

2

English in Philippine Education: Solution or problem?

Allan B. I. Bernardo

Introduction: A history of criticism and debate in English in Philippine education

The English language is well entrenched in Philippine formal education. English was introduced into the formal educational system when the United States of America colonized the Philippines. On April 7, 1900, US President William McKinley issued a Letter of Instruction declaring that English should be the medium of instruction at all levels of the public educational system in the Philippines. The prudence of this policy was doubtful from the day it was issued. According to Prator (1950: 15), McKinley originally ordered the use of the 'language of the people' in the public schools to be set up in the Philippines, but the Letter of Instruction that was issued stated otherwise. Practical considerations seem to have dictated the policy of using English, as there were no teachers and teaching materials in the Philippine languages. In addition to these practical considerations, Martin (1999) suggests that the American colonial government adopted the English-only policy for political and governance reasons as well. She reports that English was thought of as a unifying language that could harmonize Filipinos from the different regions who spoke different languages and dialects. Moreover, English was seen 'as the language that would provide the Filipinos access to civilization ... the life of reason and prudence' (Martin, 1999: 134).

Since then, the policy has been criticized, upheld, denounced, sustained, eventually modified, and is still being debated at all levels of educational policy making (Bernardo, 2004). In the 2005 session of the Philippine Congress, there were at least three proposed bills calling for the reinstatement of English as the sole medium of instruction at all levels of the educational system. The country's President has made a similar proposal, as have many of the country's political and business leaders. These proponents often refer to their own English-only educational experience and their perceptions of how effective it

was in developing their English language proficiency, in expanding their intellectual horizons, and in forming them as leaders of the country.

Early criticisms of the English-language policy

Unfortunately, such nostalgic reminiscences do not seem to represent the experience of most Filipino learners during the over 100 years of using English in the educational system. In fact, there has been consistent and systematic documentation of students' learning difficulties associated with using English as the medium of instruction. Such reports were noted very early in the implementation of the English language policy. According to Salamanca (1968), two American scholars who independently assessed public education in the Philippines in 1904 and 1913 both found low levels of English language proficiency among Filipino students. Saleeby (1924) also conducted a separate assessment and, after noting the problems of using English, recommended that three regional languages should be used together with English in elementary education. Soon after Saleeby's assessment, the Monroe Survey Commission of 1925 also assessed the state of Philippine education and found that 'no other single difficulty has been so great as that of overcoming the foreign language handicap' (Monroe, 1925: 127).

After World War II and after the Philippines declared its independence from the American colonizers, educational scholars began documenting how the local languages might be more effective media of instruction compared to English. In the 1940s and 1950s, there were numerous experimental studies conducted involving the exclusive use of local languages as media of instruction. Jose V. Aguilar conducted one of the more famous of these studies, which was a longitudinal experiment using Hiligaynon as the medium of instruction in grade schools in Iloilo from 1948 to 1954 (Ramos, Aguilar and Sibayan, 1967). The Aguilar study and others suggested that Filipino students learned more effectively when they were taught using their native languages. Moreover, these studies found that the students were better able to use the knowledge they learned in schools in their homes and communities. These experiments provided important evidence for the educational advantages of using local languages in education, and therefore, for the educational disadvantages of using English as the medium of instruction.

The 'decline' of English in education

A convergence of three factors diminished the pre-eminence of English in Philippine education around the late 1950s. The first factor was the positive results of experiments involving native languages as media for instruction. The

second factor was the UNESCO declaration proclaiming the need to begin schooling in the students' mother tongue 'because they understand it best and because to begin their school life in the mother tongue will make the break between the home and school as small as possible' (UNESCO, 1953: 691). The third factor was a recommendation made by Prator (1950) that introduced the idea of teaching English as a second language. These three factors paved the way for the use of Philippine languages in various roles within the educational process. For example, the Revised Philippine Education Program (Bureau of Public Schools, 1957) mandated the use of the vernaculars as languages of instruction for the first two grades of elementary school. The program also mandated that English be taught as a subject but not used as the medium of instruction. The program also required a shift to English as the medium of instruction from third grade through college, using the vernacular as an 'auxiliary medium' of instruction in Grades 3 and 4, and Filipino (the national language) as an auxiliary medium in Grades 5 and 6.

New criticisms on the use of English in Philippine education emerged during the late 1960s with the rise of the nationalist movement and of anti-imperialist (i.e. anti-colonial, anti-American) sentiments, particularly in the educational sector. The writings of nationalist scholar Renato Constantino crystallized the strong negative sentiments against the use of English in schools. He wrote:

The first, and perhaps the master stroke in the plan to use education as an instrument of colonial policy was the decision to use English as the medium of instruction. English became the wedge that separated the Filipinos from their past and later was to separate educated Filipinos from the masses of their countrymen. English introduced the Filipinos to a strange, new world. With American textbooks, Filipinos started learning not only the new language but also a new way of life, alien to their traditions. [...] This was the beginning of their education. At the same time it was the beginning of their miseducation. (1982: 6)

The argument was that the continued use of English in education was part of the ongoing American colonial/imperialist agenda to develop Filipinos who thought in ways the Americans wanted them to think, not in ways that were good for Filipinos.

Sustaining English in a bilingual education program

However, these strong criticisms and denunciations of English were not powerful enough to dislodge English from Philippine education. A compromise policy was approved in the early 1970s which provided for bilingual education in Philippine basic education (Department of Education,

1974; see Sibayan, 1986 for an account of how this compromise policy came to be). The Bilingual Education Policy (BEP) of 1974 mandated the use of both English and Pilipino as media of instruction in elementary and high school. The goal of the policy was to develop students' language proficiencies in English and Pilipino by using either language in two broad domains of learning. The learning areas in the curriculum were divided into the English domain (English communication arts, mathematics, and science) and the Pilipino domain (all other subjects including Pilipino communication arts, social studies, and history).

