**Taxonomy of Bilingualism series by Steve McCarty**

1: Levels of Bilingualism > the Individual Level  
2: Family and Societal Levels of Bilingualism  
3: School and Academic Levels of Bilingualism

**Taxonomy of Bilingualism: 1.**  
Levels of Bilingualism > the Individual Level

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**Introduction**

This article begins the fourth series of papers on bilingualism that the author has written for Child Research Net. The first series had articles on bilingual child-raising, biculturalism, and concepts in the field of bilingualism. The second series was on bilingual education, its purposes, types, and cases that could be used in a university course related to bilingualism. The third series applied bilingualism to language teaching. Its first article clarified the various meanings of ‘bilingualism’ and showed why bilingualism should be considered a realistic goal of second or foreign language learning. The second article applied a developmental bilingual perspective to language teaching. Learning was conceived as a process of organic growth, with each person having a unique developmental path. With ‘being or becoming bilingual’ properly understood as a matter of degree rather than as an idealized state, the goal could be identified as bilingual functioning to a useful extent according to the needs of the individual (see also McCarty, 2008). Furthermore, applying first language acquisition research findings and the demonstrated capacity of infants to develop two native languages, many ways were presented that bilingualism can inform language teaching.

This fourth series presents a taxonomy of the various phenomena of bilingualism, with a view to how it fills out the context of language teaching. A taxonomy is a classification like an anatomy, except more summarized than detailed, and here the phenomena are sorted according to levels of bilingualism. Previous articles have been more thoroughly researched, while an overall taxonomy must of necessity be concise. Yet here still the series is divided into three articles.

Over about 20 years the author has developed both the levels used in this series, and the taxonomy, which began with a survey of language teachers as to the scope of bilingualism in Japan (McCarty, 1995). The examples are occasionally specific to Japan and often applicable to language teaching, but bilingual phenomena in Japan can also be found elsewhere. If not for the bewildering linguistic diversity in some regions of the world such as southern Africa, this series could serve as a general taxonomy of bilingualism.
This taxonomy starts by classifying bilingual phenomena into five levels, the first four levels found occurring naturally in daily life, with the fifth level being the academic study of the first four levels (see Chart 1 below). This first article has introduced the series and aims to summarize the individual level of bilingualism. The second article will go on to the family and societal levels, then the third article will conclude the taxonomy by summarizing the school level (bilingual education) and the academic or disciplinary level (bilingualism as an area of study in applied linguistics).

Chart 1: Levels of Bilingualism

Levels of Bilingualism

In teaching bilingualism courses, it has been helpful to contextualize complex bilingual phenomena by checking students’ understanding of what kind or level of bilingualism is being discussed. The author therefore often draws a square grid with four boxes on the board and asks students, which level of bilingualism is this about, the individual, family, societal, or school level? It is explained that bilingualism includes 1) the individual level, such as one’s own bilingual and bicultural development; 2) the family level, such as bilingual child-raising; 3) the societal level, such as cultural issues or government policies toward minorities; and 4) the school level, particularly bilingual education.

Rather than just an abstract understanding of concepts, these four levels help learners understand bilingual phenomena in their fuller dimensionality, in the context where they actually manifest. For example, it is important to distinguish between bilingual child-raising at home and bilingual education in schools, which these levels help explain. As another example, in discussing the overly idealized image of the bilingual in Japan, which sounds boastful to attribute to oneself, students can be referred to the square grid to focus on the individual level of bilingual development and how it is a matter of degree. Family bilingualism often involves analyzing what languages are spoken among members of an international family. Societal bilingualism takes up broader issues such as the percentage of speakers of different languages in a geographical area. Sometimes human rights are not
protected, such as the right to choose the languages through which one’s children are educated. At the individual level, people should have the right to their own linguistic and cultural identity, as more languages bring more choices and therefore greater freedom.

There is some overlap and mutual influence among the four levels, which is illustrated by the puzzle background rather than straight lines in Chart 1 above. It was introduced in the previous series to show how, in language teaching, compared to a focus on teaching discrete aspects of a target language, a bilingual perspective provides a broader view of the dimensions involved in language development.

