Learning subject matter through English as the medium of instruction: students' and teachers' perspectives

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Learning subject matter through English as the medium of instruction: students' and teachers' perspectives

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Many policy-makers are in favor of Content Language and Integrated Learning (CLIL) for this approach integrates both language and content. In Indonesia, CLIL is locally known as English as a medium of instruction (EMI) where content subjects are taught in English. This present study presents the results of implementing an EMI policy in a large college in Indonesia, a semester after the start of the implementation. The main objectives of the study were to seek the views of both the students and teachers regarding the use of EMI. Questionnaires, classroom observations, and interviews were used as the research instruments. The findings suggest that both students and teachers acknowledge the important role of English in the world. However, both reported a host of problems with the implementation of EMI. In this paper, I would also suggest ways to deal with these from both institutional and curricular perspectives.

Keywords: content language and integrated learning (CLIL); English as a medium of instruction (EMI); higher education; students' and teachers' perceptions

Introduction

The term CLIL (Content Language and Integrated Learning) or locally known in Indonesia as English as a medium of instruction (EMI) refers to 'an educational approach in which various language-supportive methodologies are used which lead to a dual-focused form of instruction where attention is given both to the language and the content' (Coyle, Hood, & Marsh, 2010, p. 3). From this perspective, CLIL includes 'learning to use language appropriately whilst using language to learn effectively' (p. 42).

There are two key issues which are very important for developing a CLIL program, namely the operating factors and the scale of the program (Coyle et al., 2010). The operating factors include: teacher availability, the language fluency, the amount of time available, how the content and language are integrated, the opportunity of linking the CLIL course to other extra-curricular activities and networking, and the assessment process. The two scales of CLIL are: 'Extensive instruction through the vehicular language' and 'Partial instruction through the vehicular language' (p. 15). The first scale refers to the exclusive use of a second or foreign language 'to introduce, summarize and revise topics, with very limited switches into the first language to explain specific language aspects of the subject or vocabulary items' (p. 15). This requires 50%

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or more of the curriculum to be taught in this way. The second one often applies 'bilingual blended instruction involving code-switching between languages. For example, sometimes one language might be used for outlining and summarizing the main points, and the other one for the remaining lesson functions' (p. 15–16). The second scale requires less than 5% of the whole curriculum to be taught in CLIL.

The key features of CLIL proposed by Mehisto, Frigols, and Marsh (2008) include:

- Language learning and content learning that support each other.
- Authenticity in which teachers use current media to bring global issues into the classroom.
- Active learning in which students exchange views among themselves.
- Student-centered atmosphere.
- Development of students' own knowledge, skills, attitudes, interests, and experience.
- Challenges toward students to develop themselves as scholars who have content and language knowledge.

Nowadays in many countries where English is not the national language, there has been a move towards English-medium instruction in higher education (Hughes, 2008). Most universities in Europe, for example, offer English medium courses with Business, Engineering, and Sciences leading the way (Coleman, 2006). This also happens in Asian countries where people can find an accelerating trend towards English-medium instruction in higher education. Interestingly, more than 10 years ago, Graddol (1997, p. 45) had already indicated that 'one of the most significant educational trends world-wide is the teaching of a growing number of courses in universities through the medium of English.'

Despite its extensive application, the CLIL or EMI policy is still debatable. Much research indicates that the use of English for delivering subject contents encounters various pedagogical challenges and difficulties. A study by Klaassen and De Graaff (2001), examining the implementation of the policy in Delft University of Technology, found that methodological and language-related difficulties were common in programs where subject contents were delivered in English to non-native speaker of the language. In his studies in some universities in Europe which implement CLIL/EMI policy, Coleman (2006, p. 7) also found out that there were 'inadequate language skills among students and teachers and the need for training of indigenous staff and students.'