The BEP is still the policy in force at present with slight revisions. The Department of Education, Culture, and Sports (1987) reiterated exactly the same provisions of the BEP in a new department order. However, the new department order recast the role of the two languages in instruction. Filipino was to be the language of literacy and of scholarly discourse, and English was maintained as the international language and the non-exclusive language of science and technology. But even with this recasting of roles, there has been no real change in the implementation of the BEP at most levels of education.

Current debates

It is this bilingual education system that is presently being criticized by some sectors of society. These sectors blame the poor outcomes of Philippine education on the shift from an English-only policy to the bilingual policy. The basis of this seems to be mainly anecdotal reports from leaders of these sectors about how good their English-only education was. We should emphasize at this point that the most comprehensive evaluation of the BEP, conducted by Gonzalez and Sibayan (1988), revealed that the shift to BEP did not result in any significant gains or losses in overall student achievement. The study asserted that the perceived deterioration of student learning was related to other factors including inadequate teacher training, textbooks, and learning materials. It seems that the discourse on the role of English in education is one that is not shaped simply by empirical evidence. There are many competing discourses on the role of English in education, and these competing discourses have been moved to and from the center of public and policy discussions over the last century.

Competing discourses: Past and present

In an earlier paper, Bernardo (2004) elaborated on five themes in the competing discourses on the role of English in Philippine education. He identified three themes that argue for the exclusive and/or intensified use of

English in Philippine education: (a) the use of English for social integration and/or control, (b) the pragmatic difficulties in shifting away from English, and (c) the usefulness of English in the economic and intellectual domains. He further identified two themes that indicate the need to reject the use of English in Philippine education: (d) the colonizing and oppressive power of English, and (e) the harmful effects of using English in the learning of the typical Filipino student.

English for social integration and/or control

As mentioned earlier, the main factor motivating the American colonial government's decision to use English as the medium of instruction was that it would serve as a means of unifying the ethnolinguistically diverse Filipino people. Similar arguments for social integration have also been proposed in recent decades, asserting that English serves as a unifying element and that its use forestalls a contentious and divisive debate about which Philippine languages to use as media for instruction. But scholars have argued that the social integration that English has brought about might not actually be good for Filipinos. Many scholars have argued that the use of English has developed in Filipinos a national identity that is defined in terms of the agenda of the American colonizers, and they note that the underlying world view still persists over half a century after independence from the colonizer (see e.g. Constantino, 1974; Enriquez and Protacio-Marcelino, 1984; Ordoñez, 1999; San Juan, 1998; and Wurfel, 1988).

The pragmatic difficulties in shifting away from English

Even those who reject the social integration discourse acknowledge that there are very practical difficulties in shifting the medium of instruction to Filipino or some other Philippine languages. These difficulties existed during the American colonial period when there was concern about the American teachers' inability to teach using the local languages, the lack of local teachers who could teach using the local languages, the absence of textbooks and other learning materials in the local languages. There was also a concern that the local languages were not intellectualized enough to provide access to the wealth of knowledge at that time.

Most of these difficulties persist to this day; and in some cases, the difficulties have been intensified. For example, Filipinos eventually gained qualifications to teach but their credentials were earned by going through the colonial educational system in English. These successful products of the English-only system were unlikely to depart from or even question the

established practices of that system. The population of the Philippines has also ballooned to uncontrollable proportions, which creates an even more difficult challenge for the formal school system to produce enough learning materials in local languages. In today's knowledge society, the body of knowledge in the various domains of learning has expanded so rapidly that the task of developing translations of these materials into the local languages has become even more unmanageable.

The usefulness of English

The most overt and persistent arguments for maintaining English as the medium of instruction involve the supposed advantage of English (over Filipino and all other local languages) as a medium for intellectual pursuits, for international communication, for economic advancement, especially in the current globalizing world environment. From the earliest implementation of English as the medium of instruction policy during the American colonial period, it was already argued that English would be the better medium to give Filipinos access to the knowledge of other civilizations. These arguments are still valid as most of the knowledge in the various domains of learning is documented in the English language.

English is also the language used in most of the 'controlling domains' in the Philippines. Sibayan (1994) defined the controlling domains as the domains of power and prestige, which control the national and individual lives of people. In almost all these domains, the institutions, structures, and processes require English proficiency (Gonzalez, 2004; Gonzalez, Bernardo, Bautista, and Pascasio, 2000). It makes sense, therefore, that schools should try to develop the English language proficiency of Filipino students, as long as English is so important in these domains. These arguments on the usefulness of English in such settings have been intensified by globalization in its various manifestations. English has become the pre-eminent language in global trade, in global labor markets, the new information and communication technologies (Doronila, 1994; Gonzalez, 2000). Maintaining and strengthening English language education is crucial from this perspective.

The colonizing and oppressive power of English

Perhaps the most emotionally compelling argument for the repudiation of English relates to the effects of English in subjugating the Filipino mind. As Constantino (1982: 19) asserted, the use of English was instrumental in the 'mis-education' of Filipinos, as 'education saw to it that the Filipino mind was subservient to that of the master'. Therefore, the use of English in Philippine

education should be terminated in order to thwart the ceaseless subjugation of Filipinos within the colonial/postcolonial dynamics. Other scholars have argued that the true liberation of the Filipino people from their colonial/postcolonial ties can begin only when the use of English in formal education and in many of the controlling domains is rejected (Enriquez and Protacio-Marcelino, 1984; Melendrez-Cruz, 1996).

