A Post-Mortem on the Malaysian Content-Based Instruction Initiative

Abstract: This is a post-mortem on Malaysian *TeSME* (Teaching of Science and Mathematics in English) program based on its comparison with Canadian immersion programs. Malaysia and Canada have some common sociological aspects such as the size of population, the ratio of indigenous people and immigrants, and multilingual contexts. It also has in common various core elements in the set of criteria proposed by Swain and Johnson (1997) to define a prototypical immersion program. Thus, the lessons Canadians have learned from immersion may be seen as significant guiding light for TeSME and other attempts of content-based instruction programs. Canadian immersion has been different from TeSME at least in terms of three core features: overt support exists for the L1; the teachers are bilingual; and the classroom culture is that of the local L1 community. These differences made four issues more prominent: Learning outcome of TeSME; mainstay of TeSME; judicious use of L1; and function of TeSME. Finally some suggestions are proposed: give higher priority to promoting concept development across languages for now; make English classes more effective; promote bilingualism in TeSME; and extend TeSME's function to understanding and integrating other cultures and languages.

Keywords: immersion; content-based instruction; *TeSME*; language policy; Malaysia; Canada.

Malaysian content-based instruction (CBI) program, which was called *TeSME* (Teaching of Science and Mathematics in English or better known by its Malay acronym, PPSMI), has been a controversial case at home and across EFL (English as a foreign language) and ESL (English as a second language) regions, especially in the Asian region as a whole for the last several years. It was a bold and transformational step of Malaysian government to achieving students' mastery in science and mathematics most of whose sources are available in the English language through its implementation with the hope for the enhancing of students' command of the language after two decades of nationalist drive for using the mother tongue (Malay or *Bahasa* Malaysia) as the medium of instruction for these subjects. But that drastic step was not based on consultation with scholars in relevant fields or public hearings or any significant researches on the implementation of CBI in the Malaysian setting. Furthermore, it didn't intend to, but happened to cut both a vanguard and a messianic figure to the eyes of many foreign language policy makers in the surrounding region, partly because the detailed information of the implementation of that program has not been reported for a wider audience. Under these circumstances, this paper tries to shed some significant guiding light for another Malaysian or other countries' attempts of CBI programs by conducting a post-mortem on the previous program based on its comparison with the characteristics of Canadian immersion, a prototype CBI program. In order to get deeper understanding of the intricate and practical problems emerging from its implementation, I look into the sociolinguistic and pedagogical ramifications of the contrasting features as well as common aspects between Canadian immersion and Malaysian TeSME.

After it gained the status of the national language in 1963 under the National Language Act, Malay has been the medium of instruction in all sectors of public education in Malaysia. That proved to be a significant, if inevitable, social change from the previous era which allowed both the vernacular-medium schools using Malay, Chinese and Tamil and the English-medium schools under the British colonial rule. After the National Language Act, the Chinese and Tamil vernacular schools were still allowed to use their own native languages at the primary school level, but there was supposed to be only one public school system at the secondary school level, i.e. one using Malay as the medium of instruction. This language policy drive was gradually implemented in the existing school system by 1977. It penetrated even into the tertiary level, making Malay the medium of instruction in university lecture halls by 1983. Now English became a subject with the same status as the other subjects, whose credit was later deemed as unnecessary as a condition for university entry in 1988 (Chan & Tan, 2006). It goes without saying that these changes would result in a significant decline in English language proficiency among Malaysian students compared to the previous era. Amid grave concerns about the erosion of English proficiency and intense voices about the urgent need to equip future generations with high level of English abilities emerged the decision of Malaysian government to use English in math and science classes in all primary and secondary schools. That was none other than TeSME program which started from the school year of 2003. However, it was short-lived and abolished seven years after its implementation across all levels of primary and secondary schools. It was the result of continuous discussions held among various stakeholders in Malaysian society for a protracted period of time.

On the other hand, immersion programs developed in Canada from 1965 are approaches to foreign language instruction in which the usual curricular activities are conducted in a foreign language, at no expense to the home/first language of the students. In an immersion program, the target language is not the subject of instruction but the medium of instruction through which a majority of the school's academic content is taught. Generally, in most immersion programs this includes math, science, social studies and other subject areas. Immersion represents the most intensive form of content-based foreign language instruction. Even though Malaysian TeSME does not cut such an intensive form as immersion programs, it is found to have in common many core items in the following set of criteria which was proposed by Swain and Johnson (1997) to define a prototypical immersion program.

(1) The L2 is a medium of instruction.

(2) The immersion curriculum parallels the local L1 curriculum.

(3) Overt support exists for the L1.