**Taxonomy of Bilingualism**

Common phenomena and issues connected to bilingualism are illustrated in Chart 2 below. In some ways the items reflect the viewpoint of English language teaching in Japan, thus falling short of the full complexity of bilingual phenomena. This taxonomy nevertheless aims for a wide understanding of the field of bilingualism, adding some anatomical details to the skeletal levels. This brief series aims to provide an overview of bilingual phenomena, with example situations often reflecting languages in contact in Japan. For more encyclopedic coverage, see books such as Baker (2006), or further details particularly in McCarty (2010a, 2010b), since this series tries to avoid repeating the contents of previous articles. Chart 2 covers just the naturally occurring levels where different languages come into contact in daily life, and will suffice for the individual level of bilingualism discussed in this article.

**Chart 2: Taxonomy of Bilingualism in daily life**

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Bilingualism at the Individual Level

Bilingual development is the chief issue at the individual level, and there are important differences according to when two languages (or more) are started. Starting at birth or infancy is called simultaneous bilingualism, whereas starting another language after a native language mindset is established is called consecutive or sequential bilingualism. Corresponding types of language acquisition were proposed previously (McCarty, 2013). Infants evidently have the capacity for natural language acquisition, whereas a deliberate effort or study is needed when languages are started after puberty. There seem to be other stages or critical periods around age three, six, and pre-adolescence where languages are acquired more easily than after puberty, and very generally speaking, the older one starts languages, the more difficult it is to acquire them. Theories of critical periods at the individual level explain much about the failures of foreign language education in many countries where one language is dominant: too little exposure, not often enough, started too late, and with too few opportunities to use the non-dominant language actively and authentically.

Bilingual development is affected by various factors such as the frequency and amount of input, opportunities for interaction, the perceived need for certain languages, or the willingness of the individual to communicate with diverse others. Moreover, continuing with the above chart, language acquired needs to be maintained by use, or else attrition begins, such as less fluency in speaking. Language loss means that a language previously acquired to some extent, usually in early childhood, becomes irretrievable. Studies have shown that languages are more easily acquired and quickly forgotten for small children, and more difficult to learn but also more difficult to forget as they grow older. Some school-age Japanese returnees who lived abroad for several years seemed to have lost their native language, but when they returned to Japan their Japanese fluency revived, which showed that their L1 was not lost but rather dormant from not being used. Another crucial issue for returnees is usually maintenance of the L2 they acquired abroad (Childs, 2004). Language pathology or various developmental problems need to be treated, but it is important to understand that bilingualism itself does not cause such problems. Even using one language instead of two, any language disability would similarly affect that one language. Social problems are also often misinterpreted as drawbacks of bilingualism, whereas the problem is not being or becoming bilingual but rather how others respond to the bilingual being different from the majority.

Language processing is another area studied in bilinguals, and the general conclusion is that they mix languages strategically and creatively with a view to the linguistic repertoire of listeners. To insert words from another language into the syntactical structure of one language can be called code-mixing, whereas alternating languages and their syntactical structures can be termed code-switching. Bilinguals often enrich communication with each other by mixing languages, not for lack of vocabulary but because they choose cultural nuances of one or the other language that better suit what they aim to express.

Degree of bilinguality in the chart refers to how bilingual an individual is. There is no clear line between being monolingual and bilingual, and each person has a different mix of the four skills: listening, speaking, reading, and writing. Ultimately, however, individuals only
need to be bilingual in the ways and to the extent sufficient for their own purposes.

Cognitive benefits of bilinguality refer to the mental and ethical benefits that tend to accrue to people who grow up or become bilingual. A large-scale survey including native speakers of Japanese and of English showed that both usually gained such cognitive benefits of a wider linguistic repertoire and a broader perspective than when they were monolingual (McCarty, 1999). Degree of biculturality similarly refers to how bicultural an individual is (another cause of cognitive benefits shown in McCarty, 1999). Although precise measurements of biculturality seem hardly possible, one might qualitatively research the extent to which an individual can see each situation through the eyes of two cultural viewpoints and thus have the choice of different approaches to the same issue.