In a similar ideological vein, more recent scholarship has also argued that the continued use of English serves to further the divide between the 'haves' and the 'have-nots' of Philippine society. Gonzalez (1980) and Tupas (2001, 2004) have observed that the intellectual, social, and economic advantages that are supposed to be gained with English proficiency have been limited to the sectors of Philippine society that are already privileged. Tollefson (1991) even claims that English may actually be part of the cause of Filipino poverty, instead of being a solution to poverty.

This problematic thread begins with access (or the lack of it) to good English language education. Sibayan and Gonzalez (1996: 149) noted that socioeconomic status 'is the most significant and influential factor in gaining access to competence in English through the schools'. Indeed, as Tupas (2001: 15) notes, 'those who attain near-native competence in the language because of excellent education belong to the top five percent of the population and usually come from Metro Manila and other urban centers of the country'. Those from the middle socioeconomic class, according to Sibayan and Gonzalez (1996: 151), 'learn English in less-than-ideal circumstances, have a short pre-university learning experience of 10 years ... and for the most part attain a passive competence in English. ... These are the ones chosen by a social selection process to occupy lower-level positions in business establishments and shop-floor jobs.' The poor are severely limited in their access to education and to quality English language education. Those who manage to finish college do so in colleges of the poorest quality. They end up speaking rather poor English, repeatedly fail the government's professional licensing examinations, which are given in English, and settle for low-paying, low-level jobs if they manage to gain employment at all.

The damaging effects of English on learning

From an educational perspective, one would think that the strongest argument against maintaining English as the medium of instruction in Philippine education would involve the consistent empirical evidence on the damaging effects of using English on Filipino students' learning. These damaging effects were noted in the earliest assessments of the American colonial educational system in the Philippines (e.g. Saleeby, 1924; Monroe, 1925), in the empirical studies comparing the use of the vernacular to that of English in the 1940s

and 1950s (e.g. Ramos et al., 1967), and in contemporary studies demonstrating the disadvantage of using English (and the benefits of using Philippine languages) in establishing basic literacy and learning competencies (e.g. Baguingan, 2000; de Guzman, 1998; Dekker, 1999; Errington, 1999), and in subject matter learning (e.g. Bernardo, 1999, 2002; Bernardo and Calleja, 2005; Espiritu and Villena, 1996; Reyes, 2000).

The consistent line of empirical research converges with the common intuition in almost all parts of the globe (the Philippines being an exception) that learning and instruction in formal education should be in one's native tongue. The research reveals several interrelated conclusions: (a) students learn better in their mother tongue; (b) students do not learn as well in English and that, in some cases, they do not learn at all; (c) using English as the medium of instruction in some learning areas prevents students from learning as much as they could (compared to mother tongue instruction), and that sometimes specific obstacles to learning are associated with English-language difficulties; and (d) those who benefit most from education in the English language are those with good levels of proficiency in English to start with and/or those who grow up in environments that abound with English language inputs, materials, and resources.

The cognitive disadvantages brought about by using English in instruction among students with near-zero English-language proficiency and who live in non-English speaking environments converge with the oppressive and marginalizing effect of English on the lives of the poor. The overwhelming majority of Filipino children find their limited proficiency in English a major stumbling block in their efforts to learn in the various domains of knowledge. They are likely to be alienated by a classroom learning environment which requires them to communicate, to know, and to think in English. They are also likely to fail in examinations and writing requirements in English, to perceive much of formal education as irrelevant, and to drop out of school altogether. In contrast, the small proportion of Filipino children who acquire English language proficiency in a privileged milieu have good opportunities to benefit from English language education. They are likely to have a wide array of options available for further education, even in foreign countries. Therefore, the supposed usefulness of English seems to be restricted to this sector of Philippine society.

The discourse of 'global competitiveness'

The preceding discourses have been transformed and recast in the most recent moves to intensify the role of English in Philippine education. In its most simple form, the argument for strengthening English language education and

for using English as the medium of instruction states that Filipinos will become more competitive in the global labor market if they have high levels of proficiency in English, which would be attained if English is restored as the sole medium of instruction, and all resources (good teachers, textbooks, etc.) needed to support English language education are available. This section examines this discourse in greater detail.

The global labor market

Since the 1980s, the Philippine economy has been increasingly dependent on remittances of Filipinos who earn their living in other countries. Overseas Filipino Workers (or OFWs) are actually the lifeline of the Filipino nation as their remittances now account for a significant portion of the country's revenues. In 2003, for example, OFW remittances amounted to over US\$7.6 billion, which was 6.3% higher than in 2002, and which represented about 9% of the country's GNP. In 2004, this figure increased another 11% and totaled US\$8.5 billion. For most jobs available to OFWs, proficiency in English communication is a prerequisite. As more jobs become available in a global economy, it is understandable that government planners are placing greater emphasis on acquiring such language skills.

The globalization of economies and the rise of multinational and transnational companies have also had an effect on the requirements for English language skills even for local employment. At present, the purported English language proficiency of the Filipino worker is supposed to be one of the competitive advantages of the Philippines as a possible investment site for foreign companies. In the past five years, an increasing number of foreign companies have outsourced their customer information service operations to the Philippines, creating a veritable boom industry for 'call centers' mainly because of the relatively good English proficiency of Filipinos. Data from the country's Department of Trade and Industry indicate that the call center industry has generated approximately 40,000 new jobs in the five-year period from 1999 to 2004, making it the biggest employer in the country in terms of growth rate. The most optimistic forecasts for the sector predict 250,000 new jobs for the next five-year period ending in 2009. The main requirement for employment in such call centers is the ability to speak English proficiently, preferably with an American accent.