(4) The program aims for additive bilingualism.

(5) Exposure to L2 is largely confined to the classroom.

(6) Students enter with similar (and limited) levels of L2 proficiency.

(7) The teachers are bilingual.

(8) The classroom culture is that of the local L1 community.

For instance, both cases make sure that the L2 is a medium of instruction, the immersion curriculum parallels the local L1 curriculum and the program aims for

additive bilingualism. Furthermore, Malaysia and Canada have many aspects of sociological makeup in common. Malaysian population amounts to 28,334,000 (July 2010 est.), which can be comparable to the size of Canadian one (33,476,688 - 2011 census). More than 1/3 of Malaysian population belongs to non-Malay multiethnic groups which speak different native tongues respectively. This is also true of Canadian linguistic situation. In major cities in Canada (Toronto, Vancouver, Edmonton, Montreal) approximately 20-40 % of the population speaks a language other than French or English at home. Just as most of the Malaysian non-Malay speakers come from overseas, across the Canada nearly 20% of census respondents in 2001 were recent immigrants (Swain & Lapkin, 2005). Since Canadian immersion education has encouraged concept development across two languages and literacy/language development across the curriculum (ibid.), which are probably the same aims of TeSME, the lessons Canadians have learned from the implementation of immersion program for the last four decades may be significant guiding light for TeSME and other attempts of content-based instruction programs in terms of its implementation as well as its philosophy.

Different aspects between Canadian immersion and Malaysian *TeSME*

Significant lessons from Canadian immersion classes may be elicited from the different aspects between Canadian and Malaysian cases. These are contrasting features to make Canadian case look unique and prominent against the other counterpart. There are at least three core features whereby Canadian immersion programs are different from Malaysian TeSME: (1) Overt support exists for the L1; (2) The teachers are bilingual; and (3) The classroom culture is that of the local L1 community.

Overt support exists for the L1

Swain and Johnson (1997) made mention of the basic direction of L1 education in association with immersion programs in this way: "At a minimum, the students' L1 is taught as a subject in the curriculum at some stage and to advanced levels" (p. 7). However, considering many urban areas in Canada have a more linguistically diverse group of students now, Swain and Johnson said that it is essential to find ways to support the diverse L1s in immersion in order to maintain the integrity of the core features of immersion such as the aim for additive bilingualism (Swain & Lapkin, 2005). To Anglophone students, French as the immersion language has been their L2, but to many young immigrants, French has been their L3 if they choose immersion programs. Their L1 may lose out to their L2 or L3 in the long run if they are not encouraged to develop their L1 proficiency in the school setting. In the spirit of promoting the additive nature of the programs, immersion education pays special attention to teaching the target language while providing for the full development of the L1s of students.

In Malaysian setting, however, diverse students' L1s are supposed to be "invisible and inaudible" in the CBI classroom, in principle, just as Cummins decries about most of immersion programs (ibid., p. 171). The frequent use of an L1 (basically Malay, Chinese, Tamil, or an indigenous language) in the math and science classes were witnessed in urban areas as well as in rural areas, but, in principle, the use of L1s was neither appreciated nor allowed in the classroom since it was not the medium of instruction in those classes. Malaysian teachers and parents alike don't have any foggiest idea that students' L1s may lose out to the target language in the end because of the frequent use of their L1s in other classes of learning other subjects as well as in their homes. But just

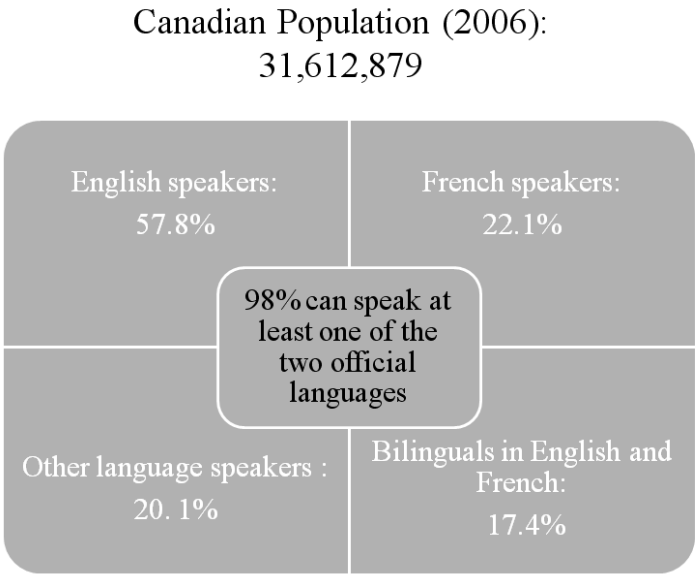
as Cummins pointed out, “teachers are typically not at all proactive in searching for ways to use students’ first language as a resource, either in immersion or English programs” in the Malaysian school contexts (ibid., p. 171). The negative attitude toward the use of students’ L1s in Malaysian TeSME is thrown into sharp relief by the direction of Canadian immersion. Malaysian TeSME programs aimed at teaching students a foreign language of power (i.e., English) whereas Canadian immersion programs have focused on teaching majority anglophone students in a minority official language (i.e., French) which functions as L1 to francophone students (Walker & Tedick, 2000, p. 6). The goal of Canadian immersion is to develop students’ fluency and literacy skills in both languages (bilingualism and biliteracy) through the transfer of language skills working both ways between two languages.