In a different setting, in secondary schools in Hong Kong, Marsh, Hau, and Kong (2000) conducted a study on more than 12,000 schools to observe students' achievement in science, geography, and history in two different streams of schools, the EMI and the Chinese as medium of instruction (CMI). After observing for three years, they learnt that EMI has positive effects on English proficiency and to a lesser extent, Chinese proficiency. However, the students of EMI could not perform as well as the students in CMI because their English was not sufficiently developed to cope with the materials presented in their content subjects. Two other possible reasons included a lack of competence amongst teachers and the fact that late 'immersion' did not function as well as early 'immersion'.

Recent studies done by Kırkgöz (2009) and Byun et al. (2011) also revealed similar results. Kırkgöz's (2009) research in Turkey suggested that the difficulties were related to the level of proficiency of both the subject teachers and the students. Byun et al. (2011) found that the implementation strategy of EMI in Korean higher education

added problems due to students' and teachers' inadequate language proficiency, the lack of a system for supporting the programs in which EMI was implemented and the difficulties in finding the appropriate subject instructors. Overall, it seems that the 'effectiveness of English medium content teaching is influenced by language problems, in that language seems to constrain teaching and instructional methods' (Hellekjær & Westergaard, 2003, p. 1). Coyle et al. (2010, p. 43) also state that 'the greatest challenge of CLIL concerns the relationship between learners' language levels and their cognitive levels' because it is unlikely that learners' cognitive and language levels are the same. This is interesting because if the language level is too high for the students, then effective learning cannot take place, but if the cognitive level is lowered to match the low level of language competency of the students, then learning is restricted.

Despite the difficulties and problems that might occur, CLIL has also demonstrated some positive effects. Gilzow and Branaman (2000) pointed out that CLIL could be effectively implemented in K-12 contexts, Burger and Chretien (2001) claimed that there were tertiary-level positive outcomes in their study, Stoller (2004) concluded that there were content and language gains, and Mehisto and Asser (2007) reported that their subjects showed development in the four language skills and academic achievement in Maths and Science (cited in Xanthou, 2008). It should be noted, however, that the positive effects of this CLIL approach are strictly linked to the context (Xanthou, 2008).

Many school and universities administrators around the world are attracted to the idea of implementing CLIL or EMI policy. Certainly, this trend of *Englishization* is directly linked to *internationalization* and *globalization* of higher education where *internationalization* and *globalization* seem to be synonymous with CLIL (Brumfit, 2004; Graddol, 1997). Another plausible reason why education decision-makers opt for CLIL is a common belief that teaching subject courses in English can promote students' motivation in learning the English language, and hence improve their language competence and fluency, while at the same time improving their academic knowledge and skills. It is commonly believed that students will get 'two for one' – both content knowledge and increased language proficiency (Larsen-Freeman, 2000).

In Indonesia, the implementation of CLIL, locally known as EMI policy, has continued since 2006 in many schools and universities. However, the experiences and perceptions of students and teachers with regard to the implementation of this policy in Indonesian higher context remain under-investigated. This prompts the necessity to conduct research on students' and teachers' experiences and perceptions as these potentially reflect valuable insights with respect to the benefits and drawbacks of applying such a policy the local context. Therefore, the main objectives of the present study were to seek the views of both the students and teachers regarding the use of EMI and to find out the extent to which key features of CLIL were present in the EMI classes in this institution for higher education.

Methods

In a large private university in Indonesia, where this study took place, the EMI policy has been officially implemented since the second semester of 2010/2011 academic year. This present study was conducted at the end of the second semester and it was intended to explore students' and teachers' responses towards the use of EMI in their classes, a semester after the start of the implementation.

This research was carried out in four out of five faculties in December 2011. The faculties were Faculty of Civil Engineering, Faculty of Industrial Engineering, Faculty of Economics, and Faculty of Art and Design. The Faculty of Letters which was in control of the English Department was not observed as by nature, it had conducted all of its classes in English since its first establishment in 1960s.