It is apparent that English language proficiency will allow Filipinos to compete for jobs globally and locally. Advocates of a more intensive role for English in Philippine education propose using English as the medium of instruction so that the English language proficiency of the Filipino workforce will be guaranteed, making Filipinos more globally competitive.

Educating the globally-competitive worker

But what does it mean to educate a globally-competitive worker? Bernardo (forthcoming b) summarizes some of the most important characteristics of the educational processes that respond to the human resource requirements of a global knowledge society. One of the key characteristics relates to the types of competencies that characterize the globally-competitive worker. What types of competencies should educational systems strive to develop in their students? Is English language proficiency in and of itself sufficient to make a worker globally competitive? The obvious answer to this question is no. Other qualities related to technical knowledge and skills, work-related attitudes and values, among others, are also extremely important qualities of a globally-competitive worker.

Many scholars who have studied the relationship between education and globalization have noted that with the increased and more complex levels of knowledge content in goods traded internationally, educational systems in many countries have had to refocus their attention on higher education and the development of higher level knowledge and skills in order to be more competitive (Carnoy, 1998; Jurich, 2000; Reich, 1992; Salmi, 2000). In higher education, colleges and universities are now being required to train students for high-level technical jobs required in the global economy. Even the basic education sector is increasingly emphasizing the development of higher level thinking skills and more complex values required of effective participation in the global environment.

Moreover, the definition of 'higher' learning has also been transformed. For example, the UNESCO Declaration on Higher Education (1998) states that 'institutions should educate students to become well informed and deeply motivated citizens, who can think critically, analyze problems of society, look for solutions to the problems of society, apply them and accept social responsibilities' (Article 9b). The Declaration also emphasizes thinking skills such as 'independent thinking and team work in multicultural contexts, where creativity also involves combining traditional or local knowledge and know-how with advanced science and technology'. Salmi (2000) proposes that globally competitive persons must learn how to keep learning for the rest of their life. He refers to the need for these individuals to acquire 'methodological knowledge and skills' related to being able to acquire new knowledge on one's own, involving skills such as being able to source, access, and apply knowledge to a variety of emerging problem situations, and characteristics such as being creative, resourceful, flexible, and adaptable.

The language problem in Philippine education

We can now recast the language problem in Philippine education in terms of these requirements of global competitiveness, and it is important to acknowledge there are two distinct (although related) questions that need to be resolved. First, what language(s) should Filipino students be proficient in, in order to be competitive in the global labor market? Second, what language(s) should be used in the teaching and learning experiences of Filipino students so that they acquire the various competencies required to be competitive in the global labor market? The second question refers to a wide range of competencies including language and communication skills, and thus overlaps with the first question. But the discussion in this section will give particular attention to the acquisition of high-level technical knowledge and skills.

Language proficiency

Given current global realities, it is hard to argue against the assertion that Filipino students should gain proficiency in English to become more competitive (although very strong arguments are posed from a critical perspective of globalization and a nationalist perspective of education). This language problem in Philippine education relates to the role of Filipino and other Philippine languages in the attainment of English language proficiency. Advocates of a strong English-as-medium-of-instruction policy have proposed that Filipinos will best gain English proficiency if the formal educational system uses English as the exclusive language of instruction for all subjects or learning areas, except for Filipino.

Examining this argument more carefully, we see that it seems to be premised on a monolingual assumption and its underlying fallacies. The monolingual assumption is related to Pennycook's (1994) observation of the 'belief in monolingualism as the norm' (pp. 135, 168) and underlies a number of related postulates: the monolingual fallacy, the code-separation position, the maximum exposure fallacy, and the subtractive fallacy. Phillipson (1992) defined the *monolingual fallacy* as the presupposition that English as a foreign language is best taught monolingually. He argued that this assertion is a fallacy by noting how the monolingual presupposition in teaching English as a second language fails to consider the powerful linguistic experiences of students in other languages, and thus, also fails to take advantage of a very rich scaffolding for second language learning. Phillipson further traces this fallacy to a fundamental distrust of bilingualism, as scholars like Hakuta (1986) and Skutnabb-Kangas (1981) have noted how monolingual Western cultures are largely ignorant of bilingual and multilingual cultures and hold negative

stereotypes about such cultures. Moreover, Lo Bianco (2000) and Phillipson (1992) have observed that in various multicultural contexts (e.g. colonial states and migrant communities), the dominant monolingual cultures attempt to inhibit bilingualism or multilingualism by enforcing monolingual language policies.

The second postulate of the monolingual assumption in the Philippine context involves the presumption that the two languages of the bilingual should be kept separate. This presumption refers to the need to preserve language purity and to avoid language-mixing, especially in the educational context. Bernardo (forthcoming b) refers to this as the *code-separation postulate* and it is exemplified in the Bilingual Education Policy, where English is mandated as the sole medium of instruction for English, science, and mathematics, and Filipino is the sole medium of instruction for all other subjects. As Sibayan (1985) noted, 'it was thought that languages would be kept as separate codes' (p. 110). The objection to language-mixing is based on the supposed ideal type of bilingualism, which involves language switching according to appropriate changes in the speech situation. The ideal seems to be a person who is two monolinguals in one, an idea that has been critiqued by Grosjean (1984).

The third fallacy is related to the notion that as far as language learning is concerned, more is better, which Phillipson (1992) referred to as the *maximum exposure fallacy*. Dividing the students' and teachers' learning and instructional resources over two or three languages would presumably result in ineffective and poor language learning. Thus a more sustained and extensive education using English is supposed to develop better English language skills in students. A number of scholars, including Hakuta (1986), have also noted fears that allowing the use of more than one language in the important language domains will result in the decline of one or more of the languages. Such fears seem to be held by some Filipinos, e.g. that the use of Filipino in schools will be to the detriment of English, and vice versa. Phillipson (1992) refers to this assumption as the *subtractive fallacy* and has pointed to several studies that indicate the fallacious elements of this assumption both at the level of the individual and of the language community.