The teachers are bilingual

This aspect basically relates to languages spoken by the teachers in Canadian immersion classes. Teachers are characteristically bilingual in English and French but are rarely multilingual. Furthermore, they are native speakers of the medium of instruction of immersion classes who otherwise possess exactly the same qualifications as would the students’ L1 teachers (Dalton-Puffer, 2007). This situation partly reflects the position of their official languages in Canada, English and French, which are spoken by 57.8% and 22.1% of the whole population respectively, as Figure 1 indicates. In the Canadian society of which personal bilingualism and multilingualism are significant features, 98% of Canadian residents are able to speak at least one of the country’s two official languages, but only 17.4% of Canadians (approximately 5.6 million individuals) are

bilingual in French and English (the 2006 census[1]). Canadian teachers conducting immersion classes come from this characteristically bilingual pool. Since they are bilinguals and use their native tongue as the medium of instruction, they can teach immersion classes with much more facility and effectiveness than would Malaysian counterparts who are not competent bilinguals.

Fig.1 Bilingual pool in Canada[1]



This situation is contrasted with the Malaysian CBI setting where the low English proficiency of math and science teachers was one of the major contentious issues in the implementation of TeSME. They should have functioned as the mainstay of this program who excelled at harnessing their linguistic abilities, but they were not to blame. Most of them were only exposed to the instructions conducted in Malay in their training ground and they engaged in teaching the subjects in Malay as the medium of instruction until the implementation of TeSME starting from 2003. It is no wonder many teachers

acknowledged their low level of English proficiency and asked for urgent assistance in the use of English for math and science classes from government and schools (e.g., Idris, Cheong, Mohd. Nor, Abdul Razak, & Md. Saad, 2007; Osman, Halim, & Mohd Meerah, 2006; Pandian & Ramiah, 2003).

For instance, in a study consisting of eighty-eight teachers teaching Mathematics and Science in Form One (Grade 7), Pandian and Ramiah (2003) reported that only 38.6% of them indicated that the English for Teaching Mathematics and Science (*ETeMS*) course organized by the Ministry of Education was sufficient to enable them to teach math and science in English and 43.2% felt that they still lacked the necessary language skills. It was found that the main problem encountered by teachers lay in explaining concepts in English. 85.2% of the respondents indicated that they had problems explaining concepts in English and 81.8% admitted to using Malay (L1) to give explanations when faced with a breakdown in communication when using English.

These studies indicate only the perception of math and science teachers for their own English proficiency and their level of preparation, not their real level of English proficiency and the objective level of preparation. If we are to take a glimpse of the real situation, it will be enlightening to take the case of the Philippines, which has the same sociolinguistic background such as an ESL setting as the result of the history with an English-speaking colonial power and almost the same language policy teaching math and science in English from 2003. According to the results of a self-assessment test conducted in 2004 by the Department of Education in the Philippines, only one out of every five public high school teachers is proficient in the English language, i.e., of the 53,000 teachers who took the exam, only 19 percent or 10,070 scored at least 75 percent,

the passing grade (Bonabente, 2007). Real situations for Malaysian teachers can get better or worse, but it seems true that the majority of math and science teachers are not characteristically bilinguals with a math or science background as well as ESL training, let alone multilinguals in English and other languages.

The classroom culture is that of the local L1 community

In other words, the classroom culture mirrors that of the community from which the students are drawn, not that of a community where the target language is spoken. Swain and Lapkin (2005) also indicate that, "in Canada's large urban centers today, the local community may often be a highly heterogeneous multilingual group. The challenge in Canada is to celebrate this rich diversity while teaching through the medium of the second official language" (p. 173). That's why they suggest that the classroom culture needs to recognize the cultures of the multiple immigrant communities to which the students belong. In the last decade they had to let go of the assumption that early immersion classes would be full of homogeneous young Anglophones and begin to think about how they can apply the principle of multilingual education not only to regular classrooms but also in the immersion setting.