There are a number of types of bilinguals posited in the literature, including the distinction between simultaneous and consecutive bilingualism mentioned above. Another important distinction is between active bilinguals who display proficiency in speaking and perhaps writing in both languages, versus receptive bilinguals who speak mainly one language. They are sometimes called receiving bilinguals because they understand most of what they hear in their weaker language. It is unwise to call them passive because they are actively listening, like some children of international marriages raised in Japan who respond to English or another language in Japanese, with the conversation proceeding at a normal pace in two languages. When such children study abroad, it is not unusual for them to become fluent within several weeks, activating the language they had quietly and invisibly built up for years. The process of turning orally comprehended language (listening skill) into active production (speaking skill), when it becomes necessary to speak in another language regularly, also applies to foreign language learning. Acquired language (through listening or reading) is always more than what the individual expresses or can use actively (in speaking or writing). It is a common mistake to measure language acquisition by speaking.

Language acquisition is another dimension of the individual level, and four types of language acquisition were previously proposed (McCarty, 2013). Two of the four, first language acquisition and bilingual acquisition (from infancy), share a common characteristic due to the innate ability of babies to acquire more than one native language, often because their parents or guardians speak different languages regularly to them from birth. Trilingual or multilingual development is the last item listed for the individual level, and there can be qualitative differences in acquiring more than two languages. Having learned a second language, for example, similar skills are employed to make the learning of further languages more efficient and rapid. While second or foreign language acquisition clearly corresponds to consecutive bilingualism, multilingual acquisition is usually of a consecutive nature because children tend to have up to two regular guardians. For similar reasons, bilingualism is an apt term in most instances with two parents or guardians, and bilingualism can serve as the umbrella term including multilingualism in its meaning.

There are other types of bilingualism that are of concern to specialists. The individual level of bilingualism also overlaps with the other levels, as does the question of which languages or combinations are involved. The mention of only Japanese and English in Chart 2 suggests a context of teaching English in Japan that does not confine most of the taxonomy. Other levels of bilingualism are treated in the next two articles in this series.
References


Introduction

Having summarized bilingualism at the individual level in the first article of the series, this article continues with the family and societal levels, while the next article will cover the school level (bilingual education) and the academic level (bilingualism as a discipline in applied linguistics) in the author’s formulation, which is reviewed in Chart 1 below.

Chart 1: Levels of Bilingualism

In the previous article, Chart 2 was a Taxonomy of Bilingualism in daily life, sufficiently detailed for the scope of that article, consisting of the first four levels of naturally occurring bilingual phenomena. Chart 2 in this article (see below) adds more details to the levels observed in daily life. It also adds two categories that will constitute the fifth level, the academic study of the first four levels, in the next and last article of this series. For the purposes of this article, the focus is on the second and third levels below: family and society.
Bilingualism at the Family Level

Bilingual child-raising approaches are the main concern at the family level. Many books and articles including McCarty (2010b) have been devoted to raising bilingual children. Some are based on scientific research in bilingualism or related fields. They appear in many languages including Japanese, as bilingual child-raising is a worldwide concern, with parents wanting the various advantages of bilingualism (Baker, 2007, pp. 1-5) for their children, but often finding difficulties, not linguistically but socially or psychologically in the form of common misconceptions about bilingualism (Genesee, 2008; Kandolf, 1998).

While various approaches can work, especially if applied consistently, parents should not lose sight of the most important goals and conditions: to raise happy, well-adjusted children in a stable and loving environment. Then just add frequent, sufficient, and sustained input and opportunities for authentic social interaction in two languages. Humans are born with the innate ability to acquire any languages like sponges, but if raised in one language, they gradually lose that natural ability. Research shows that babies can distinguish the sounds of all the world’s languages, and that they can maintain that ability if they are raised bilingually. “By eight to ten months of age babies will focus on the sounds that are used in their own language, and the ability to recognize the sounds of other languages will fade away” (Golinkoff & Hirsh-Pasek, 1999, p. 23). For example, the author’s older son, who had been hearing Japanese and English from birth, went to China with fellow Ritsumeikan University students. In the Chinese language class he was praised for handling the sounds of Chinese much better than other students who had been raised monolingually. To this
author it provided experiential evidence of research findings in the field of bilingualism observed by Golinkoff & Hirsh-Pasek (1999), among others. The theory seemed to come to life.