The implication of the monolingual assumption and the concomitant fallacies is that, according to Phillipson (1992), the dominant English-as-a-second-language pedagogy has tended to ignore the pedagogical value of using the native language for English language learning. Sibayan (1985) raised a very interesting historical footnote when he reported that the former Director of the *Surian ng Wikang Pambansa* (Institute of National Language), P. B. Pineda, had encouraged the mixing of English and Filipino as it has contributed toward the growth and intellectualization of Filipino. Pineda's opinion suggests that there are possible benefits to language-mixing but such conjectures have never been pursued and studied in any systematic way. In

an independent and consistent thread of inquiry, Bautista has described the linguistic structure and pragmatic functions of Filipino-English code-switching (1991, 1995, 1998, 1999, 2004). Her studies strongly indicate that Filipino-English code-switching has a stable linguistic structure, yet few scholars have investigated the prospect of using code-switching as a medium for learning and teaching for bilingual and multilingual students and teachers who code-switch all the time. More recently, Bernardo (2005) has argued for the possible use of code-switching as a resource for attaining the educational and learning objectives for Filipino bilingual and multilingual students.

Thus, although there seems to be a clear imperative to develop the English language proficiency of Filipino students in order to be competitive for local and international jobs, this imperative does not necessarily require that Filipino and other Philippine languages should be sidelined in the process. Intuitive as it may seem, there is actually no scientific basis for saying that using English as a medium of instruction is the best means of creating students with good English language skills. Indeed, there is strong evidence in the scholarly literature to suggest that the native language(s) of students may be effectively used as scaffolding for developing good English language proficiency in many multilingual settings.

Such proposals warrant more serious consideration, if we take into account how English is actually taught and used in the classrooms today. Vilches (2000) undertook an investigation of how English is taught in representative Philippine schools. She conducted classroom observations, interviews with teachers, analysis of English textbooks and lessons plans, among others. The results indicated that teachers' questions and classroom discussion tended to be at the lowest levels of comprehension. Teachers rarely employed teaching methodologies that evoked higher and more critical thinking skills among the students. Vilches also reported that the classroom activities were teacher-dominated and students had rather low levels of activity and involvement. Moreover, teachers tended to rely on traditional presentation/practice structure in teaching language rules, and demanded mostly mechanical repetition and memorization from the students. It seems that the way English is being taught in schools does not allow students to be proficient in the use of English to communicate and engage ideas in a more intelligent level.

Language for learning technical knowledge and skills

Let us then consider how the use of English may contribute to the learning of technical knowledge and skills other than English communication skills. There are at least four possible positions regarding the relationship between language and the acquisition and performance of technical knowledge and skills (Bernardo, 2000). First, it could be posited that there is a *null relationship*

between language and the learning and performance of technical knowledge. It could be argued that technical knowledge is actually abstract and thus unaffected by contextual factors such as language. Indeed, there are those who have argued that abstract knowledge in the technical fields is expressed in a non-linguistic representational scheme, which is the symbolic and mathematical 'language'. Second, it could be asserted that there is a *language-proficiency effect*. That is, technical knowledge and skills are best acquired if the medium is a language in which the student is highly proficient. Such assertions are founded on the notion that learning in most domains involves the construction of understanding, which is less likely to succeed when the learner is unable to comprehend the material that should be understood. Third, we could posit a *language-of-learning effect*, which implies that performance of technical knowledge and skills is best in the language used to teach and learn it. Thus, the critical factor is the consistency in language use in the acquisition and application phases of learning. Finally, there could be a *structural-fit effect*. That is, certain languages might be structurally more appropriate for representing and processing the content and operations in the technical fields. For example, there are some people who argue that English is the language of math and science, and thus, English should be used to teach these subjects.

In current Philippine educational discourse, there seems to be some tendency to assume a structural fit between English and the technical domains of knowledge. This assumption is manifested in the Bilingual Education Policy, which specifies that English be used in such subjects, and seems to be based on the notion that knowledge in these domains is best accessed and processed in the English language. The assumption provides one of the premises for the proposals to mandate the use of English as the medium of instruction to make Filipinos more competitive in the global knowledge society. In this section, these assumptions are carefully examined in light of empirical evidence related to the role of language in acquiring mathematical knowledge and skills.

Recent research on mathematics learning among Filipino bilingual students reveals some evidence for a null relationship between language and some aspects of mathematical learning and performance. For example, when looking at students who have more extensive experience in the mathematical domain, we do not find any effects of using either English or Filipino in the students' ability to comprehend and solve word problems (Bernardo, 1999). These results were attributed to the students' acquisition of problem schemas in the domain. Problem schemas are abstract mental representations of the core structure of the word problems that allow problem solvers to model and solve the word problems in ways that are largely unaffected by the superficial (e.g. linguistic) features of the problems.

Bernardo (1996) also found no effects of using English or Filipino in students' interpretation of subtechnical terms like 'more' and 'less' in specialized ways that are specific to the mathematics problem-solving context.

Bernardo and Calleja (2005) also found that the language of the problem did not affect the tendency to ignore real life considerations in modeling word problems in mathematics. These results can also be explained by the use of abstract problem schemas. Reyes (2000) studied students solving statistics problems and found that testing the students in their L1 facilitated the access and use of conceptual knowledge; however, the benefits of L1 were not found when students had to access computational knowledge. Bernardo's (1998) studies on analogical problem solving among Filipino-English bilinguals showed that overall analogical transfer was better when the language of the source and target problems was the same. But his results also suggest that this language-compatibility effect seems to reside mainly in the process of retrieving the source problem. The results also suggest that language makes no difference in the actual process of applying the source information to the target problem. Bernardo (forthcoming a) also revealed no effects of language in the important process of modeling the problem structure of word problems. The above results show that language factors do not seem to affect the more mathematically abstract components of word problem solving (e.g. application of abstract schematized problem concepts and procedures).