In Malaysian context, however, the value of local languages, cultural and community resources has not been emphasized in the classroom setting. Take the Peninsular Malaysian public schools for instance. Since most of these schools have a mix of a majority of Malay students and a minority of Chinese and Indian students, at least three languages and cultures can be experienced in the school compound. But teachers in general don't view this bilingual/multilingual situation as a social and individual resource

that can reap economic, political, social and individual benefits, but many of them tend to view it as a problem that on a social level can result in a lack of social cohesiveness and on an individual level may result in cognitive deficiencies. It is against one of the sociolinguistic lessons garnered from a turbulent history of multilingualism that the promotion of bilingualism/multilingualism may be viewed as a legal mandate involving the right of individuals to use their mother tongue and to not suffer discrimination for this use (McKay, 1998).

A set of optimal *TeSME* components

In this section, I will reflect on some prominent issues that may be converted into a set of optimal program components that works for the students in the Malaysian context, based on the previous comparison and contrast between Canadian immersion and TeSME program.

The learning outcome of TeSME: Give priority to concept development across two languages

What is the learning outcome of TeSME? Concept development across two languages or language/literacy development across the curriculum? To many of us, this issue may be moot. We're supposed to strive to achieve both learning outcomes since we set our minds to CBI or immersion program. However, we need to take into consideration the different sociolinguistic conditions and pedagogical focus of TeSME discussed above in relation to Canadian immersion in order to see what it may bring about.

From the technical point of view, TeSME is recognized as one of CBI, which is "teaching a content area in the target language wherein students acquire both language and subject matter knowledge" (Dupuy, 2000, p. 206). In other words, CBI has "dual commitment to language- and content-learning objectives" (Stoller, 2004, p. 261). The vision of dual commitment to both learning objectives is a compelling case, but it should be noted that the real implementation of CBI has often fallen short in its pursuit of the ideal. Arguably, then, Rodgers's (2006) view on CBI lends itself particularly well to the exploration of CBI programs in EFL/ESL settings. He asserted that, in CBI classes, the subject matter knowledge is the focus of instructional and learning activities whereas foreign/second language acquisition is a natural outcome of content learning (p. 373). In order to illustrate his idea, he pointed at the apparent gap that exists between learners' subject knowledge and their linguistic performances in CBI classes.

This controversial gap has been well known through a myriad of researches on immersion programs. Specifically there were two problematic areas in French immersion programs in terms of students' performance (Cummins, 1998). Although students acquired near-native L2 (French) competence in receptive skills, they still made errors in productive skills at all grade levels. Swain's seminal study (1985) on French immersion students also showed that there were significant discrepancies between native-like progress in receptive skills coupled with content knowledge and productive skills such as their oral and written linguistic development (Pica, 2002, p. 1). Swain's data suggested that the major reason for this outcome was an imbalance in opportunities for students to receive L2 input and produce modified output. Meaningful, comprehensible input was considerably greater in quantity than the amount of output students were asked to

produce (Rodgers, 2006). Other scholars reasoned that the problematic qualities of writing in L2 (French) are caused by the exclusively teacher-centered pedagogy and the paucity of classroom opportunities to use French because of the lack of interaction with native Francophone students in the French one-way immersion programs (Bae, 2007). These findings may shed light on the possible outcome of TeSME which lacked bilingual math and science teachers and substantial output practices in the classroom setting which can be created through the ideas and activities of innovative teachers.

This situation should be by no means idealistic but it indicates what result probably follows from CBI classes. Thus, Rodgers's (2006) view on CBI may provide a window through which to understand the scenario CBI classes will go through, i.e., from the stage of giving a higher priority to the subject matter knowledge over foreign language development to the one of striking a balance between the two focuses in the pursuit of CBI ideal. Given that a specific focus on language component can be added to the further stage of CBI, however, changing the main focus on concept development across languages in CBI should be tantamount to the case of putting a cart in front of a horse. Misunderstanding of the priority in the dynamics of CBI programs may end up in endless squabbling about the direction and processes for their effective implementation.

The suggestion of giving priority to concept development across languages can also be explained by the work of Davison and Williams (2001) who proposed the conceptualization of the relationship between language teaching and content teaching as a continuum. At one end of the continuum lies traditional English language teaching and at the other end of the continuum falls straight content teaching. In between three points are represented each as a more communicative or 'contextualized' approach, 'simultaneous'

integrated language and content teaching (the middle point of the continuum), and a 'language-conscious' content teaching approach (pp. 59-59). The middle point indicates that both language and content are given equal emphasis. If students have a more pressing need to learn the content and attain further English language development, the language-conscious content teaching approach could be adopted.

Where does TeSME fall on this continuum based on these criteria? The ideal situation it aims at may be the 'simultaneous' integrated language and content teaching, but, in reality, the current practice of TeSME seems to belong to 'language-conscious' content teaching considering the current local context. Take a second look at the real condition for the 'simultaneous' integrated language and content teaching. It presupposes at least teachers with a math or science background as well as ESL training. In current classroom setting of TeSME, math and science teachers may not be so much helpful or contributory to achieving the learning outcomes of language/literacy development across the curriculum since, for one thing, they are not well prepared to provide significant comprehensible content input in English. They are just instructed to teach the subjects in English only with some reference materials. That's why even the teachers who are less proficient in English try to keep their classes maintained in English-only atmosphere. And those who use students' L1 may feel guilty and chagrined about the failure to meet the guidelines of the Ministry of Education. In this context, the learning outcome of language development across the curriculum may be very difficult to achieve. How can students develop English proficiency without the proper input of teachers?

There is an even worse scenario, which leads to a failure to equip students with necessary content knowledge of math and science, let alone to help them attain a

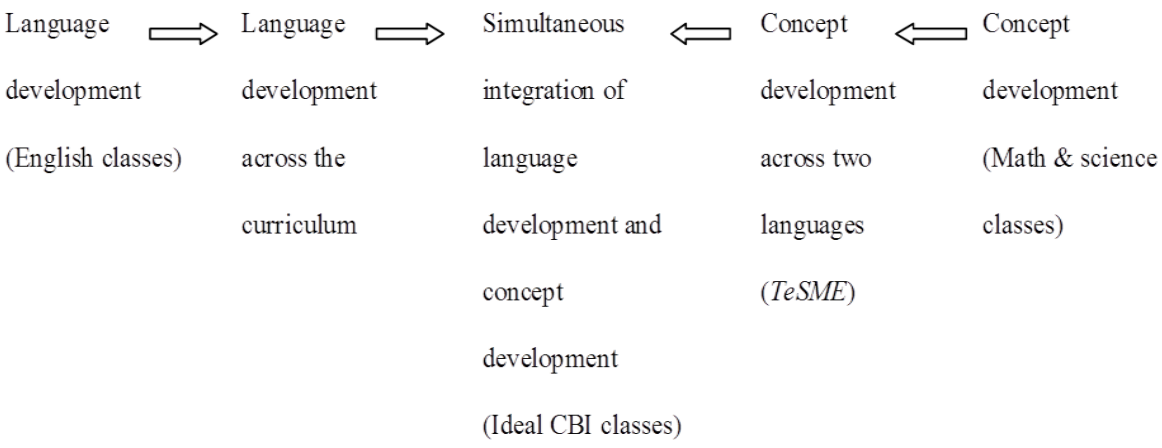
satisfactory proficiency level of English. If they are preoccupied with the use of English only in math and science classes, teachers can fail to build up a substantial grounding of math and science studies for students. While intending to kill two birds with one stone in the beginning, they may end up in falling between two stools. They would do well to remember Swain's (1986) argument, "the second language should not be used as the medium of instruction with the expectation that subject matter achievement will be satisfactory, until a threshold level of second language proficiency has been attained" (p. 5). We are not quite sure how many Malaysian students have reached a threshold level of English proficiency to benefit from CBI math and science classes, but they must be the minority.

At this juncture I suggest one of the viable scenarios which can be described in Figure 2. If we can acknowledge the current status of TeSME in the previous continuum and give priority to concept development across two languages than language development across the curriculum, it means that we have already taken a significant step toward ideal CBI classes which promote the simultaneous integration of language development and concept development. It is not a dismal state or a failed state, but a commendable improvement toward a strategic educational setting of providing our students with both wings to rise beyond the horizon for their dreams. Consolidating the foundational concepts of both subjects in both languages, teachers push themselves as well as students to the next level of integrating language/literacy development across the curriculum.

The efforts of content teachers have to be complemented by the collaboration of English teachers. They also need to roll their sleeves up to help their colleagues and make

significant contributions to achieving the goal of producing quality students. As a matter of fact, quite a lot of portion of content teachers' job overlaps with theirs, too. It is the time that they had to come out of their comfort zone to move toward ideal CBI classes which will equip our students with necessary literacy skills across the curriculum and conceptual power across language and their native tongue. They can deal with more spoken and written texts on different subjects and disciplines to make students familiar with various concepts, scripts and schemata.

Fig. 2 The directions of English classes and content classes for the integration of language development and concept development



The mainstay of TeSME: Develop qualified bilingual content area teachers

TeSME got off to a bumpy start from the beginning due to the controversial factor of unprepared math and science teachers. The program lacked quality math and science teachers who could be characteristically bilingual or multilingual with a math or science background as well as ESL training. Thus, many teachers failed to provide students with

substantial amounts of input in the target language in math and science classes, especially in comparison to that provided by traditional core language classes. It goes without saying that they didn't have English proficiency to adjust their language input to help students understand math and science content in terms of "scope, salience, complexity, and functionality of L2 morphosyntax, also considered crucial for interlanguage development" (Pica, 2002, pp. 1-2).

The high level of communicative competence of teachers has been one of the nonnegotiable elements in the implementation of CBI programs all over the world. This qualification is not limited to Canadian immersion program who enlisted the competent bilingual teachers in its implementation. Take the Finnish CBI program for another instance. It is called CLIL (Content and Language Integrated Learning) courses carried out throughout European countries. The Finnish National Board of Education in 1998 acknowledged the significance of foreign language proficiency of CBI classroom teachers by implementing a policy that teachers who teach more than four hours of CLIL a week are required to have a foreign language skill "corresponding to level C2 in Common European Framework of Reference"[2] (Nikula, 2007, p. 209). The C2 is the highest level that foreign language learners can achieve in terms of the proficiency described by the Framework. Indeed, the difference of teachers' language proficiency between Malaysia and other CBI-implementing countries has been thrown into starker relief by the demise of TeSME program in Malaysia.

This aspect of teachers' unpreparedness to teach math and science in English also were acknowledged by many learners in TeSME classes. For instance, a survey conducted to a group of high school students in Malaysia indicated that learning the two

subjects in English had been difficult and their academic performances of these two subjects had gotten worse. However, they made mention of two reasons for the difficulty in learning the two subjects in English: "their own lack of fluency in English (50%) and their teachers' limitations in English (50%)" (Mohamad Nor, Abd Aziz, & Jusof, 2011, p. 39). Of particular note is these learners' academic level in Malaysian education system. They were classified as high-achievers in terms of academic performances, and as proficient users in English, as all of them had scored A's in English subject at the lower secondary assessment on a national level. If they had to struggle in the mainstream of CBI classes, how much more heavier burden was laid on the shoulders of the low-achievers in them? In addition to their own low proficiency in English, the learners had to run up against their teachers' limitations in English. Instead of helping learners cope with language problems, teachers found themselves put in a very tight spot without having significant linguistic resources and abilities at their disposal.

In this context, it was just a tall order to ask CBI teachers to encourage students' movement from semantic understanding to syntactic processing for modified output. How could they pursue with equal emphasis both aims of immersion or CBI classes, i.e., concept development across two languages and language/literacy development across the curriculum? Taking into account of this problem facing real TeSME classes, it seemed to be a practical and realistic option to give higher priority to the former aim than to the latter one for the current stage. This does not necessarily mean to let go of the latter goal in the long run. Rather it means to make an honest self-appraisal of teacher factor at present to set a realistic goal for the current TeSME and prepare the further stage of it in order to achieve both goals of immersion or CBI for the long haul. It goes without saying

that the ultimate channel through which to reach the success of CBI should be the way to develop qualified bilingual content area teachers and encourage them to create substantial output practices in the classroom setting through innovative ideas and activities.

Judicious use of L1: Promote bilingualism in TeSME

One of the major functions of L1 in immersion program is to preserve ethnic identity and culture of students. Since multiethnic students are totally or partially immersed in school subjects in a foreign language, their native tongues can lose out to that foreign language which is served as the medium of instruction in the long run. This scenario was not applied to the Malaysian context, however, because Malaysian students learned primary school subjects in their native tongues and secondary school subjects other than English, math and science in their national language. Rather it should be noted that L1 takes on more significance in terms of the sociocultural theory of language and mind which has much to do with language development as well concept development.

In the sociocultural theory proposed by Vygotsky (1986) which views language as a tool for thought, the use of L1 may benefit learners in developing content knowledge as well as enhancing L2 proficiency. Specifically, the use of L1 can be greatly beneficial in the case of developing receptive skills such as listening and reading. Since inner speech is recognized as the foundation of thought, the L1 would quite naturally function as a tool to help students "mediate their thinking about" the structures and meaning of the L2 reading texts (Upton & Lee-Thompson, 2001, p. 491). In a study exploring how L2 readers use their L1 cognitive resources to comprehend an L2 text, Upton and Lee-Thompson (2001) suggested that "L2 learners attempt to construct on an intrapsychological, or cognitive,

plane a scaffold using their own expertise in their L1 as a means of pushing their L2 competence beyond its current level" (ibid., p. 491). This significant feat of L2 learners was aptly called the ability to "scaffold oneself" by Lantolf (2000, p. 23).

On top of this, the same sociocultural theory of mind indicates that L1 has the consistent potential to facilitate the language production such as speaking and writing, which is a major cognitive tool that mediates learning (Swain & Lapkin, 2005). Students usually speak and write to learn content knowledge, on a group level as well as an individual level. On an individual level, they think out loud the process of understanding the concepts and tasks and write down some words or phrases or draw some diagrams or relevant figures. On a group level, they share their own thoughts with other students and ask questions for clarification to other students, relishing group dynamics.

In this manner, students can speak and write in L2 to carry out learning processes, but it depends on the contexts and proficiency of students. If they are compelled to speak and write in L2 only in the process of carrying out tasks, they will try to follow this situation. Or they have a high level of English proficiency, speaking and writing in English can be a natural process of solving the problems at hand. But L1 is always available to be an instrument for mediating the learning process in a significant manner at all levels of students' language proficiency. This mediation is usually connected to the productive aspects of L1 such as speaking and writing, which is called a "star role". Just as Chow and Cummins (2003) indicate, L1 has become the potential resources for learning in the following areas.

(1) Developing strategies to manage the task

(2) Helping learners to scaffold each other

(3) Maintaining intersubjectivity/negotiating one's way through the task

(4) Extending inner speech during cognitively demanding activities

(5) Releasing tension/socializing

The function of TeSME: Extend the function of TeSME classes to understanding and integrating other cultures and languages

This goal can be achieved while valuing the function or role of L1 of students in classroom learning setting as well as general ethos of school atmosphere. It is inevitable for us to live in multicultural and multilingual societies from now on. Rather Malaysian people have been living in such a society for a long time without recognizing the terms themselves. Even monolingual and monocultural societies such as Korea and Japan have been transformed into more multilingual and multicultural ones during recent decades.

Since most of the public schools in Peninsular Malaysia have a mix of a majority of Malay students and a minority of Chinese and Indian students, at least three languages and cultures can be experienced in the school compound. Even though the focus of CBI is on the promotion of the use of English in math and science classes in terms of language/literacy development, teachers can encourage students to use their native tongue to enhance understanding and learning the meanings of technical concepts and tasks in those subjects at hand. This can be possible on individual level or group level as well. On the latter occasion, minority students will be allowed to have the group consisting of the same minority students. This kind of atmosphere can be created only in the context that teachers raise students' consciousness of the value of L1 in learning process, promoting

the judicious use of L1. Otherwise students don't dare to dabble with the use of their native languages in CBI classes in the explicit manner.

If we just put major emphasis on English and Malay (the national language of Malaysia) only in school setting, the minority students will feel discriminated against by, and isolated from, the mainstream school curriculum and mainstream society. They will huddle up to find solace and solidarity using their own native tongue outside the classroom as well as outside class time. They will not mix with other Malay students at the risk of losing solidarity with other students of the same language. In the Malaysian context, students have long been separated from other ethnic groups of students during six years of primary schools before they meet them in secondary schools (still many do not join them even in the secondary level). Significant bonding has already been established based on their ethnicity during these formative years of primary school period.

However, if we promote and value the judicious use of L1 of each student in the classroom setting from secondary school period, without penalizing students, it will promote genuine acknowledgement of other cultures and languages in terms of school atmosphere. Students themselves will have tangible self-respect of their own cultures and languages as well. Even CBI classes, with the help of conducive circumstances, can be transformed into a meaningful platform from which students can share with other ethnic group of students what they thought about significant topics facing their corporate societies as well as their personal lives. On the basis of mutual respect and confidence, students will be more willing and freer to share their thoughts and ideas with other students of different ethnic groups. English as L2 can find its unique way through natural interaction and benevolent interpersonal communication among students of different

origins. It would never be easier for Malay students to know what Chinese students think about economic slowdown, Indian students about Hollywood or for Chinese students to know what Malay students think about Islamic religious festivities. It's because they are ready to listen and willing to find an effective medium to communicate with other students.

Under this condition, students will be able to have a more balanced view of the use of English. When English is found to be used as a tool to share with other students their ideas and emotions and learn about the world, they will be able to recognize that English is merely an instrument, not a surrender to a dominant culture, demystifying the prestigious status of English. When they overcome the myth of English, they will also manage to overcome the irrational and biased opinion of the Malay language. It is another instrument to communicate with other people and a tool to learn about world.

Basically the language classroom is an "essentially social event" (Storch, 2002, p. 150). Just as Auerbach (1993) stated, "everyday classroom practices, far from being neutral and natural, have ideological origins and consequences for relations of power both inside and outside the classroom" (p. 22). Policy makers and curriculum designers in Malaysia seemed to make little of the sociological and sociopolitical dimensions happening in classroom setting, one of the consequences being less attention to the effect of social dynamics among students and sociopolitical dimension in the use/disuse of their L1s on their learning processes. Besides, they did not factor in the students' attitude and opinions about the implementation of CBI classes where students were supposed to keep silent and didn't try to have their voice heard to others. This consideration is more needed because of the complexity of classroom setting in Malaysia. In principle, at least three

cultures and languages are co-existent in the majority of Malaysian classroom. Whether the use of Malay is allowed in CBI classes or not is not the only problem to settle down. The use of other native tongues can also be rightful concern to the students of Chinese, Indian, and other indigenous origin.

The policy makers in education would do well to listen to the suggestions of Auerbach (1993): "Starting with the L1 provides a sense of security and validates the learners' lived experiences, allowing them to express themselves" (p. 12). In order to promote this aspect of English, we may as well to use it in social subjects such as social studies, history and geography rather than math and science. These subjects can expose students to a myriad of contexts and various situations whereby they may discuss the multifaceted aspects of their lives. They can extend the horizons of understanding to other cultures and ethnic groups which otherwise may have escaped their attention and notice. We can flesh out in tangible manners a view of literacy as "multidimensional and integrated with all aspects of students' lives inside and outside the school" (Chow & Cummins, 2003, p. 33)

The English language used in math and science classes, however, has already been shrouded with prestigious aura which can distance students from the ordinary use of it for interpersonal purposes. In the purest sense of the word, English is regarded as merely an academic language carrying a heavy load of mental phenomena. In terms of academic content, English used especially in math does not have a variety of contexts which can promote the interpersonal and humanistic use touching on diverse areas of people's lives. English is being used only for explaining the meanings of mathematical concepts and the

processes of abstract problem solving. Probably L1 will be able to serve better to meet these needs of students.

Conclusion: practical suggestions for Malaysian TeSME and other CBI classes

I suggest the following recommendations based on the post-mortem on the Malaysian content-based instruction initiative, i.e., TeSME. Firstly, give higher priority to promoting concept development across languages for the current stage than language/literacy development across the curriculum. I find this suggestion realistic at this juncture of Malaysian CBI program where a substantial factor is missing: competent bilingual math and science teachers. The process of enhancing teachers' language proficiency and pedagogical skills must be ongoing, but reasonable tasks for teachers and students have to be given for the fulfilment of the practical aims of TeSME.

Secondly, make English classes more effective. TeSME and English classes should best be seen as forms of education that complement each other rather than compete with each other. Just as TeSME classes move from ordinary content classes through the language-conscious content classes to the simultaneous content and language integrated classes, English classes should move to another side of the continuum through contextualized language teaching to promote language development across the curriculum.

Thirdly, promote bilingualism in TeSME. Acknowledging the beneficial effects of native-language use in bilingual programs and immersion, we need to come up with the innovative ideas to produce competent bilinguals through TeSME. There should be no qualms on the part of teachers and students alike about the judicious use of L1 in TeSME

classes while engaged in instructions or carrying out tasks respectively. Providing partial or total bilingual textbooks can be one option. By using these resources, students may construct a scaffold on a cognitive plane to develop beyond their current level of receptive and productive skills in L2.

Lastly, extend the function of TeSME classes to understanding and integrating other cultures and languages. The process of promoting bilingualism in the classroom may lead students to respect other languages and cultures, the integration of which has been one of the most important national aims of Malaysia. If we acknowledge that integration cannot be the same as assimilation and does not necessarily lead to it, we have to develop in our students' mind a respectful acceptance of the diversity of culture in Malaysia which has been a single country, but a kaleidoscope of distinct racial groups, each with its own national and cultural and linguistic identity. There is no nobler and worthier aim or objective a multi-ethnic country can pursue in this globalized world than to renounce cultural imperialism and seek to further all those riches of inter-ethnic culture which are compatible with universal values, affirming the unity of the human race.

Notes

1. From the Statistics Canada website (http://www.statcan.ca/english).

2. The common European framework of reference (CEFR) for languages: Learning, teaching, assessment (Council for Cultural Co-operation, Education Committee, Modern Languages Division, Strasbourg, 2001) is a guideline used to describe achievements of learners of foreign languages across Europe. The Common European Framework divides

learners into three broad divisions which can be divided into six levels (i.e., A1 to C2). C2 is the highest Mastery level among them.

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