In these four different faculties, I observed 13 classes, including Management Control System, Global Marketing, Logic and Mathematics, Design, Family Ethics, and Photography. These 13 classes were specifically assigned by the university and faculty administrators to use EMI and were facilitated by 13 Indonesian teachers. These teachers had their Master and Doctorate degrees from reputable international universities, so it was assumed that they had sufficient level of English proficiency. None of them joined any special training for the implementation of the EMI policy. There were approximately 400 students of Batches 2008–2011 aged 19–22 years old registered for these classes. All teachers and students are Indonesians and they usually communicated in Indonesian as their first/second language, but for these classes, they were asked to use English only.

This study applied both quantitative and qualitative approaches or mixed research approach. Dörnyei (2007) addressed several reasons for choosing this type of research, namely increasing the strength of each approach, providing multi-analysis of complex issues, and improving validity. In this study, the quantitative research included the use questionnaire for the students, while the qualitative one involved in-depth interviews with the teachers and students and classroom observations.

About three hundred and eighty two students who attended these 13 were administered a questionnaire containing 11 closed and open-ended questions. Basically, the questionnaire measured the students' perceptions toward the use of EMI in their classes. The first nine items in the questionnaire were developed based on Likert scales from 1 to 4, in which 1 referred to 'strongly disagree' and 4 was for 'strongly agree'. The last two items were given to elicit deeper responses from the students. The survey questionnaires were administered for approximately 10 min.

The second instrument was in the form of classroom observation. Each class was observed once for about 100 min. I was a non-participant observer who took field notes during the observation. I took notes on issues such as student–teacher interaction, teacher's speaking proficiency, and the languages used in the classrooms observed. The speaking performance of those 13 lecturers was observed in terms of their fluency and coherence, lexical resource, grammatical range and accuracy, and pronunciation. The guideline used for this purpose was taken from the one developed for IELTS Speaking Test.

In order to collect in-depth answers to explore the responses of the learners and teachers who used EMI, all teachers observed (13 lecturers) and 26 students (two students per class) selected randomly were invited to be interviewed. The interview questions were: (1) how do you feel about the use of EMI in your classes? and (2) what seems to be the major problem you encounter in using English in learning/teaching your subjects? The interviews were conducted after the classroom observation for about 15 min and were recorded. All interviews were conducted in the language that the participants felt comfortable using, i.e. Indonesian.

In data analysis, the data collected in the questionnaire were analyzed in a quantitative way. Simple sum and percentage calculation were made from the questionnaire answers. The details gathered from the semi-structured interviews and classroom observations were analyzed through content analysis as proposed by Cresswell (2011). The

first step was to obtain a general sense of the data. Then I started the process of coding the data according to the categories relevant to the research questions. The findings of the survey conducted were then synthesized to formulate the views of both the students and teachers regarding the use of EMI in their classes and the key features of CLIL in the EMI classes in this institution.

Findings and discussion

The findings of this study would be presented in accordance to the research questions. Thus, I would start with the findings on the students' views related to the implementation of this EMI policy. The next sections would discuss the teachers' views and the extent to which key features of CLIL were present in the EMI classes in this institution.

Students' views

Table 1 shows that in general the majority of the students thought that their teachers were able to use EMI. Their teachers were able to explain the course material (50% + 22.77%) and to communicate in English (46.60% + 38.22%). They were able to use English throughout the class meetings (46.07% + 32.46%). In addition, the teachers' pronunciations were not a problem for the students (49.74% + 23.82%). Some teachers, in student interviewees' opinions, did make occasional language mistakes in grammar, vocabulary, and pronunciation, but these did not hamper their students' overall understanding. This finding was in line with the results of my observation on the teachers' speaking performance in terms of their fluency and coherence, lexical resource, grammatical range and accuracy, and pronunciation.

Table 1. The students' perceptions toward the use of EMI based on their questionnaires.