But the evidence for the null relationship seems to be found only with these more abstract aspects of mathematical learning and performance. The research indicates a rather robust set of findings consistent with a language-proficiency effect. For example, Bernardo (1999) found that Filipino-English bilingual students were better at solving typical math word problems when these problems were written in their L1 (Filipino) compared to in their L2 (English). Error analysis suggested that the L1 advantage was due to better comprehension of the problem text. Bernardo (2002) used a recall paradigm to more directly test Filipino-English bilingual students' comprehension of word problems in Filipino and English. The results showed that students were better able to understand and solve the problems in their L1 and had more difficulties comprehending the same problems in their L2 (see also Bernardo and Calleja, 2004). These findings suggest that some difficulties that students have in relation to understanding word problems might be intensified in the case of bilingual students who have to solve word problems written in their L2.

So is there sufficient basis for assuming that English is a better structural-fit language for learning mathematics? The results of various studies done with Filipino bilinguals indicate that there is no such basis. A review of the international research literature indicates a structural fit between language and learning in mathematics. However, the research studies indicate a good fit between characteristics of the Chinese, Korean, and Japanese lexicon; the same research actually suggests that in some ways English may contribute to some difficulties in learning basic mathematical concepts and operations (Fuson and Kwon, 1991; Miller and Stigler, 1987; Miura, 1987; Miura, King,

Chang and Okamoto, 1988). It seems more research needs to be done before an unequivocal answer can be provided to the question of whether English is a better language for learning mathematics and technical subjects.

Given the higher technical demands of today's global labor market, the globally-competitive Filipino needs to acquire high-level technical skills together with English language skills. The argument that Philippine schools will be more successful in producing such Filipinos by using English as the medium of instruction seems to be based on untenable, inappropriate, and/or unverified assumptions. Indeed, it seems that the argument can only make sense if the most naïve and simplistic assumptions are made about what language is, what learning involves, what competencies should be acquired, and how language relates to the learning of bilingual and multilingual learners.

Conclusion

In an earlier exposition on the role of English in Philippine education, Bernardo (2004) noted that the status of English in Philippine education had undergone a significant transformation over a century. In its most recent history, English in Philippine education has gotten a very strong boost from discourse explicitly linking the English language to the competitiveness of Filipinos in the global labor market. In this paper, the limitations of such a discourse have been indicated. These limitations notwithstanding, the forces of globalization seem to underscore the need to better understand the importance of English in Philippine education. The intricate realities of globalization cannot be addressed by simple-minded prescriptions of the use of English in Philippine schools. The manner by which English might be used as a potent resource for the education of Filipinos will need to be grounded in a sound and sophisticated understanding of the bilingual/multilingual experience of Filipinos, the complex network of competencies that Filipinos need to learn in schools, the relationship between languages used in learning and instruction, and the present constraints of the structures and processes of Philippine education. As a comprehensive understanding of these phenomena is not likely to yield straightforward prescriptions, Filipino educators will have to be exceptionally creative in finding ways to ensure that English becomes a positive resource in the education of Filipinos.

The long history of English in Philippine education has shown the remarkable resilience of English as a feature of the Philippine educational system. It is not unreasonable to predict that English will persist in some form or another in Philippine schools for many more years. But whether English will be part of the problem in Philippine education or part of the solution depends on how educational decision-makers and stakeholders construct and reconstruct the roles of English in Philippine schools.

References

- Baguingan, Gloria D. (2000) Grassroots legitimacy: The first language component bridging program pilot project of Region 2 and CAR. *Philippine Journal of Linguistics*, **31**(2), 93–105.
- Bautista, Ma. Lourdes S. (1991) Code-switching studies in the Philippines. *International Journal of the Sociology of Language*, **88**, 19–32.
- Bautista, Ma. Lourdes S. (1995) Tagalog-English code-switching revisited. *Philippine Journal of Linguistics*, **21**, 15–29.
- Bautista, Ma. Lourdes S. (1998) Tagalog-English code-switching and the lexicon of Philippine English. *Asian Englishes*, **1**, 51–67.
- Bautista, Ma. Lourdes S. (1999) An analysis of the functions of Tagalog-English code-switching: Data from one case. In *The Filipino Bilingual: A Multidisciplinary Perspective (Festschrift in Honor of Emy M. Pascasio)*. Edited by Ma. Lourdes S. Bautista and Grace O. Tan. Manila: Linguistic Society of the Philippines, 1999, pp. 19–31.
- Bautista, Ma. Lourdes S. (2004) Tagalog-English code switching as a mode of discourse. *Asia-Pacific Education Review*, **5**(2), 226–33.
- Bernardo, Allan B. I. (1996) Task-specificity in the use of words in mathematics: Insights from bilingual word problem solvers. *International Journal of Psychology*, **31**(1), 13–28.
- Bernardo, Allan B. I. (1998) Language format and analogical transfer among bilingual problem solvers in the Philippines. *International Journal of Psychology*, **33**(1), 33–44.
- Bernardo, Allan B. I. (1999) Overcoming obstacles to understanding and solving word problems in mathematics. *Educational Psychology*, **19**(2), 149–63.
- Bernardo, Allan B. I. (2000) The multifarious effects of language on mathematical learning and performance among bilinguals: A cognitive science perspective. In *Parangal kang Brother Andrew. Festschrift for Andrew Gonzalez on his Sixtieth Birthday*. Edited by Ma. Lourdes S. Bautista, Teodoro A. Llamzon, and Bonifacio P. Sibayan. Manila: Linguistic Society of the Philippines, pp. 303–16.
- Bernardo, Allan B. I. (2002) Language and mathematical problem solving among bilinguals. *Journal of Psychology*, **136**, 283–97.
- Bernardo, Allan B. I. (2004) McKinley's questionable bequest: Over 100 years of English in Philippine Education. *World Englishes*, **23**, 17–31.
- Bernardo, Allan B. I. (2005) Bilingual code-switching as a resource for learning and teaching: Alternative reflections on the language and education issue in the Philippines. In *Linguistics and Language Education in the Philippines and Beyond (A Festschrift in Honor of Ma. Lourdes S. Bautista)*. Edited by Danilo T. Dayag and J. Stephen Quakenbush. Manila: Linguistic Society of the Philippines, pp. 151–70.
- Bernardo, Allan B. I. (forthcoming a) Language and modeling word problems in mathematics among bilinguals. *The Journal of Psychology*.
- Bernardo, Allan B. I. (forthcoming b) Language in Philippine education: Rethinking old fallacies, exploring new alternatives amidst globalization. In *Language and Globalization — The Politics of Language in the Philippines*. Edited by T. Ruanni Tupas. Quezon City: University of the Philippines Press.
- Bernardo, Allan B. I. and Calleja, Marissa O. (2005) The effects of stating problems in bilingual students' first and second languages on solving mathematical word problems. *The Journal of Genetic Psychology*, **116**, 117–28.

