Evaluation of Different Bilingual Education Models and Its Application on Primary School Children Literacy

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Abstract
The term “bilingual education” can be described as a concept of educational research, based on its literal meaning, it usually refers to any educational program that involves two languages in the progress of teaching and learning. In modern society, bilingual education becomes increasingly popular, and has been widely used for the purpose of early education in many countries. This essay evaluates different types of bilingual education (early immersion, two-way language education, maintenance education) by analysing their strengths and limitations mainly in aspects of first language and second language development. From the systematic overview on the three most well-known forms of bilingual education, the author finds that all of them have influence on improving language skills and academic skills in a rolling basis while generally have no negative impacts on their growing process.

Keywords
bilingual education, early immersion, two-way language education, maintenance education, primary school children literacy

1. Introduction
Bilingual education, is a very significant role in human societies in terms of its social and cultural influence and it has been practiced by many countries for a long time. It is said that bilingual education has a history of more than 5,000 years, and the modern bilingual education development starts with an International Bilingual Education Conference held by International Bureau of Education in Luxemburg in the early 20th century (Brann, 1978).

According to the data from the World Bank (1995), the number of language spoken around the world is estimated to reach 6,000. Data show that there is an increasing number of bilingual or multilingual people nowadays (World Bank, 1995). Additionally, the huge amount of children who are educated by a second or foreign language throughout the world stimulates the high speedy development of bilingual
education. However its implementation varies among countries because of its diversified types. Therefore, the study of illustrating which type of bilingual education can meet the needs of educating bilingual primary school children becomes increasingly popular in many countries.

The purpose of this essay is to illustrate the characteristics of different types of bilingual education, analyse the effects of their applications on children, and also find out the best ways to educate bilingual primary school children through examining the status quo of utilization of bilingual education in primary schools around the world.

This essay starts with a systematic literature review of bilingual education as well as its classification conducted by some well-known educators or scholars. Then, analyse the influences of different types of bilingual education on children by means of illustrating practices of several widely-used models in primary schools worldwide. Lastly this essay argues that each type of bilingual education has its suitable application territory by evaluating the strengths and limitations of each single type.

2. Literature Review

2.1 Towards a Definition of Bilingual Education

With regards to the term “bilingual education”, it can be described as a concept of educational research, while it tends to be very complicated with different situations in different regions and countries. According to its literal meaning, “bilingual education” usually refers to any educational program that involves two languages in the progress of teaching. Bilingual education has developed for a long time, and many statements on its definition are concluded by some worldwide famous scholars like Anderson and Boyer (1970), Skutnabb-Kangas (1988), etc. But here is a definition that is more relevant to the primary school education, which is represented as “any system of school education in which, at a given moment in time and for a varying amount of time, simultaneously or consecutively, instruction is planned and given in at least two languages” (Hamer & Blanc, 2000). This definition stresses the use of two languages as media of instruction rather than achieving academic purposes through two languages. As Baker (2006) claims that, the term “bilingual education” is like “a simple label for a complex phenomenon”. Although many scholars define bilingual education from different angles, most of them share common ground in the following three aspects: school is usually the context of bilingual education; two languages are involved as teaching languages; one of the two languages should be students’ first language, and the other one is students’ second language.

2.2 Discussions on Types of Bilingual Education

Based on different standards and factors such as teaching goals, teaching means, nature of teaching objects etc, there are many classifications for bilingual education. Mackey firstly classifies no less than 90 different types of bilingual education in terms of “the languages of the home, the languages of the curriculum, the languages of the community in which the school is located, and the international and regional status of the languages” (Mackey, 1972), but it is too detailed to identify. Another frequently quoted distinction which is made by Hornberger consists of three types according to different
educational purposes: transitional, maintenance, and enrichment (Hornberger, 1991). Although numerous scholars and educators like Hamers and Blanc (2000), Freeman (1998), etc, devote themselves to bilingual education, and have some outstanding research findings in terms of its classification, Baker (2006) concludes that those classifications are not systematic and integral enough. He divides bilingual education into ten parts which can be collected into two categories: weak forms and strong forms. The weak forms mainly aim at “assimilating the minority languages rather than maintain them, including submersion, submersion with withdrawal classes, segregationist, transitional, mainstream with foreign language teaching, and separatist” (Baker, 2006). On the other hand, the strong forms intend to “develop both of the two languages that in use: immersion, maintenance or heritage language, two-way or dual language, and mainstream bilingual” (Baker, 2006). Weak forms contain bilingual children but bilingualism is not fostered in school, and strong forms have bilingualism as an intended outcome. In that case, this essay primarily focuses on the strong forms of bilingual education.

Immersion education, as a representative of the strong forms, is widely admitted as the most successful model for application. A very favorable example of this is Quebec’s French immersion education which is generally acknowledged by the public around the world. Not only Canada but also the United States is a member of the earliest countries that implement bilingual education. But the type that has been generalized in many primary and secondary schools throughout the entire country and becomes extremely popular is the two-way bilingual education. With regards to the maintenance education, its application in Wales is comparatively successful and has an ideal effect. The Welsh Office even issues circumstances for the maintenance education implementation to ensure the quality of bilingual education (Garcia & Baker, 1995). Mainstream bilingual education has limited effects on educating bilingual pupils foreign languages, as a result, it will not be discussed in this essay. Though above three countries have a large amount of important and remarkable achievements on each particular bilingual education, there are still some shortcomings and limitations respectively. All of these will help us to understand the advantages and disadvantages of different types of bilingual education in terms of educating primary school children and weigh which is the best way. Therefore, this essay will analyse the situations in Canada, the United States, and Wales severally and give an overall comparison with respect to its effects on bilingual primary school children education especially the teaching of literacy.

3. Effects of Bilingual Education on Primary School Children

3.1 Immersion Education in Primary Schools in Canada

3.1.1 Background Information

Canada is the country where immersion education was born. In 1965, an experimental French immersion kindergarten was set up by a group of English-speaking parents in Quebec (Paulston, 1988). After proving it feasibility, French immersion education develops rapidly around Canada. The original intention of implementing bilingual education in Canada is to reconcile and mediate the dispute...
between French and English community. However, at present immersion education has become an educational phenomenon with unexpected success and influence as it has changed the situation of bilingual education and been deeply practiced all over the world.

3.1.2 Definition and Classification

With reference to the definition of the term “immersion”, unfortunately in most cases this word is misunderstood and misused for describing any course that is progressed by the instruction of a foreign language by schools and public media. Immersion is definitely not simply teaching a class such as mathematics and science in a second language. Here is a frequently quoted definition of “immersion” which is from Genesee (1987), “generally speaking, at least 50 percent of instruction during a given academic year must be provided through the second language for the program to be regarded as immersion”. It is quite different from some other approaches in terms of educating children because “it is for the target to master two majority languages and the children’s home language is appreciated but not belittled” (Baker, 2006). Also, Roberts points out the dominant position of French immersion in Canada, “when immersion is used with majority English speakers learning French, immersion education is generally pluralistic and promotes additive bilingualism” (Roberts, 1995).

As an umbrella term, immersion bilingual education can be classified into various programs with different standards. The most popular dimension is age which refers to the age children start experiencing education. “Early immersion may be at the kindergarten or infant stage, and the middle immersion usually begins at nine to ten years old which tends to be the late period of primary school, while late immersion is designed for the secondary school level” (Baker, 2006). As a result, primary school children belong to the range of early immersion education. The other aspect is the time which indicates how long children spent in immersion. Baker (2006) also mentions that they are total immersion and partial immersion in terms of time. “Total immersion usually commences with 100% immersion in the second language, reducing gradually to 50% finally, while partial immersion provides close to 50% immersion in the second language throughout infant and junior schooling” (Baker, 2006). One of the most successful examples of early total immersion is what has been mentioned above: the St. Lambert experiment in 1965 (Lambert & Tucker, 1972).

3.1.3 Effects of Early Immersion Education

With reference to the immersion education in primary schools in Canada, a great amount of research (Genesee & Gándara, 1999; Johnstone, 2002; Swain, 1997; Swain & Johnson, 1997) have been conducted to illustrate and evaluate its effects on pupils. In order to examine the influence of early total immersion education, this essay will contrast the second language immersion pupils and first language program pupils in terms of the following aspects: the second language skills, the first language skills, and other academic content curriculum performance.

Firstly with respect to the second language learning in immersion education, it is widely acknowledged that children can acquire the first language and second language skills simultaneously favorably (Johnson, 2002). Moreover, some pupils can even achieve the level of native-like in second language.
According to Cummins and Swain (1986), it appears that early immersion students develop native-like skills in their ability to understand spoken and written texts. The immersion students’ communicative abilities outstrip their abilities to express themselves in grammatically accurate ways. But it seems that the balance between children’s first language applicability for communication and the second language one cannot be easily achieved. Because school is the context of immersion education, and children may just get used to speak their second language in the classroom while they probably use their native language when classes are over (Swain & Johnson, 1997). In that case, though children tend to have a bilingual ability after immersion education, their language in use in nature perhaps is not their second language. Children perhaps have limited practice of their second language in out-of-school contexts. In such a situation, Baker (2006) concludes that, “Potential does not necessarily lead to production; skill does not ensure street speech”.

Whether the less input of first language is the reason of gain and progress in second language learning or not, this is really a worthy thinking question. Indeed the development of the first language skills might be negatively affected, and this seems to be the most serious problem at the level of primary school education when children’s literacy skills in the first language should be taught in a normal way significantly. So it is felt that English literacy training would better be introduced right at the very first rather than running the risk of first language skills decline. In fact, theoretically there is no need to worry about this since children are members of the dominant linguistic and cultural majority of Canada, so English as their first language will occupy their out-of-school life. Also “evidence suggests that immersion children learn a second language at no cost to their first language” (Baker, 2006).

One principle of immersion education is that the similar curriculum arrangement will be covered as in the normal English program, and the only difference between the two programs being the language of instruction. According to Baker (2006), “children who are taught with early total immersion education generally perform as well in subjects like mathematics and science as children who are not”. That is to say, basically immersion education will not affect children’s academic skills undesirably. Johnson (2002) also claims that, “most children gain a second language without cost to their performance in the curriculum”.

3.1.4 Problems and Limitations

Though early immersion education enjoys a favorable reputation in the area of bilingual children education, some shortcomings as well as limitations have been pointed out by many scholars (de Courcy, 2002; Netten & Germain, 2004; Swain, 1993), for example the problem of context which has been mentioned in the discussion on second language learning. Baker (2006) suggests that, “there is a danger of generalizing from the successful Canadian experience to elsewhere in the world, because immersion concerns two major high status international languages in Canada: French and English, while in many countries the situation is quite different which usually tends to be a majority language and a minority language”. Therefore, people have to admit that, to some extent, immersion education can only be enforced favorably in Canada or countries with similar conditions. In addition, de Courcy
(2002) argues that recent studies focus more on the results of immersion education rather than its process. Pupils’ views toward the learning experience have been considered quite a few.

3.2 Two-Way Bilingual Education in Primary Schools in the United States

3.2.1 Language Environment

The United States is a multiethnic country with native Americans and immigrants coming from different parts of the world. Therefore it is also a multilingual society, even the standard American English is composed of several dialects. To unify the immigrants and minority ethnic groups together with the majority group, the US government expects schools to educate minority ethnic children and immigrant children to become a real American citizen by means of learning subject content knowledge and English. That is one of the major reasons for application of bilingual education in the United States. The first time two-way bilingual education applied in primary schools in the United States is the Coral Way Elementary School which embraces both Spanish and English speaking pupils in 1963 (Baker & Jones, 1998). From then on, the amount of two-way bilingual schools in the United States increases gradually and this type of education also has been proved that have positive influence on children’s development.

3.2.2 Working Principles

Two-way bilingual education, which is known as “dual language bilingual education” as well, “integrates language minority and language majority students and provide instruction in and through two languages, one is the native language of language minority students, and the second is English” (Christian, 1994). As both languages are involved for the purposes of instruction and learning, so both majority and minority students are provided with sufficient time equally to practice their language skills (Lindholm-Leary, 2001). Also, the literacy to handle both languages can be seen as one of the predictable purposes. The balance between two languages is the key point of this type of education. Because the biliteracy degree of children will be on the hazard when one of languages which usually is the language spoken by a greater proportion of people is at the leading position. However according to Genesse and Gándara (1999), the purpose of two-way bilingual education is not only helping raise children with biliteracy acquired, but also have some further objectives to achieve in the area of social and cultural aspects such as “inter-group communicative competence” and “cultural awareness”.

The “50-50” model and the “90-10” model are the two most successful models in two-way bilingual education, in which differ in distribution between majority and minority language for instruction (Gómez & Freeman, 2005). In the 50-50 model, children tend to receive instruction in the two languages for equal input of time. In the 90-10 model, “the target language is used in the early years for nearly all (approximately 90%) of the instruction, and English is gradually increased as a medium of instruction until the proportion reaches roughly 50% in the late elementary grades” (Christian, 1994).

3.2.3 Effects of Two-Way Bilingual Education

According to Christian (1994), indeed the application of two-way bilingual education on primary school children has achieved outstanding outcomes in the aspects of “educating non-native English
speaking students”, “expanding the United States’ language resources by conserving the native language skills of minority students and developing second language skills in English speaking students”, and what is more symbolic and remarkable: “improving relationship between majority and minority groups be enhancing cross-cultural understanding and appreciation”. Some well-known educators or scholars (Lambert & Cazabon, 1994; Lindholm-Leary, 2001; Oller & Eilers, 2002) also support Christian’s point of view.

Krashen (2004) argues that even though there are a great number of research into two-way bilingual education, the samples are often in a “small size” and the time input is also “short-term”. However, Lindholm-Leary’s research with 18 schools involved in 2001 comparatively has more persuasion and influence. According to the research results, she mentions that:

DL (dual language) programs are effective in promoting high levels of language proficiency, academic achievement and positive attitudes to learning in students. Parents and teachers involved in such programs are both enthusiastic and recommend the expansion of such programs to raise the achievements of other majority and minority language children (Lindholm-Leary, 2001).

Additionally, Thomas and Collier (2002a) have some findings on the comparison between two-way bilingual children and pupils from some other ordinary educations. It is said that. “two-way bilingual education at elementary school level is the optimal program for the long-term academic success of language minority students” (Thomas & Collier, 2002a). Because pupils in either the 50-50 model or the 90-10 model, can exercise their second language skills with native speaking children of second language correspondingly, as well as improve their academic skills. As a result, the principle between majority and minority children is a kind of complementation.

3.2.4 Problems and Limitations

Though two-way bilingual education has great success in the United States, and also has a possibility to introduce to countries like Singapore, Japan, Malaysia etc, the “balance” in its models cannot be perfectly balanced as in most situations schools have an imbalance towards larger numbers of language minority students (Baker, 2006). In that case, on the distribution of children in majority and minority languages proportion, usually the latter groups can be comparatively in a larger number. In spite of less demand for English native speaking children, there is a crucial fact that a lot of two-way bilingual schools fail to attract those majority language students (Hornberger, 1991). Since in the United States, sending their children to dual language schools is an optional choice for parents. It seems that minority children can gain relatively more progress and advantages than majority children as they learn an international widely-used language through the context within English native speaking children. So to some extent, the majority language children’s family may be unwilling to let their children study in two-way bilingual schools.

3.3 Maintenance Education in Primary Schools in Wales

3.3.1 Specific Context

People who first visit Wales may feel quite different compared with England though the two countries
all belong to the United Kingdom. The difference mainly is that the road signs, shop names etc in Wales are written in two languages: English and Welsh, while people can only find English words available in England. In the long history, the welsh people could not use their native language as the Welsh laws are replaced by the English laws after Wales under the control of Henry VIII in 1536. Even though now speaking Welsh is allowed in Wales, the number of Welsh-speaking people has decreased critically to only 18.6% of the total population till the year of 1991. But in order to revive the popularity of Welsh in Wales, some effective measures have been taken such as integrate Welsh into the education system especially the primary school level. With the development of maintenance education in Wales, the declining trend gradually slows down. Moreover, the absolute number of Welsh speaker, the fluency of children in Welsh, and people’s attitudes toward Welsh begin to show a positive message.

3.3.2 Features of Maintenance Education
In most research of maintenance education, scholars also call it as “heritage language bilingual education” for the reason that sometimes the language for instruction is a minority language and needs children to inherit from generation to generation. Williams (2003) has mentioned one of the remarkable features of maintenance education, “In Gwynedd (a county in north-west Wales) where the minority language is often the majority language of the community, heritage language programs are prevalent”. That is to say, almost all of the children who receive maintenance education, their background seems to be the minority language group. So the minority language will be used in a high frequency in the classroom. Also when children come back home, they always immerse themselves into their first language environment with parents speaking the same language. As a result, maintenance education aims to preserve local and ethnic culture. According to Baker and Jones (2000), “in Wales maintenance education is mainly applied by starting at primary school level to the end of secondary schools. When students go to colleges or universities for further education, the heritage language still works as a medium of vocational and academic study”.

3.3.3 Effects of Maintenance Education
Studies on maintenance education in terms of its effects on children are mainly conducted by Cummins (1992a, 1993, 2000a). He has done a lot of publications and research on this area. Baker (2006) concludes Cummins’s findings on the effects of maintenance education in four parts: “firstly, children maintain their home language; secondly, children tend to perform as well as comparable mainstream children in curriculum areas such as mathematics, science, history, and geography; thirdly, children’s attitude are particularly positive; lastly, children’s self-esteem tend to be enhanced and their language and intellectual skills are better promoted”. Among them, the most positive influence probably is that children may raise their self-esteem and be proud of their home, their family, and their country. In that case, children will not feel difference between the school context and out-of-school context. Cummins (1993) also suggests that, “such education is not likely to have detrimental effects on a child’s performance in the subject curriculum”.

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3.3.4 Problems and Limitations
To some extent, maintenance education is quite positive in transferring knowledge across languages but some scholars are still worry about its application. As Gupta (1997) mentions that, “such education can be impractical as the maintenance of social cohesiveness in a multi-cultural, cosmopolitan environment is of more important than mother tongue education”. Indeed, this is the key problem and the most distinguished advantage as well. So how this kind of ethnic issues can be solved without the cost of heritage language continuance is a quite crucial question.

4. Evaluation and Comparison: Literacy
According to Collins Cobuild Advanced Learner’s English Dictionary (2002), “literacy” usually refers to “the ability to read and write”. With regards to the development of literacy in immersion bilingual education, some interesting findings have been noticed. An important difference between early total immersion and other types of immersion programs is that training in second language literacy precedes training in first language literacy in early total immersion. So early total immersion pays more attention on the teaching of second language literacy. Early partial immersion programs exist because parents and educators fear that there might be negative consequences of the early total immersion program on cultivating children’s first language literacy in the formative years. As a result, early total and partial immersion education can be complement each other to some extent.

Krashen (1996) concludes that two-way bilingual education succeeds especially well on subject matters teaching and literacy development in the first language and comprehension in the second language. Thus it can be seen that two-way emphasis more on the teaching of first language literacy. In the 90-10 model, “the 10% in English focuses on initial English literacy or English language arts, while the remaining 90% is spent on developing the language other than English through remaining content areas” (Gomez, Freeman, & Freeman, 2005). In the 50-50 model, children will learn reading in their first language and then follows by their second language. However, the great demand of majority language children may challenge the implementation of the two models, thus it may has very limited effects on teaching of literacy as the improper dimension.

The situation in maintenance education is totally different with the former two types. In maintenance education, when one of the languages makes outstanding progress on literacy development, the other one will accordingly reflect some influential features, even possibly without explicit instruction. For an example of this, well-cultivated native speaking language skills in other words mother tongue literacy can be transferred to the second or foreign languages favorably (Smith, 1994). It is because reading and writing are the process of input and output based on children’s understanding of their first language. So the similar understanding approach can be used in another language. Yet it may be dangerous that children use their first language knowledge to learn a second language as in that case it may cause the misunderstanding or misleading results.

All in all, there is no one tends to be the best reasonal and appropriate to fit all kinds of bilingual
primary school children education around the world. However in terms of children’s literacy treatment, immersion bilingual education seems to be the best choice as early total immersion can play a role of enhancing the majority language children’s second language competence to the greatest extent with the supplayment of early partial immersion.

5. Conclusion

Nowadays, many modern dictionaries like Collins Cobuild Advanced Learner’s English Dictionary (2006), simply define bilingual as “involving or using two languages” without mention the degree of each language proportion. From an academic perspective, it is not rational at all. However, since there is no one certain definition can be accepted by all people, the criteria of effective bilingual education should be kept in every individual’s mind with everyone’s own judgement.

This essay has evaluated different types of bilingual education by means of analyse their strengths and limitations mainly in aspects of first language and second language development as well as some other academic skills. Early immersion, which consists of early total and partial immersion, basically helps pupils who are in a majority language background learning in using a second language. Two-way language education balances the percentage of first language and second language instruction and is designed for both majority and minority children. Maintenance education, as its literate meaning, maintain the native language in other words the home or heritage language of minority language children, and cultivate their awareness to use their first language rather than their second or foreign language.

From the systematic overview on the three most well-known forms of bilingual education: immersion bilingual education, two-way language bilingual education, and maintenance education, the author finds that all of them have an effect on enhancing language skills and academic skills in varying degrees while generally have no deleterious impacts on their growing process. So there is no absolute right or wrong but certainly suitable or unsuitable to specific context and learning purposes.

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