To summarize briefly for this taxonomy, the basic approaches to bilingual child-raising are available whenever more than one language is used in the child’s environment. A number of Japanese parents, for example, where one or both parents were fluent to some extent in English, have been able to raise bilingual children, in Japan as well as abroad. The approach used most often is called one person, one language. Often in international marriages (the next topic), parents simply use their native language with their children consistently, and children become bilingual to some extent. Another approach is home language, community language. It accounts for the common situation of one dominant language in a society, and it aims for balanced bilingualism by nurturing the minority language at home. As an example, parents in Japan would speak mainly English at home, including to each other when the children are present, because there is more than enough Japanese in the rest of the environment for the children to be 100% native speakers. Another aspect of this approach is that, if the same couple moves to a native English speaking country, they should speak only Japanese at home, again for the sake of balanced bilingualism. It would be a mistake to think “when in Rome, do as the Romans do” because Japanese becomes a minority language abroad. A native language is not easily lost after early childhood, but it can get rusty if neglected (Childs, 2004). Reading in Japanese would need to be developed actively, while speaking fluency could be maintained through regular family conversations.

There are other approaches, and mixing languages naturally is not normally a problem. It is recommended that parents or guardians find reliable research-based information about bilingualism and discuss what approach to balanced bilingualism would work best in their current situation.

International or intercultural marriages provide a ready-made opportunity to raise children to be bilingual, and bicultural if they are exposed enough to two cultures. Most parents want to transmit their linguistic and cultural heritage to their children, and that natural urge is enriching for children. The earlier this exposure is started, the more natural it is for the child. Problems do not arise from the acquisition of more than one language and culture, but children have other basic needs for stability, social acceptance, and so forth. At certain stages they do not want to be singled out from their peers because they are different, or even because they excel in the foreign language taught at school. Such stages are temporary, so it is important to be patient and maintain a long-term perspective, attending to the present needs of the child as well as the goals of bilingual functioning and becoming able to identify with both sides of one’s heritage. Intercultural families face most of the same challenges as mainstream families, but with somewhat more complexity and excitement. For example, moving from place to place, which is common in international marriages, can be disruptive for children regardless of their parental situation. Intercultural couples should therefore try to give children a home base with old friends and minimize moving their residence. Yet if bilingual child-raising is an important aim, parents should promote frequent contact with minority language relatives and visit places associated with the second culture as much as possible.
Biliteracy or minority language reading was mentioned in connection with bilingual child-raising. It is a special problem for parents to provide reading materials and add to the study time of children. Whereas parents or guardians naturally transmit their spoken languages, reading is a more structured activity that time must be allotted for in busy modern schedules. For it to be interesting to the children and not a chore like extra homework, parents are advised to begin reading to children in infancy as a versatile stimulus for communication, transmitting their love of literature and learning to their children.

Last in the taxonomy of family bilingualism is language shift. Especially with immigration, the language use of families can change over generations. At the individual level, new languages can be added to one’s repertoire over time, and languages acquired earlier may no longer be used in a new environment. At the societal level, language shift can occur with social changes or in response to global trends. For example, some African countries are changing the medium of instruction in schools from the former colonial language of French to English, which they perceive as more useful for their future economy. Similarly, some universities in Europe and Japan are offering programs in English to attract foreign students (MEXT, 2013).

As an example of language shift at the family level, the author’s grandparents on one side moved from Italy to Boston and spoke only Italian there. Yet their daughters grew up as native speakers of English because of the overwhelming power of the community language. There was probably a stage in adulthood where they became receptive bilinguals, a type of bilingual discussed above at the individual level, with simply no opportunity to speak or even hear Italian. In any case, by the author’s generation, Italian was completely gone, and the author added Japanese to his linguistic repertoire. But if his bilingual children marry monolingual Japanese women, his grandchildren may not acquire native English, as Italian had been lost earlier, although in the course of their lives they might learn whatever languages that prove useful to them. For better or worse, language shift continually occurs at different levels as human life changes.