No.	Items	1 (SD) Strongly disagree (%)	2 (D) disagree (%)	3 (A) agree (%)	4 (SA) strongly agree (%)
1	The teacher can explain the course material in English well	3.66	23.56	50.00	22.77
2	The teacher can communicate in English well	1.57	13.61	46.60	38.22
3	The teacher can use English throughout the meeting	2.62	18.85	46.07	32.46
4	The teacher can pronounce English correctly	1.31	25.13	49.74	23.82
5	The language level of the course material is within my language level	7.85	27.49	46.07	18.59
6	I do understand the course material delivered	4.97	30.37	43.98	20.68
7	I can participate in any classroom activities using English	4.97	30.37	49.48	15.18
8	I prefer the teacher to use English as the medium of instruction	44.50	30.89	18.06	6.54
9	I recommend this class to my other friends	17.80	32.98	36.91	12.30

When asked to recommend their current EMI classes to other students, half of the respondents (17.80% + 32.98%) did not recommend their classes, while the rest (36.91% + 12.30%) did recommend them. Those who recommended them said that they saw the importance of English mastery and they wanted other students to 'taste' the experience of using English outside a language classroom. As one interviewee (S2) said 'English is very important nowadays. We need to master the language if we do not want to be left behind. By using English for some subjects, we should be able to learn the language more efficiently. I therefore recommend the use of EMI in this university' (Student 2, 5/6/2012, my translation).

Some students interviewed also stated that the use of English in the classroom brought them to feel another learning atmosphere. During their school years, they were accustomed to use English only when they learnt the language as a subject. Now they added 'knowledge' on the language as well as the knowledge on their subjects. An interviewee (S10) stated 'I like the use of EMI because I can learn English in my non-language classrooms' (Student 10, 87/6/2012, my translation). Another interviewee (S7) commented 'I am actually in favor of the use of EMI as I find it to be useful in improving my English language performance' (Student 7, 7/6/2012, my translation).

Others who did not recommend the use of English in their classes might be because they were in favor of using their native language only. As S6 said 'We live in Indonesia. Indonesian is our everyday language. So if we learn a subject using our own language, of course, we can understand the concepts delivered better. Yes, I know English is important. But we live in Indonesia, so it is better to use Indonesian' (Student 6, 7/6/2012, my translation). Since not all students would use English in their future jobs or lives, taking English as another 'official' language of instruction might not an idea suitable for the Indonesian society.

Though many students recommended that their friends enroll for EMI classes, further findings revealed that about 75% of the students (44.50% + 30.89%) opted to have Indonesian as the medium of instruction in their classes. About 40.31% of the respondents also wrote 'English' as the item that they did not like in their current classes. Only 19.37% opted for 'English' as the most interesting point in their classes. It implied that though the students were familiar with English, the native language was still preferable.

The majority of the interviewees also admitted that they experienced desperation in their classrooms. There seemed to be some problems with the course material used in the classes. The materials in terms of the textbooks, the handouts, and the PowerPoint slides provided were, of course, written in English. Many students (7.85% + 27.49%) complained that the language level used for the course material was inappropriate with their current language level. Therefore, many students (4.97% + 30.37%) claimed that they did not understand the material delivered by the teachers.

All students interviewed also stated that they had difficulties in understanding the handouts and/or the textbooks assigned by the teachers. One interviewee (S8) stated 'I do not understand the theories. The language is so difficult' (Student 8, 8/6/2012, my translation). In addition, some students interviewed stated that they did not understand the teachers' explanation. As an interviewee (S4) stated 'The theories are difficult. I do not really understand the textbooks used. The teachers also use difficult words in explaining the theories' (Student 4, 5/6/2012, my translation). In general, all students interviewed preferred to learn their subjects in Indonesian as they agreed with the statement that learning in their native language would be easier and more likely to be understood.

An interviewee (S5) explained 'I do not like English to be used as a medium of instruction. It is difficult to understand the theories. Even if the teachers use *Bahasa Indonesia*, I think I still have difficulties because the materials used for this subject are already difficult' (Student 5, 6/6/2012, my translation). S3 also believed that the use of EMI was a factor contributing to his low achievement in his academic tests and assignments. He added 'I think the problem is in my understanding of the language, not the content of the subject. If the class is taught in Indonesian, I am sure I can achieve at least a B grade' (Student 3, 6/6/2012, my translation).

In terms of the classroom participation, the majority of the students (49.48% + 15.18%) stated that they could participate in any classroom activities. Still, some students (4.97% + 30.37%) thought that they were unable to get involved. In all classes observed, I found that many students did not pay attention to teachers. Some were talking to their friends, some were playing with their mobile phones, and others simply closed their eyes. When their teachers provided opportunities to ask questions and give comments, most of the time the students kept silent. When their teachers asked them to do classroom exercises, many students did not do the tasks. Even when some teachers asked their students to have group presentations, I found that some students tried to avoid their turns. If they could not avoid the turns, they simply read the PowerPoint slides or only talked for a few minutes for the introduction and/or the closing parts. It seems that many students were reluctant to participate in their EMI class.

It was difficult to get the students participate actively, probably because most of them were passive and were accustomed to sitting in traditional classrooms where the teacher was supposed to be in the front to lecture, while students were sitting quietly and following their teacher's instructions. Thus, a teaching method that allows freedom, unpredictability, spontaneity, and student initiatives in the classroom is generally not well received. There is also a possibility that the students were passive because of the language barrier. During the observation, I noticed that some students did not want to speak in English at all. They used their native language in doing their assignments or in asking and answering questions. If the teachers 'forced' them to speak in English, they would simply ask their friends to talk or to translate what they would like to say.

When asked why they did not want to engage actively in classroom discussions, some student interviewees demonstrated feelings of academic and linguistic incompetence. An interviewee (S3), for example, explained his reluctance to speak by saying 'I just do not want to participate because I am afraid of making mistakes … grammar, vocabulary, content of the lesson … everything. And I do not want to be judged. It is better to keep silent. I feel safe' (Student 3, 6/6/2012, my translation).

Teachers' views

In general, the teachers interviewed stated that they felt glad because their faculty asked them to teach in English. Some teachers said that by teaching in English, they themselves could improve their language proficiency. Others said that using EMI was beneficial because students coming from different countries could also join the course. Others acknowledged the importance of mastering English as a tool of communication in this globalization era; and using EMI was considered as a way to improve their language performances.

All teachers admitted that they still needed to improve communication skills. Nevertheless, they felt that their English ability was sufficient to deliver their subjects. During my observation sessions, I noticed that the average (mean) performance for the

fluency and coherence of all teachers was 82.33, lexical resource was 81.67, grammatical range and accuracy was 81.83, and pronunciation was 79.58. Thus, the overall average (mean) performance was 81.35. The mean score of each teacher was obtained by adding up all of the scores and dividing it by the number of categories evaluated (fluency and coherence, lexical resource, grammatical range and accuracy, and pronunciation). The overall average (mean) performance was obtained by adding up all of the mean score of each teacher and dividing it by the number of the teachers observed (13 people).

Although all teachers did use English throughout the class meetings, Indonesian was used occasionally, especially to explain major concepts. This might be because these 13 teachers, who delivered their courses in English, had studied in reputable overseas universities for their Master's degree. Thus, it seems that these teachers have sufficient competency and proficiency in English. They also had mastered the contents of their subjects.

Low proficiency of the students was actually the main problem in their EMI classes. As a result, they had difficulties in understanding teachers' instructions and explanation. A teacher (T5) responded 'My students understand simple instructions in English but it is difficult to express themselves in English and to understand science concepts in the language' (Teacher 7, 7/6/2012, my translation). Another teacher (T1) said 'In my opinion, my students have trouble following the materials presented in the textbooks because these materials are actually more suitable for proficient students' (Teacher 1, 5/6/2012, my translation). In general, all teachers maintained that their students had trouble following the materials because of the language difficulties.

To overcome this problem, some of the teachers interviewed admitted that they used both English and Indonesian during classroom talk. They would code switch frequently in order to facilitate their students' understanding of the concepts. Other teachers stated that they use Indonesian to explain difficult but important concepts. To this, one of the interviewees explained 'I know that often some (if not many) students cannot understand the materials. I can see that on their faces. So I often use Indonesian to explain the concepts' (Teacher 10, 12/6/2012, my translation). Another strategy was to use charts, pictures, or to write the technical terms and formulas on the boards/slides.

It is interesting to note that all teachers observed in this study had never taken any training specifically designed to prepare them in teaching content subjects using English. At the university level, there were some English training courses offered in which participants of such courses joined voluntarily because of their needs to improve their English skills. None of these 13 teachers joined these courses or any similar courses outside the university. Thus, during the interviews, they all admitted that they taught in their EMI classrooms based on their personal teaching and postgraduate learning experiences.

The extent to which key features of CLIL were present in the EMI classes

The discussions presented in this section are based on my classroom observation, interviews with the teachers, and Mehisto et al.'s recommendation of the key features of CLIL or EMI that include: language learning and content learning that support each other; authenticity in which teachers use current media to bring global issues into the classroom; active learning in which students exchange views among themselves; student-centered atmosphere; development of students' own knowledge, skills, attitudes, interests, and experience; and challenges toward students to develop themselves as scholars who have content and language knowledge.

During my classroom observation, I found out that the major concern of the teachers was their students' proficiency. The teachers had communicated in English during the whole class meeting and brought the aspects of authenticity and academic challenges in their classrooms, but they were somehow ineffective because of the students' low proficiency. Some other features that could not be really implemented were the active learning, student-centered atmosphere, development of students' own knowledge, skills, attitudes, interests, and experience, and challenges toward students to develop themselves as scholars who have content and language knowledge. Because the majority of the students did not have sufficient proficiency, they did not participate actively although their teachers had encouraged them to do so by asking them some questions or points to discuss in English. The 13 classrooms observed thus had more teacher-centered atmospheres. Because of their limited language proficiency, these students did not comprehend the teaching/learning materials discussed, which might obstruct the development of their own knowledge, skills, attitudes, interests, and experience toward both the content subjects and the English language. If the majority of students attending the EMI classes were proficient users of English, I believe that all of the CLIL or EMI features would be more visible in EMI classes.

Implications

A great majority of students did report that their difficulties in EMI courses could be partly attributed to difficulties they had with the English language. All teachers shared the same opinion as their students. The majority (if not all) of the students came from Indonesian medium institutions. The abrupt change of medium of teaching and learning process apparently created unfamiliarity with the concepts taught and might slow down or hinder their content learning. Many language educators (e.g. Spanos, Rhodes, Dale & Crandall, 1988) are providing arguments suggesting that the nature of content language such as in Mathematics and science has already imposed a heavy burden on all students regardless of the language of instruction. With the use of EMI, the students find it more difficult to deal with content-area texts, word problems, and lectures.

In addition, during their school years, these students were exposed to learning the general English language, not the language for academic purposes. Moreover, many students learnt English with the major aim of passing language examinations. As a result, they did not have sufficient English skills or proficiency in their EMI classes. Lack of a minimum level of competence in academic English would seriously jeopardize the ability of students to understand lessons, to read textbooks, to prepare assignments and examinations, and to participate in classes actively.

Cummins (1986) reports that there are two levels of language proficiency: the basic interpersonal communicative skills (BICS) and Cognitive academic language proficiency (CALP). The first one refers to general English, while the second one refers to the language needed to perform effectively in academic subjects. It takes 2–3 years for language learners to be proficient in BICS as compared to 5–7 years in CALP. Mohan (1990) also points out that students' success in understanding their academic textbooks depends on two factors, namely the content factor and the language factor. The latter one is knowledge that is related to the formal organizational structures of different text types. Thus, successful understanding of academic textbooks is dependent on having content knowledge and knowledge of text types.

The students should get extra language support to help them deal with academic content that is in English. Therefore, they should be exposed to CALP as suggested by

Cummins ([1986](#)). The current practice in the university in which the students are required to attend English for General Academic Purposes class for once per week for only one semester is obviously insufficient. More language courses, especially content-based EAP courses (Evans & Green, [2007](#)), should be offered to equip students with appropriate language skills to survive in their EMI courses. Only students who can pass the content-based EAP courses should be considered to have sufficient proficiency in English; therefore, they are allowed to participate in EMI courses. Those who do not have sufficient language skills should not be forced to take EMI courses as this will make such students feel they are burdened with having to speak English. Later on, it is possible that they will hate the target language and this attitude becomes a barrier to their learning process.

The EMI policy will work successfully if both students and teachers have adequate English proficiency (Coyle et al., [2010](#)). However, it does not mean that only language practitioners can lead EMI classes since there are dangers that specific content demands are ignored or weakened when language teachers are in charge. It also implies that a content teacher who has high language proficiency (e.g. high TOEFL score) might have difficulties in delivering a lesson in English simply because language score does not necessarily reflect the teachers' ability to teach subjects in English. This stands as a cautionary reminder to university administrators that they should select EMI teachers carefully as teachers in charge of such program need both language and pedagogical competencies. Teachers need to have capability of explaining complicated terms and concepts in simple and clear words. They should be able to use the English that their students understand; otherwise they may confuse their students.

Thus, the university administrators need to provide their faculty members involved in this program with better resources and support. In addition to pedagogic training, training programs in oral English presentation skills should also be offered. Teachers should also be encouraged to work collaboratively with English language teachers or their colleagues who are proficient in English. This is done to strengthen the teachers' commands of the language. Those who are more proficient in English can provide language assistance, for example, to find meanings of difficult words or ways to say something in the target language.

Another point that needs to be considered is the use of students' native language (Indonesian) in EMI classrooms. The findings of this study suggest that the students preferred to use Indonesian in their classrooms although at the same time they were aware of the importance of English. The teachers also admitted that they often used Indonesian in explaining key concepts because of their students' low proficiency. This finding somehow implies that the students cannot escape the influence of their mother tongue; the students' mother tongue will always exist in classrooms. The insistence on the 'English-only' policy in such an EFL context as Indonesia will obviously meet challenges more than imaginable. Storch and Wigglesworth's study ([2003](#)) demonstrates that the mother tongue can offer 'cognitive support' during language analysis and in the completion of cognitively demanding tasks. It allows students to work at cognitively higher levels and may be a normal psychological process.

However, it is important to note that one of the reasons for having EMI policy was to provide opportunities for both the teachers and students to communicate using English. Therefore, the frequent use of the mother tongue is rather inappropriate. As Bowering ([2003](#)) points out, limited use of the native language in the classroom will be the beneficial but if it is done frequently, it will defeat the purpose of teaching the subjects in English. If the use of the mother tongue is not limited and selective, the

students' language development will be affected and they will also be discouraged from using the target language (Hong, 2008). This skill too needs to be shared and included in the teacher training held by the university.

Another suggestion would be to select one of the two levels of CLIL or EMI program proposed by Coyle et al. (2010), 'Extensive instruction through the vehicular language' and 'Partial instruction through the vehicular language', which would be appropriate within the Indonesian context. At this university, only some subjects are offered for the EMI program. It means that less than 5% of the whole curriculum is conducted in EMI. However, another feature of the second level i.e. 'bilingual blended instruction involving code-switching between languages' (p. 15) is not officially implemented in this university context. The university and faculty administrators required all teaching learning processes in EMI classes be conducted only in English, though in reality many teachers and especially students were not ready for this. Thus, it might be the time to evaluate and to find out which level would be appropriate for this institutional context. If the second level is preferable, then code switching should be officially allowed.

Another alternative solution is to officially implement a bilingual class policy as a substitute for EMI policy, especially for freshmen and students with low English proficiency. In bilingual classes, both students' native language and target language are used by the teachers. A typical bilingual education class is taught 70–80% in English and 20–30% in the students' native language. Homework and worksheets are printed in both languages. Such allowance of both the native language and English may be more suitable than the insistence on EMI teaching which obviously meets challenges more than imaginable. