and thus, were immersed in that language) were also taught some content areas in French.

This model differs from the conventional model in that students in such a programme are not exposed exclusively to either target language. However, this model is similar to the full immersion model in that students in double immersion programmes are not (except for native Language Arts instruction) exposed to their native language during the school day.

Partial Immersion Models

Research suggests that full immersion programmes can be successful approaches to helping students achieve proficiency in another language; however, because of funding and academic scheduling, some school districts have chosen not to adopt the full immersion model. Instead, they have opted for partial immersion models.

At least three partial immersion options exist. In one model, implemented in Key Elementary School (Arlington, VA), students are taught in the target language for part of the school day and in their native language for the rest of the day (Barfield, 1995).

In another version of the US partial immersion model, students are taught one or a few subjects in the target language; other subjects are taught in English. This type of programme is often used in cases where subjects are not necessarily taught at the same time each day. For example, in Central Foreign Language Magnet School (Kansas City, MO), students learn Science, Math and/or Social Studies in one of three languages (Spanish, French, or German). Other content areas are taught in English (Clay, 1991).

A third possibility for the partial immersion programme is to have two instructors present in the classroom. In this situation, the language used in the classroom varies by instructor. Each instructor uses only one of the two languages being taught, so that each group of students is exposed to both languages for the entire school day (Christian, 1996).

On the surface, it appears that the partial immersion model and the two-way immersion model are identical. In both models, the students are exposed to two different languages. However, a crucial distinction must be made between these models. Two-way immersion models are

intended for two groups of students, where each group has a different native language. In contrast, partial immersion programmes serve students who have the same language background. Thus, students in partial immersion programmes are (in the case of the US) native speakers of English learning another language.

Have Immersion Programmes been Successful?

Immersion programmes are widely accepted as viable approaches to second language pedagogy and the results of early studies of immersion programmes were encouraging. For instance, Holobow, Genesee and Lambert (1987) found that English-speaking learners in French immersion programmes became proficient regardless of SES and ethnic background, both of which factors typically affect school performance. In a study of another French immersion programme, Genesee et al (1989) found that students who had been involved in an immersion programme from the beginning of their education were more proficient than their counterparts who had studied French in more traditional programmes. In an earlier study, the Edmonton Public Schools (1983) had found that students in their German/English immersion programme not only outperformed their peers in more traditional foreign language programmes, but also showed no deficits in English language skills.

Similar results were found in a study of an English/Ukrainian immersion programme (Gillett, 1987). Here, students enrolled in the programme showed greater second language proficiency than students involved in more traditional programmes. Furthermore, the immersion programme students showed no deficits in English language skills, Math skills, or other cognitive skills.

Positive results were even found in a study of a double-immersion programme, which refers to an immersion programme in which speakers of a dominant language receive instruction in two target languages. In this case, the target languages were German and Hebrew; the first language was English. In this instance, participants in this programme showed greater proficiency at German and Hebrew than their counterparts who had been exposed to more traditional instruction. Again, no deficits were found in English language skills.

Based on this evidence, it would appear that immersion programmes have been successful at producing proficient speakers of target languages. However, a closer look at some of these studies, as well as some more recent research, raises some questions about the success of students in immersion programmes.

Speaking

As a part of a larger study, Genesee et al (1989) tested the oral proficiency of EIP and LIP students on measures of comprehension, pronunciation, syntax and communicativeness. On all of these measures, scores of both groups of French immersion programme students were considerably lower than those of their native-speaking peers. Lyster (1987) reports that his eighth-grade immersion programme students were able to communicate almost any thought effectively, yet they regularly produced lexical errors. In another study (Day & Shapson, 1989), third-grade French immersion programme students were found to be comparable to their francophone counterparts in fluency but not in accuracy. Hamm (1988) administered the ACTFL

Oral Proficiency Interview to high school graduates of an Ontario immersion programme and graduates of traditional Core French programmes. She found that immersion programme graduates were well able to communicate verbally but did not communicate as accurately as their counterparts in more traditional programmes.

It seems, then, that if one conceives of oral proficiency as the ability to communicate a message verbally, immersion programme students may be said to be proficient in oral skills. Yet, if one considers the accuracy of the grammar used in such messages, this success is not so evident.