**Bilingualism at the Societal Level**

Bilingualism at the societal level often provides a social context for linguistic and cultural phenomena at other levels such as families or schools. For instance, McCarty (2013) discussed how knowledge of the social context of education, which bilingual teachers are likely to have, informs language teaching.

Among phenomena at the societal level are cultural issues, which affect people’s ways of thinking, priorities, and the choices they make at the individual, family, or school level. All modern cultures now have influences from other cultures, so it is a relative matter to classify societies or individuals as monocultural, bicultural, or multicultural. Singapore, with immigrants forming a third of the population, is relatively multicultural, while Japan, with foreigners less than 1% of the population if East Asians born and raised in Japan are not counted, is relatively monocultural. However, earlier in its history Japan welcomed Asian mainland influences and, after World War II, Japan has absorbed American and other influences. Biculturalism is clearer but still not precise in the case of children of international
marriages or Japanese who have lived abroad for much of their lives. Each individual certainly presents a unique case, but direct experience of foreign cultures can make a difference in the cosmopolitanism of individuals. Culture itself is too deep and complex to isolate variables and measure scientifically, while cultural issues tend to be subject to interpretation by dominant groups in a society.

Next, government policies are sometimes stated but often have to be inferred by the way minorities are treated. If a government, for example, seeks not only national unity but sameness among citizens, standardizing one language, changing the native language of immigrant children, discouraging alternative schools by tying subsidies to one accredited curriculum, enforcing patriotic allegiance to one culture, then its unstated policy is assimilation. Such a policy is not inevitable but is a choice. Other nations have chosen to protect and preserve minority languages and cultures, such as the bicultural national policy of New Zealand with regard to Maori people, the bilingual and multicultural national policy of Canada, or the multilingual and multicultural policies of many European nations such as Sweden. In the case of Japan, through surveys and interviews supported by the Toyota Foundation, Vaipae (2001) found that immigrant children could not keep up with regular mainstream classes, Japanese as a Second Language support was insufficient, and there was no educational support in their native language, a key feature of bilingual education. Vaipae found only one official document that alluded to national policy, which stated that native language support for immigrant children was not needed. It is not a matter of wealth but rather a policy choice. Because Sweden believed that native language support for immigrant children was not only needed but also a human right, they have summoned the human and material resources to provide public educational support in 100 languages (Yukawa, 2000).

Linguistic human rights (Skutnabb-Kangas & Phillipson, 1995) of language minority children tend to be honored or not according to the societal and cultural values mentioned above, though most countries have signed the relevant United Nations agreements. Although it may seem impractical to recognize such rights, loss of a child’s native language tends to be cognitively damaging, whereas there are many cognitive benefits of bilingualism. Immigrant children could grow up to be cultural ambassadors to their country of origin if their native language were maintained, benefiting their new country in areas like international trade.

Bilingualism research at the societal level could profile a country or region in terms of the groups speaking different languages or dialects. Is there a majority or dominant group in the society whose preferred language or dialect is standard or ‘correct’? What minority groups and languages are there in the society, and do those languages have lower perceived value while their speakers have lower socio-economic status? Different languages in a society can be viewed as a problem, a resource, or a human right, so minority languages could be viewed at one extreme as a nuisance or threat, with negative value, a problem to be solved at all costs. On the other hand, the same languages and people could be viewed as enriching the society if multilingualism and multiculturalism are viewed positively and supported by government policies and laws. Whether minority groups are friends or enemies, beneficial or detrimental to their society, depends to a great degree upon how they are educated and treated by the majority.
Within the dominant or majority group there can be significant differences that become social phenomena. In Japan there are returnees who did not follow the national standard curriculum throughout grade school because they followed their Japanese parents abroad for a number of years. They tend to attract attention because they differ from the norm in their linguistic and cultural repertoire. If they fall behind their peers in Japanese skills, when they return the priority may be for them to readjust and catch up at the expense of losing much of the linguistic and cultural capital they gained abroad. Only kids who stay in the standard educational system can read the atmosphere of subtle cues for expected behavior, so the returnees themselves may be at pains to fit in again, especially around the awkward years of adolescence. Yet if the returnees, like children of some international marriages, can maintain another valued language like English as well as Japanese, they are sought after by prestigious private universities. English is a major subject on most entrance examinations, with a line for TOEIC scores on entry sheets for employment, even though most young people make little headway toward English fluency. Thus it is well known that English or other languages of commerce provide an advantage, but individual differences tend to be diminished under peer group pressure, while the unstated national policy toward non-mainstream languages and cultures has always been assimilation. One recent ray of light for possible change is the recognition of the need for global human resources, and cosmopolitan Japanese young people are becoming more prominent in society. Paris-born TV announcer Cristel Takigawa was recently hailed for promoting Japanese hospitality toward the 2020 Olympics. The public and government in effect accepted her as representing Japan.