- Bureau of Public Schools (1957) *Revised Philippine Educational Program* (Order No. 1). Manila: Author.
- Carnoy, Martin (1998) The globalization of innovation, nationalist competition, and the internationalization of scientific training. *Competition and Change*, **3**, 237–62.
- Constantino, Renato (1974) *Identity and Consciousness: The Philippine Experience*. Quezon City: Foundation for Nationalist Studies.
- Constantino, Renato (1982) *The Miseducation of the Filipino*. Quezon City: Foundation for Nationalist Studies.
- Corpuz, Onofre D. (1970) *The Philippines*. Englewood Cliffs, NJ: Prentice Hall, Inc.
- De Guzman, Estefania S. (1998) *Assessing Content Learning in a Second Language Context* (Research Series No. 36). Manila: Philippine Normal University.
- Dekker, P. Gregory (1999) First language component literacy: A bridge over troubled waters. In *The Filipino Bilingual: A Multidisciplinary Perspective (Festschrift in Honor of Emy M. Pascasio)*. Edited by Ma. Lourdes S. Bautista and Grace O. Tan. Manila: Linguistic Society of the Philippines, 1999, pp. 94–102.
- Department of Education (1974) *Implementing Guidelines for the Policy on Bilingual Education* (Department Order No. 25, s. 1974). Manila: Author.
- Department of Education, Culture, and Sports (1987) *The 1987 Policy on Bilingual Education* (DECS Order No. 52, s. 1987). Manila: Author.
- Doronila, Amando (1994) That language debate. *Philippine Daily Inquirer*; July 28. 5.
- Enriquez, Virgilio G. and Protacio-Marcelino, Elizabeth (1984) *Neo-Colonial Politics and Language Struggle in the Philippines*. Quezon City: Akademya ng Sikolohiyang Pilipino.
- Errington, Ellen (1999) The place of literacy in a multilingual society. In *The Filipino Bilingual: A Multidisciplinary Perspective (Festschrift in Honor of Emy M. Pascasio)*. Edited by Ma. Lourdes S. Bautista and Grace O. Tan. Manila: Linguistic Society of the Philippines, 1999, pp. 87–93.
- Espiritu, Clemencia C. and Villena, Rosemarievic G. (1996) *Ang Pagsasalin sa Filipino ng Aklat sa Mathematics I para sa Antas Terserya at Pagsubok sa Paggamit Nito [Translating the Mathematics I Textbook into Filipino and its Pilot Testing]* (Research Series No. 35). Manila: Philippine Normal University.
- Fuson, Karen C. and Kwon, Youngshim (1991) Chinese-based regular and European irregular systems of number words: The disadvantages for English-speaking children. In *Language in Mathematical Education: Research and Practice*. Edited by Kevin Durkin and Beatrice Shire. Milton Keynes, UK: Open University Press, pp. 211–26.
- Gonzalez, Andrew (1980) *Language and Nationalism: The Philippine Experience Thus Far*. Quezon City: Ateneo de Manila University Press.
- Gonzalez, Andrew (2000) English, Filipino and other languages at the crossroads: Facing the challenges of the new millennium. *Philippine Journal of Linguistics*, **31** (2), 5–8.
- Gonzalez, Andrew (2004) The social dimensions of Philippine English. *World Englishes*, **23**, 7–16.
- Gonzalez, Andrew, Bernardo, Allan, B. I., Bautista, Ma. Lourdes S., and Pascasio, Emy M. (2000) The social sciences and policy making in language. *Philippine Journal of Linguistics*, **31** (2), 27–37.
- Gonzalez, Andrew and Sibayan, Bonifacio P. (eds.) (1988) *Evaluating Bilingual Education in the Philippines (1974–1985)*. Manila: Linguistic Society of the Philippines.