Listening

MacFarlane and Wesche (1995) studied outcomes among Ottawa immersion graduates. These researchers reported that their graduates showed near-native proficiency in measures of listening comprehension. In another study, Pawley (1986) reported that listening comprehension was the strongest skill area for her French immersion programme students. However, Genesee et al (1989) also tested EIP and LIP students' listening comprehension skills. Both groups of subjects in this study scored significantly lower than French-speaking controls on these tests.

Heitzman (1994) found that her fifth- and sixth-grade Spanish immersion programme students were able to understand verbal instructions in Spanish, particularly if they dealt with familiar material and objects. On the other hand, when the material was new or difficult, these learners had more difficulty in comprehension than native speakers would have had.

It appears that the subjects in these studies were able to comprehend the target language, especially when they were listening to familiar or easy material. However, immersion programme students' listening skills, in at least some of the studies examined here, lagged behind those of native speakers. If this gap in comprehension between native speakers and immersion programme students is real, then the immersion programme students in these studies do not appear to be fully proficient in listening skills.

Reading

Genesee et al (1989) reported some encouraging findings on immersion programme students' reading ability. These researchers found that students in a French language immersion programme scored only slightly lower on tests of reading comprehension than did native-speaker counterparts. In Pawley's aforementioned study of French immersion programme students, it was found that immersion students' reading comprehension scores were almost equal to those of native speakers of French.

Writing

Studies of immersion programme students' writing skills have not been encouraging. Genesee et al (1989) found that immersion programme students scored significantly lower than French-speaking control subjects in vocabulary and French accuracy scales. However, it should be clearly noted that these subjects equalled their francophone counterparts in measures of sentence variety, organisation and overall rating of composition. More recently, Howard and Christian (1997) studied English and Spanish speaking subjects in a two-way immersion programme. These researchers found

that both groups of students performed equally on English compositions; however, native speakers of Spanish outperformed their English-speaking peers on Spanish compositions.

It is difficult to draw strong conclusions from the results of these studies, given the ambiguous nature of the findings. However, a few patterns seem to emerge. First, it seems that immersion programme students show strong listening comprehension and reading skills and perhaps less well-developed writing and oral proficiency skills. Also, the immersion programme students in this study seem to outpace their peers in more traditional language programmes, except where accuracy is concerned. Finally, it seems that immersion programme students have performed at levels close to those of native speakers on at least some measures, although this is by no means an overwhelming tendency. In sum, then, it seems that immersion programmes can be successful at helping regular-education children achieve high (though not native-like) levels of proficiency.

IMMERSION PROGRAMMES AND CHILDREN WITH SPECIAL NEEDS

Can the same claim be made in the case of children with special needs? Can these children also benefit from the immersion programme experience? For children with physical disabilities such as certain forms of cerebral palsy or mild spina bifida, there is not necessarily an accompanying loss of intellectual or language function (although speech may be affected) (Heward, 1999). This kind of disability would therefore not necessarily hinder the affected child's ability to learn content in another language.

What of children whose disability involves loss of language function? Can children with language deficits succeed in an immersion programme? At first glance, it would seem unlikely. Immersion programmes tend to expose all students to the same amount of target language at the same rate; they may not allow for individual differences in learning. Netton and Spain's (1989) research supports this possibility. They found that low achievers in the French immersion classrooms they observed were not as able to take advantage of the existing classroom opportunities as their higher-achieving peers, even though low achievers generally benefit most from many and varied opportunities for practice with new or difficult concepts (Heward, 1999). If it is true that many immersion classrooms do not typically accommodate individual learning needs, then learners with deficits in such areas as language or cognitive development would presumably be at quite a disadvantage in an immersion classroom (Wiss, 1989).

The outlook for children with language deficits in immersion programmes may, however, not be as bleak as it first appears. It has been seen that one of the main obstacles to success for language-disabled students in immersion programmes may be lack of individualised instruction. If immersion programmes were designed to meet the individual special needs of children with disabilities such as language deficits, it might be conceivable that such learners could succeed in these programmes.

Bruck (1978) explored this possibility in her longitudinal study of English-speaking children in French immersion programmes in Québec. In the programme Bruck studied, children with language learning deficits in immersion programmes were compared with peers whose language development was normal.

It was found that language-disabled children not only acquired French proficiency but they also learned the basics of their own language and fundamental concepts in reading, spelling and math. Bruck used this evidence to argue for not transferring language-disabled children out of French immersion programmes. Instead, Bruck advocated for remedial instruction within the immersion programme for those students with language learning deficits.

More recently, Frantz and Wexler (1994) studied a Philadelphia, PA programme of English immersion instruction specifically designed for speakers of other languages who have disabilities. This programme, for students between ages five and 19, features individualised instruction and a focus on authentic living situations and real communications needs - in other words, functional academics. Frantz and Wexler reported high achievement among students in the programme and an increase over time of their willingness to communicate in English.

The successes described here should not be interpreted to mean that children with language deficits have faced no difficulties in learning another language in the immersion setting. For example, Bruck (1982) studied the second language development of language-impaired speakers of English learning French in a Québec immersion programme. She found that, after two years in the programme, these students' second language skills had improved but not at a rate comparable to that of their non-disabled peers.

METHOD

AIM

It is possible then, that students with special needs, in particular language-disabled students, can succeed in immersion programmes, although perhaps not at the level of non-disabled students. To test this possibility, a study was conducted of US immersion programmes. The goal of the study was to determine whether students with language deficits are succeeding in these programmes.

Hypotheses

Researchers such as Bruck (1978; 1982) suggest that providing remedial instruction may be a viable alternative to excluding special needs students from immersion programmes. Frantz and Wexler (1994) describe a successful English immersion program for special needs students in which instruction is individualised. If these researchers are correct, then one would predict that special needs students would tend to be successful in immersion programmes that provide such services and less successful in programmes that do not. Therefore, it was hypothesised that there would be a positive relationship between success rates of students with special needs and number of adaptations.

It was also hypothesised that special needs students in immersion programmes would attain some proficiency in the target language but not at the rate of their regular education peers.

PROCEDURES

Subjects

One hundred forty-six US full and partial immersion programmes were identified and selected for study. A representative from each program was then contacted and

asked to complete a questionnaire designed to elicit information on the program's services to students with disabilities.

Of the representatives originally contacted, sixty (41%) consented to participate in the study. Of this pool of subject programmes, fifteen (25%) do not currently provide services to students with disabilities; they were eliminated from the pool of respondents. The final pool of participants consisted of 45 schools.

THE QUESTIONNAIRE

Programmes reporting services to students with special needs were requested to respond to a ten-point questionnaire (see Appendix A). They were asked to provide information on the categories of special needs they serve, the number and kinds of adaptations available for students with special needs, the percentage of students with special needs who are promoted after one and two years, the proficiency level those students achieved and the annual attrition rate for students with special needs. Finally, participants were asked to identify the approach to immersion education that they use (full immersion or partial immersion), the grade level(s) served in the program and the program's target language(s).

RESULTS

Once the participants had completed and returned the questionnaire, their responses were tabulated. General information about the types of immersion programmes offered by the respondents and the languages taught are shown in Tables 1 and 2; categories of students served and adaptations available are shown in Tables 3 and 4.

TABLE 1. Languages Taught in Participant Schools

Language Taught	Percentage of Schools Offering Language
Spanish	55
French	42
Japanese	8.8
Hawaiian	6.6
German	6.6
Indigenous Languages	2.2

TABLE 2. Programme Types Offered in Participant Schools

Program Type	Percentage of Schools Offering Each Type of Language
Partial Immersion	
– Elementry	33
Full Immersion	
– Elementry	27
Partial Immersion – Middle/High School	13
Pre-K and Full K-8	13
Partial Immersion K-12	8.8
Full Immersion K-12	4.4
Full immersion – Middle/High School	2.2

The majority of participant schools offer only one target language. However, eight participant schools offer more than one immersion programme; all of these schools offer Spanish and French. Two offer German as well as Spanish and French, one school offers Japanese in addition to French and Spanish and one offers Dutch in addition to French and Spanish.

For the purposes of this study, schools offering all content area instruction in a target language were included in the "Full Immersion" category. Schools offering target-language content area instruction for part of the day or on some days were considered "Partial Immersion."

Current US legislation requires that school districts provide special services to students falling within certain disability categories¹. The categories chosen for this study are based on these categories. Since schools are required to provide accommodations for students falling into special-needs categories, it was of interest to determine what special services and accommodations were provided by participant schools. Table 4 provides an overview of these adaptations.

After descriptive information was obtained regarding categories of students served and services available in participant programmes, attention was turned to evidence of student success in these programmes. Participants were asked to report overall proficiency ratings of special needs students as compared to regular education students. Proficiency ratings were based upon schools' evaluations of their students' written and oral expression, reading skill and comprehension. Schools were also asked to provide percentages of students with special needs who are promoted after one year and after two years and annual attrition rates for the special needs population. This information is shown in Table 5.

As can be seen in Table 5, a substantial number of respondent programmes (61%) reported that their special needs students achieved proficiency levels that were similar to or slightly lower than those of non-disabled peers. However, 35% of the participants reported that the proficiency of their students with special needs was moderately or significantly less than that of non-disabled peers, or that special needs students developed minimal or no proficiency.

Table 2 shows that most schools reported using modified instruction and/or speech/language therapy and several schools reported using more than one adaptation in their immersion programmes. Since many of these schools also reported relatively high rates of proficiency among their students with special needs, it was of interest to determine if there was a relationship between number of adaptations and proficiency.

It will be recalled that there was a discrepancy between proficiency results for students with language deficits and those with other disabilities. Therefore, it was decided to also examine whether programme type might affect proficiency. To explore these questions, ANOVAs were conducted on the data in order to determine whether these factors might lead to higher proficiency ratings ($\alpha=.05$, $df=1$, * indicates statistical significance for all analyses). Results are shown in Table 6.

Table 6 shows that number of adaptations had a significant effect on proficiency for all disability categories; greater number of adaptations were related to higher

proficiency levels. Also noted was an effect of programme type on proficiency. Here, full immersion programmes were related to higher levels of proficiency for all disability categories except for language deficits. For children with language deficits, higher levels of proficiency were associated with partial immersion programmes.

Since promotion and attrition rates are also arguably measures of success in immersion programmes, it was decided to examine data on these rates more closely. Table 7 shows promotion rates after one and two years and annual attrition rates for students with special needs.

As Table 7 shows, rates of promotion after one and two years tended to be high, with 93% of schools reporting a 75% or higher rate of promotion after one year. Annual attrition rates were low; 84% of schools reported attrition rates of 10% or lower. In order to explore these results more fully, ANOVAs were conducted on the promotion and attrition data. Results are shown in Tables 8 and 9.

The number of adaptations had a positive effect on proficiency for children in all disability categories, including language deficits. Programme type also affected proficiency in all disability categories, including language deficits; K-12 full immersion programmes reported higher proficiency than other programme types.

TABLE 3. Categories of Students Served in Immersion Programmes

Disability Category	Percentage of Schools Serving Students in Each Category
Learning Disabilities	93
Behaviour Disorders	64
Speech Disabilities	64
Language Disabilities	22
Hearing Loss	20
Orthopedic Disabilities	20
Mental Retardation	4.4
Vision Loss	4.4

TABLE 4. Adaptations Available in Immersion Programmes

Adaptation	Percentage of Schools Using Each Adaptation
Modified Instructional Techniques	82
Speech/language Therapy	66
Classroom Aides and other Paraprofessionals	38
Assistive Technology	27
Language Development Software	18
Self-Contained Immersion Classrooms	13
Wheelchairs, Ramps and Other Devices to Enhance Accessibility	16
Modified Reading Material	16
Braille Materials	4.4
Kurzweil Reading Machines	2.2

¹ See Heward (1999) for detailed definitions of each category.

The number of adaptations also turned out to have a negative effect on annual attrition rates for all disability categories, including language deficits; schools with more adaptations tended to have lower attrition rates.

Programme type also affected annual attrition rates in all disability categories, including language deficits. Partial immersion programmes serving children with language deficits reported lower attrition rates than did their full

TABLE 5 - Proficiency Ratings for Special Needs Students in Immersion Programmes

Proficiency Ratings of Special Needs Students as Compared with Regular Education Students	Percent of Schools Reporting each Level of Proficiency
About the same Proficiency	35
Slightly Less Proficient	26
Moderately Less Proficient	24
Significantly Less Proficient	6.6
Minimal to No Proficiency	4.4

TABLE 6 - ANOVA Summary Table of Effects on Proficiency Ratings

All Disability Categories				Children With Language Deficits			
Source	ANOVA SS	F	P	Source	ANOVA SS	F	P
No. Adapt.	312.88	*25.88	<.0001	No. Adapt.	54.95	*12.06	.0002
Programme Type	820.22	*20.45	<.0001	Programme Type	10787.7	.97	.33
Language	1050118	1.56	.21	Language	10787.8	.97	.33

TABLE 7- Promotion Rates and Annual Attrition Rates for Students with Special Needs

Promotion Rates after 1 year	Percent of Schools Reporting Each Rate	Promotion Rates after 2 years	Percent of Schools Reporting Each Rate	Annual Attrition Rates	Percent of Schools Reporting Each Rate
75-100%	93	75-100%	49	75-100%	2.2
50-75%	4.4	50-75%	6.6	50-75%	4.4
30-5-%	0	30-50%	0	30-50%	4.4
10-30%	0	10-30%	0	10-30%	4.4
0-10%	2.2	0-10%	24	0-10%	84

TABLE 8 - ANOVA Summary Table of Effects on Promotion and Annual Attrition Rates for All Disability Categories

Promotion After 1 Year				Promotion After Two Years				Annual Attrition Rates			
Source	ANOVA SS	F	P	Source	ANOVA SS	F	P	Source	ANOVA SS	F	P
Adapt.	212.1	*7.61	.007	Adapt.	330.7	.07	.78	Adapt.	373.65	*64	<.0001
Pgm.	625.8	.03	.84	Pgm.	770.1	1.08	.30	Pgm.	906.2	*35	<.0001
Lang.	1046736	1.2	.26	Lang.	1047761	1.35	.24	Lang.	1051111	1.64	.20

Table 9- ANOVA Summary Table of Effects on Promotion and Annual Attrition Rates for Children with Language Deficits

Promotion After 1 Year				Promotion After Two Years				Annual Attrition Rates			
Source	ANOVA SS	F	P	Source	ANOVA SS	F	P	Source	ANOVA SS	F	P
Adapt.	20.95	.39	.53	Adapt.	52.1	1.17	.29	Adapt.	91	*23.5	<.0001
Pgm.	36.2	2.88	.10	Pgm.	60.95	.37	.54	Pgm.	68.5	*6.43	.02
Lang.	10602.55	.66	.42	Lang.	10675.8	.74	.40	Lang.	10916.2	1.18	.29

immersion counterparts. The K-12 full immersion programmes serving other children reported lower attrition rates than did their partial immersion counterparts.

DISCUSSION

It was hypothesised that children with disabilities could be successful in immersion programmes. Evidence from this study, while not conclusive, does support this hypothesis. A review of Table 5 shows that 61% of participant schools reported that their students with special needs achieved similar or slightly lower levels of proficiency than their non-disabled peers.

Other indicators of success were also encouraging: 93% of schools reported that 75-100% of their special needs students were promoted after one year and 84% of schools reported 0-10% annual attrition rates.

The other prediction made in this study was that special needs students would not succeed at the level of their non-disabled peers. Evidence shown in Table 5 supports this hypothesis. Nearly 31% of participant schools reported that their special needs students achieved moderately or significantly less proficiency than their non-disabled peers and 4.4% reported that their students with special needs achieved minimal or no proficiency. Further research will be necessary to determine exactly why a given student might not succeed in an immersion programme. However, the present results hint at some possibilities. It will be recalled that partial immersion programmes reported higher proficiency for students with language deficits than did full immersion programmes. This finding will be discussed in more detail later; at this point, it is important to note that perhaps students with language deficits do not enjoy the success in partial immersion programmes that they do in full immersion programmes because full immersion programmes do not provide the first-language support structures that these students need.

While type of programme may explain some students' lack of success in immersion programmes, it does not explain why the proficiency of students with disabilities other than language deficits did not equal that of their non-disabled peers in this study. One possible explanation comes from Netton and Spain (1989) who argue that low-achieving students are not able to take advantage of learning opportunities to the extent that their higher-achieving peers can. If this is true, perhaps the students in this study found it more difficult to benefit from practice and other learning opportunities than did non-disabled students in these programmes.

There is another possible explanation for the difference in proficiency levels between the regular-education and special-needs students in the schools involved in this study. Wiss (1989) argues that students with special needs (particularly cognitive and language deficits) require more individual attention than is usually available in immersion programmes. If the special-needs students enrolled in the participant programmes require more individual attention than their regular-education counterparts, it is not surprising that they had lower levels of proficiency than the regular education students in the participant schools. This effect may be compounded by the effect of lack of ability to take advantage of classroom learning opportunities mentioned above. Despite these differences in proficiency, however, it is important to recall that most of the students with special needs in this study did achieve at least some

target-language proficiency.

Given that it is possible for a child with special needs to thrive in an immersion program, what are the factors that promote success? The present results suggest that two important factors are the number of adaptations and the type of program. For all disability categories, including children with language deficits, programmes with multiple adaptations reported higher proficiency levels and lower attrition rates than did programmes with few or no adaptations (see Tables 6 and 7). Since several of the schools participating in this study reported using a variety of adaptations, it is difficult to tease out which adaptations are most likely to lead to high proficiency. It is also possible that schools offering more adaptations are also able to employ more teachers which would create a lower student/teacher ratio and allow for more individualised attention. However, 82% of schools reported using modified instructional techniques and 66% percent of schools reported using speech and language therapy (see Table 4). Given the relatively high rates of proficiency and promotion and low rate of attrition that were also reported (see Tables 5 and 6), it is reasonable to suppose that those two adaptations would likely be beneficial for children with special needs, particularly those with language deficits.

Tables 7 and 8 show that the program type was also related to success in this study. In most cases, K-12 full immersion programmes reported higher levels of proficiency and promotion and lower attrition rates than did partial immersion programmes. This finding might lead one to speculate that students with special needs are best served in this type of immersion program. However, for children with language deficits, attrition rates were actually higher in K-12 full immersion programmes than in partial immersion programmes. One possible explanation for this finding is that children with language deficits benefit from being able to rely on their first language for at least some learning tasks. Children whose disability does not involve loss of language skills need less language support; hence, even in a full immersion program, they are more likely to develop proficiency levels similar to those of non-disabled students. If this is correct, there is an argument that type of disability needs to be considered when determining what type of immersion program is most appropriate for a child with special needs.

CONCLUSIONS

The present results support the argument that immersion programmes can be suitable learning environments for children with special needs, even if that special need is a language deficit. However, this conclusion should not be interpreted to mean that all children with special needs can meet with success in all kinds of immersion programmes. Further research is needed to determine which programmes are most appropriate for different kinds of special needs.

The present findings also support the notion that the number of adaptations is closely related to high levels of proficiency and low levels of attrition. However, further investigation is necessary before we can establish which particular adaptations are most likely to lead to success for those with language deficits and other special needs. Moreover, it is reasonable to suppose that whether or not a given adaptation promotes success will depend on which special needs must be met. Finally, it is possible that factors

not studied here, such as mean SES, number of teachers and number of years that a given program has been in place, might affect proficiency. Nonetheless, it seems that modified instruction and speech/language therapy may be two adaptations worth considering.

Certainly not every child with a disability can be guaranteed success in any type of immersion program. Factors such as type of special need, type of immersion program and available adaptations would need to be taken into account. Nonetheless, the present results support the conclusion that foreign language immersion programmes that include sufficient adaptations can be suitable learning environments for children with special needs.

ACKNOWLEDGMENTS

Funding for this research was made possible by Knox College. I would also like to thank the schools participating in this study; without their help, this study could not have been conducted. I am also grateful to my colleagues in the Department of Educational Studies at Knox College for their useful input and support. I am also indebted to the members of the Department of Speech Pathology and Audiology at the University of the Witwatersrand, Johannesburg, for giving me the opportunity to become acquainted with South African scholars and their research on children with special needs. Finally, I would like to thank my family, Stu and Rose Kinberg, for their support of my work, to Lynn Mancini for friendship, support and thoughtful, insightful comments on this paper, and to Dana Keller for friendship, support and encouragement through the years.

REFERENCES

- Barfield, S. (1995). Review of the ninth year of the partial immersion program at Key Elementary School, Arlington, VA, 1994-1995. Washington, DC: Center For Applied Linguistics.
- Bruck, M. (1978). The suitability of early French immersion programmes for the language disabled child. *Canadian Modern Language Review*, 34(5), 884-887.
- Bruck, M. (1982). Language impaired children's performance in an additive bilingual education program. *Applied Psycholinguistics*, 3(1), 45-60.
- Clay, P. (1991). Central Foreign Language Magnet School: 1988-1989, 1989-1990, 1990-1991. Summative Evaluation. Kansas City, MO: Kansas City Public Schools.
- Christian, D. (1996). Two-way immersion education: students learning through two languages. *The Modern Language Journal*, 80, 66-76.
- Day, E., & Shapson, S. (1989). Assessment of oral communicative skills in early French immersion programs. *Journal of Multilingual and Multicultural Development*, 8, 237-60.
- Edmonton Public Schools (1983). Evaluation of the bilingual (German/English) program, 1982-83. (ERIC Document Reproduction Service No. ED 239).
- Frantz, R., & Wexler, J. (1994). Ulpan: functional ESOL immersion program for special-needs students. Paper presented at the 28th Annual Meeting of the Teachers of English to Speakers of Other Languages, Baltimore MD, March 8-12, 1994.
- Genesee, F., Holobow, N., Lambert, W., & Chartrand, L. (1989). Three elementary school alternatives for learning through a second language. *Modern Language Journal*, 73, 250-323.
- Genesee, F., and Lambert, W. (1983). Trilingual education for majority-language children. *Child Development*, 54(1), 105-114.
- Gillett, J. (1987). Student achievement in English/Ukrainian partial immersion programs. (ERIC Document Reproduction Service No. ED 303 031).
- Hamm, C. (1988). The ACTFL Oral Proficiency Interview in a Canadian Context: the French speaking proficiency of two groups of Ontario high school graduates. *Foreign Language Annals*, 21, 561-67.
- Heitzman, S. (1994). Language use in full immersion classrooms: public and private speech. Summa Thesis, University of Minnesota.
- Heward, W. (1999). *Exceptional children: an introduction to special education*. Upper Saddle River, NJ: Prentice-Hall.
- Holobow, N., Genesee, F., & Lambert, W. (1987). Effectiveness of partial immersion programs for children from different social class and ethnic backgrounds. *Applied Psycholinguistics*, 8(2), 137-151.
- Howard, E., & Christian, D. (1997). The development of bilingualism and biliteracy in two-way immersion students. Paper presented at the Annual Meeting of the American Education Research Association Chicago, IL 24-28 March.
- Johnson, J., & Newport, E. (1991). Critical period effects on universal properties of grammar: the status of subadjacency in the acquisition of a second language. *Cognition*, 30, 215-258.
- Kinberg, M. (2000). The metalinguistic judgments of immersion program students. *Perspectives in foreign language teaching: proceedings of the 23 annual Conference on the Teaching of Foreign Languages and Literatures: October 8 and 9 1999*. Youngstown, OH: Youngstown State University.
- Lyster, R. (1987). Speaking immersion. *Canadian Modern Language Journal*, 47(3), 463-476.
- MacFarlane, A., & Wesche, M. (1995). Immersion outcomes: beyond proficiency: *The Canadian Modern Language Review*, 51, 251-274.
- McCollum, P. (1993). Learning to value English: cultural capital in a two-way bilingual program. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, Georgia. April, 1993.
- Met, M. (1993). *Foreign language immersion programs*. Washington, DC: Center for Applied Linguistics.
- Netton, J., & Spain, W. (1989). Student-teacher interaction patterns in the French immersion classroom: implications for levels of achievement in French language proficiency. *Canadian Modern Language Review*, 45(3), 485-501.
- Pawley, C. (1986). What is the French proficiency of immersion program students really like? Ottawa: Ottawa Board of Education.
- Tarone, E., & Swain, M. (1995). A sociolinguistic perspective on second language use in immersion classrooms. *Modern Language Journal*, 79, 166-78.
- Valdez, G. (1997). Dual language immersion programs: a cautionary note concerning the education of language-minority students. *Harvard Educational Review*, 67(3), 391-429.
- Wiss, C. (1989). Early French immersion programs may not be suitable for every child. *Canadian Modern Language Review*, 45(3), 517-529.

APPENDIX A

Survey of Services to Special Needs Students in Immersion Programmes

THANK YOU for taking the time to complete this questionnaire! Your help is greatly appreciated. Please return the completed questionnaire in the enclosed self-addressed stamped envelope.

- Approximately how many students with special needs are served in your immersion programme (please include all categories of special needs)? If students with special needs are *not* served in your immersion programme, please skip to Question 8.
a. 0-10 ☐ b. 10-50 ☐ c. 50-100 ☐ d. 100 or more ☐
- Of the students with special needs in your immersion programme, approximately what percentage fall into each of the following categories?
a. vision loss/blindness _____ %
b. deafness/hearing loss _____ %
c. orthopaedic disabilities _____ %

- d. mental retardation _____%
- e. learning disabilities _____%
- f. language disorders _____%
- g. speech disorders _____%
- h. behaviour/emotional disorders _____%
3. Which of the following adaptations is/are available in your immersion programme (please check all that apply)?
- a. self-contained immersion classroom(s) (i.e., serve(s) only special needs students) ☐
- b. classroom aides, deaf interpreters, and/or other paraprofessional assistance ☐
- c. modified instructional techniques ☐
- d. speech/language therapy ☐
- e. assistive technology (e.g., FM monitors, communication boards, speech synthesizers, computers) ☐
- f. braille materials (books, braille writers, etc.) ☐
- g. wheelchairs, ramps, elevators, or other adaptations that enhance accessibility ☐
- h. modified reading material (e.g., large-print, modified prose) ☐
- i. Kurzweil reader(s) ☐
- j. language-development software ☐
- k. Other _____ ☐
4. Approximately what percentage of students with special needs in your immersion programme are promoted to the next grade level after one year?
- a. 0-10% ☐ b. 10-30% ☐
- c. 30-50% ☐ d. 50-75% ☐
- e. 75-100% ☐
5. Approximately what percentage of students with special needs in your immersion programme are promoted to the next grade level after two to three years?
- a. 0-10% ☐ b. 10-30% ☐
- c. 30-50% ☐ d. 50-75% ☐
- e. 75-100% ☐
6. Approximately what percentage of students with special needs withdraw or are withdrawn from your immersion programme each year?
- a. 0-10% ☐ b. 10-30% ☐
- c. 30-50% ☐ d. 50-75% ☐
- e. 75-100% ☐
7. What level of foreign language proficiency is achieved by the majority of special-needs students in your immersion programme as compared to that of your regular education students.
- a. Approximately the same ☐
- b. Slightly less proficient ☐
- c. Moderately less proficient ☐
- d. Significantly less proficient ☐
- e. Minimal or no proficiency ☐
8. If students with special needs are *not* served in your immersion programme, please indicate where they are served in your school district (please check all that apply).
- a. regular classroom (non-immersion) ☐ _____%
- b. regular classroom (non-immersion) with pullout ☐ _____%
- c. resource room ☐ _____%
- d. self-contained classroom ☐ _____%
- e. special school ☐ _____%
- f. homebound/hospital instruction ☐ _____%
- g. residential institution ☐ _____%
9. Please indicate which language(s) is/are taught in your immersion programme:
- a. Spanish ☐ b. French ☐
- c. German ☐ d. Chinese ☐
- e. Japanese ☐ f. Hawaiian ☐
- g. Italian ☐ h. Indigenous language(s) ☐
- i. Other _____ ☐
10. Please indicate whether your immersion programme is:
- a. full immersion k-12 ☐
- b. full immersion elementary only ☐
- c. full immersion middle/high school only ☐
- d. partial immersion k-12 ☐
- e. partial immersion elementary only ☐
- f. partial immersion middle/high school only ☐
- g. other _____ ☐