Among other phenomena of bilingualism at the societal level in various countries, languages have a certain value, as mentioned above, in any given society. Some languages serve as international or regional languages, like English, Arabic, Swahili, Chinese, Spanish, French, and so forth, facilitating commerce, religious dissemination, and intercultural communication. Those languages or others may also serve as bridge languages where a native speaker of language A communicates with B in language C, which is the second language of both speakers. It eliminates the native speaker advantage, and sometimes serves as a compromise to keep the peace among competing linguistic groups, such as in India where English serves as a bridge language among many indigenous Indian languages in education and other public domains.

English has rapidly turned into a global language or lingua franca, accelerated by the Internet. Interpersonal contacts are occurring with an ever-widening range of people, often native or non-native English users, through social media such as U.S.-based Facebook and Twitter. In Japan and many other countries the standardized language proficiency tests such as TOEIC and TOEFL are widely used for educational and employment screening, with high scores serving as qualifications. Particularly for jobs needing bilingual skills, which are increasing with the demand for global human resources, standardized proficiency tests cannot be avoided until better alternatives are developed, while the widespread use of English facilitates global communication.

This article has mainly summarized the items under family and society in Chart 2 above. The next article in this series will conclude with the remaining levels, bilingualism at the school level (bilingual education) and at the disciplinary level (the academic study of bilingualism).
References


Introduction

This article concludes the taxonomy of bilingualism, with the various phenomena of bilingualism classified by the author into five levels as in Chart 1 below. The focus of the first article was on the Individual Level, summarizing the items under that category in Chart 2 below. The second article continued similarly with the items under the Family Level and the Societal Level. This article summarizes basic issues at the School Level (Bilingual Education) and then introduces the Disciplinary Level, a fifth level where the four naturally occurring levels become a subject of academic and professional study.
Bilingualism at the School Level (Bilingual Education)

Bilingualism at the school level refers mainly to bilingual education, which should not be confused with bilingual child-raising at the Family Level. Bilingual Education in turn has many types, listed under the School Level in Chart 2 above according to Baker (2006, pp. 213-225). The various types of bilingual education in the world reflect the role of different languages in each society and the purposes, decided at the government or local level, that languages serve in their educational system and society. An earlier series analyzed in more detail the purposes that languages serve in education (McCarty, 2012a) and the corresponding types of bilingual education that result (McCarty, 2012b). Then cases of bilingualism around the world were presented, with a method to use in university classes for students to analyze the type of bilingual education in any educational situation in the world (McCarty, 2012c). Without repeating the earlier series, this section goes over some of the basic issues of languages in contact at the school level.

Bilingual education generally means teaching in two languages to some extent. While most school systems eventually offer foreign or minority languages if not bilingual education, a key issue is always the medium of instruction, the language in which courses are taught. The medium of instruction often serves to maintain the power of the dominant language and its native speakers in a society. Victims of such power structures include both language minority students and majority children who study foreign languages in their own native language belatedly and ineffectively. By contrast, in some regions of the world, effective bilingual education programs partly flip the medium of instruction of regular content courses to a target language that needs more use to develop than the dominant language.
does. Since balanced input and interaction in two languages are the most effective way for learners to become bilingual, whether in school or elsewhere, the weaker language normally needs more support and active use.

The proof of effectiveness of a bilingual program lies in the extent to which the students become or continue to be bilingual as a direct result of the curriculum. Developing the dominant language of a society takes less schooling than developing a second language. Thus the extent to which the medium of instruction is the target or weaker language tends to determine bilingual learner outcomes more than any other factor. Weak forms can be accepted as types of bilingual education mainly in the sense that having one dominant and one weaker language is a type of bilingualism. If students are bilingual despite the curriculum, because of using a minority language at home, then the school system cannot claim to be implementing bilingual education. Nor would international schools be practicing bilingual education if they taught in only one language, strictly speaking. But such schools are not compulsory and may be part of a bilingual strategy to add English or another international language on top of the home language. In any case, classes in both languages to an extent at international schools would more likely result in a strong form of bilingual education for children.

Continuing with the items in Chart 2 above under the School Level, there are many types of second and foreign language instruction that could be considered weak forms or not bilingual education at all. English or other languages for special or academic purposes could be considered bilingual education if such classes were taught in the target language or formed a significant part of the curriculum. Similarly, the difference between bilingual education and content-based foreign language teaching, where regular subjects are taught in a target language, is usually that in the latter case students simply cannot take enough such courses to become bilingual. Whereas, one of the strong forms of bilingual education, immersion, is defined as 50% or more of the curriculum being taught in the students’ second language (Genesee, cited by Bostwick, 2004). Content-based foreign language teaching in half of all classes or more would therefore cross over into immersion bilingual education. Like bilingualism at the individual level, in education it is also a matter of degree.

While Chart 2 above does not mention specific languages, there are still items that attract particular attention in Japan. Returnees from schooling abroad present a dilemma of their having missed some of the native language and cultural influences of the standard national curriculum, making them different to an extent from mainstream students. It is difficult for traditionalists to appreciate that returnees also represent an opportunity for the nation’s future with their linguistic resources and cosmopolitanism. As a result, catching up in the native language tends to be considered more important than maintaining or developing the second language of returnees, so the value gained from their experience abroad can be diminished or lost along with their bilingual skills. Returnees are prized, however, by universities that specialize in foreign languages, so returnees have an advantage in entering prestigious universities. While speakers of international languages have a positive image, there is yet little recognition that individuals can still be Japanese if they admit to such uncommon attributes as being bilingual and bicultural.
Besides the types of methods or approaches to languages in education, there are corresponding types of schools, the last item in Chart 2 above under the School Level. International schools have already been discussed in connection with the medium of instruction, which would determine the true type of school they are. There are also ethnic schools that struggle to maintain the language and culture of a minority group, such as the Korean heritage schools in Japan. Struggling with no government subsidies, they typically teach Korean and, later, English to students born and raised in Japan as native speakers of Japanese, who can thereby become to some extent trilingual.

Finally there are bilingual schools, although student outcomes need to be confirmed, with some whole school systems in Europe and elsewhere applying the principles of bilingualism. One strong form of bilingual education is two-way or dual language education, illustrated below in Chart 3. Seigakuin Atlanta International School can also be called a bilingual school. They aim to balance the two languages, with the additional merit of leveraging both native languages so that all students can in effect act as teachers. The Vienna Bilingual Schools (Oka, 2003, pp. 49-64) are quite similar, with native speakers of German and English learning from each other.

Chart 3: Example of a Strong Form of Bilingual Education

Bilingualism at the Disciplinary Level

The two sections at the bottom of Chart 2 are combined in Chart 4 below:
To locate bilingualism as an academic field logically, going from the general to the specific, linguistics is divided into theoretical and applied disciplines. Applied linguistics includes many areas such as language teaching and bilingualism. Bilingualism can then be divided into different areas, with bilingual education as one subset of bilingualism, which can be further subdivided into types of bilingual education.

Proceeding from the general to the specific characterizes a vertical analysis, whereas a horizontal analysis would align different fields and mature disciplines, many of which can be mutually informative. The main difference between a field and a discipline in this context is that a field covers whole areas of study, whereas only parts of each field are selectively developed into disciplines, with academic societies, educational programs, methodologies, and a body of research literature. In interdisciplinary research, in order to provide a fuller picture of complex subjects such as human activities, academic disciplines often utilize the methods and research results of related or surrounding disciplines.

While the first four levels of bilingualism in Charts 1 and 2 apply to bilingualism as observed in daily life in the world, bilingualism at the disciplinary level involves the practices and principles of the academic discipline of bilingualism as well as related disciplines in applied linguistics. The related or bordering disciplines, only some of which are listed in Charts 2 and 4, can serve as auxiliary to bilingualism research, but from the standpoint of other disciplines in applied linguistics, the research findings and theories of bilingualism could also serve as auxiliary to their research. It is in this sense that Chart 4 above states that bilingualism informs and is informed by auxiliary disciplines.
Bilingualism at the disciplinary level includes academic activities such as a) research centers, university or graduate school programs with a major related to bilingualism, b) a body of literature in various publications with research findings from studies worldwide, c) academic societies, research groups or research-based networks, including online discussion groups, d) theories or concepts developed to account for languages in contact at various levels, terminology to describe bilingual phenomena, with some terms unique to this field, and definitions to maintain clarity and consistency, and e) research methods and the means to measure the phenomena of bilingualism, often drawn from different disciplines.

Many activities of bilingualism at the disciplinary level could involve auxiliary disciplines, interdisciplinary research, or collaboration with scholars in other countries and fields. Chart 4 names eight disciplines in applied linguistics that border on bilingualism as fields, written yellow on a purple background. Their methods or findings could inform bilingualism research, while their theories or practices could be informed by bilingualism.

“How Bilingualism Informs Language Teaching” (McCarty, 2013) demonstrated many ways that language teaching practices could draw from findings in the discipline of bilingualism, so one particularly fertile combination of disciplines in applied linguistics would be bilingualism and language teaching.

Translation and interpretation are interdependent with bilingualism, for one thing because translators and interpreters must be bilingual or multilingual. Thus translation and interpretation could be considered a part of the bilingualism field, but they also have distinct characteristics such as their own academic societies and a body of literature that distinguish them as a separate discipline. At expert levels, translation and interpretation can even diverge into separate specializations, such as simultaneous interpretation.

Bilingualism intersects with the discipline of intercultural communication in the communicative aspects of using two or more languages across cultures. Chart 2 above placed cultural aspects of bilingualism at the individual, family and societal levels. People of mixed cultural heritage or experience have a compound or distinct cultural identity along with more choices in life. In international families or for people living abroad, intercultural communication is a daily challenge. In multicultural societies these issues are magnified to the scale of different cultural groups sharing the same space. Intercultural training may be useful for sojourners who do not stay long enough in a foreign country to consider learning its language worth the effort. Instead, training is available in anticipating and adjusting to cultural differences, generally or regarding specific regions. Otherwise intercultural communication might be considered interdependent with bilingualism, since there are no shortcuts around language acquisition to deeply understand a culture.
Sociolinguistics, psycholinguistics, and neurolinguistics are among the disciplines in applied linguistics that provide experimental methods and theoretical frameworks to analyze bilingual phenomena. Sociolinguistics, for example, supports family bilingualism research, charting the languages used between each member of an intercultural family. Psycholinguistics and neurolinguistics represent scientific measurements of the brain that will gradually contribute concrete evidence to theories of languages in contact at the individual level. Functional magnetic resonance imaging (fMRI) is increasingly used to track brain activity under different language stimuli. Brain science is a young field whose applications will gradually broaden.

Among other areas of applied linguistics in Chart 4, sign language is included as a discipline related to bilingualism. For one thing, a person who functions in sign language and another language to some extent is considered bilingual, as would someone who could function in two different systems of sign language or interpersonal communication. Sign language may serve as an example where connections could be drawn with bilingualism resulting in unexpected insights into language or communication.

**Conclusion to the Series**

Being a taxonomy, this series could only suggest the skeletal outlines of a vast field. Levels and components constituting bilingualism, with applications to language teaching in Japan and elsewhere, were proposed out of the author’s experience and research. It is hoped that this article, along with the many previous ones, will contribute to a fuller understanding of the field of bilingualism.
References