- Grosjean, Francois (1992) Another view of bilingualism. In *Cognitive Processing in Bilinguals*. Edited by Richard J. Harris. Amsterdam: Elsevier, pp. 51–62.
- Hakuta, Kenji (1986) *The Mirror of Language: The Debate on Bilingualism*. New York: Basic Books.
- Jurich, Sonia (2000) The End of Campus University? *TechKnowlogia* 1, January/February 2000. In [http:// techKnowLogia.org](http://techKnowLogia.org).
- Lo Bianco, Joseph (2000) Multiliteracies and multilingualism. In *Multiliteracies. Literacy Learning and the Design of Social Futures*. Edited by Bill Cope and Mary Kalantzis. London: Routledge, pp. 92–105.
- Martin, Ma. Isabel Pefianco (1999) Language and institution: Roots of bilingualism in the Philippines. In *The Filipino Bilingual: A Multidisciplinary Perspective (Festschrift in Honor of Emy M. Pascasio)*. Edited by Ma. Lourdes S. Bautista and Grace O. Tan. Manila: Linguistic Society of the Philippines, 1999, pp. 132–6.
- Melendrez-Cruz, Patricia (1996) Ang pulitika ng wikang panturo [The politics of the language of instruction]. In *Wika at Lipunan [Language and Society]*. Edited by Pamela C. Constantino and Monico M. Atienza. Quezon City: University of the Philippines Press, pp. 194–217.
- Miller, Kevin F. and Stigler, James W. (1987) Counting in Chinese: Cultural variation in a basic cognitive skill. *Cognitive Development*, 2, 279–305.
- Miura, Irene T. (1987) Mathematics achievement as a function of language. *Journal of Educational Psychology*, 79, 79–82.
- Miura, Irene T., Kim, Chungsoon C., Chang, Chih-Mei, and Okamoto, Yukari (1988) Effects of language characteristics on children's cognitive representation of number: Cross-national comparisons. *Child Development*, 59, 1445–50.
- Monroe, Paul (1925) *Survey of the Educational System of the Philippines*. Manila: Bureau of Printing.
- Ordoñez, Elmer (1999) English and decolonization. *Journal of Asian English Studies*, 2(1–2), 17–21.
- Pennycook, Alastair (1994) *The Cultural Politics of English as an International Language*. London: Longman.
- Phillipson, Robert (1992) *Linguistic Imperialism*. Oxford: Oxford University Press.
- Prator, Clifford H. (1950) *Language Teaching in the Philippines*. Manila: United States Educational Foundation.
- Ramos, Maximino, Aguilar, Jose V., and Sibayan, Bonifacio P. (eds.) (1967) *The Determination and Implementation of Language Policy*. Quezon City: Alemars-Phoenix.
- Reich, Robert B. (1992) *The Work of Nations: Preparing Ourselves for 21st Century Capitalism*. New York: Vintage Books.
- Reyes, Melissa Lopez (2000) Differential effects of mathematical ability and language use on computational and conceptual knowledge of descriptive statistics. *The Asia-Pacific Education Researcher*, 9(1), 83–115.
- Salamanca, Bonifacio (1968) *The Filipino Reaction to American Rule: 1901–1913*. USA: The Shoe String Press.
- Saleeby, Najeeb Mitry (1924) *The Language of Education of the Philippine Islands*. Manila: Privately printed.
- Salmi, Jamil (2000) Higher Education: Facing the Challenges of the 21st Century. *TechKnowlogia* 1, January/February 2000. In <http://techKnowLogia.org>.
- San Juan, Epifanio Jr. (1998) One hundred years of reproducing and reproducing the 'Filipino'. *Amerasia Journal*, 24(2), 1–35.

- Sibayan, Bonifacio P. (1985) Teaching for communicative competence in a second language. In *Communicative Language Teaching*. Edited by Bikram K. Das. Singapore: University of Singapore Press, pp. 106–19.
- Sibayan, Bonifacio P. (1986) Pilipino and the Filipino's renewed search for a linguistic symbol of a unity and identity. In *The Fergusonian Impact. Sociolinguistics and the Sociology of Language* (Vol. 2). Edited by Joshua A. Fishman. Berlin: Mouton de Gruyter, pp. 351–60.
- Sibayan, Bonifacio P. (1994) The role and status of English vis-à-vis Filipino and other languages in the Philippines. In *English and Language Planning: A Southeast Asian Contribution*. Edited by T. Kandiah and J. Kwan-Terry. Singapore: Times Academic Press, pp. 218–41.
- Sibayan, Bonifacio P. and Gonzalez, Andrew (1996) Post-imperial English in the Philippines. In *Post-imperial English — Status Change in Former British and American Colonies, 1940–1900*. Edited by Joshua A. Fishman, Andrew W. Conrad, and Alma Rubal-Lopez. Berlin and New York: Mouton de Gruyter, pp. 139–72.
- Skutnabb-Kangas, Tove (1981) *Bilingualism or Not. The Education of Minorities*. Avon, England: Multilingual Matters.
- Tollefson, James W. (1991) *Planning Language, Planning Inequality: Language Policy in the Community*. London and New York: Longman.
- Tupas, T. Ruanni F. (2001) Linguistic imperialism in the Philippines: Reflections of an English language teacher of Filipino overseas workers. *The Asia-Pacific Education Researcher*, **10**(1), 1–40.
- Tupas, T. Ruanni F. (2004) The politics of Philippine English: Neocolonialism, global politics and the problem of postcolonialism. *World Englishes*, **23**, 47–58.
- UNESCO (1953) *The Use of Vernacular Language in Education*. Paris: UNESCO.
- UNESCO (October 1998) *World Declaration on Higher Education for the Twenty-First Century: Vision and Action*. In http://www.unesco.org/education/educprog/wche/declaration_eng.htm.
- Vilches, Ma. Luz (2000) Promoting language learning in secondary ELT: The PELT Project experience. *Philippine Journal of Linguistics*, **31**(2), 107–13.
- Wurfel, David (1988) *Filipino Politics: Development and Decay*. Quezon City: Ateneo de Manila University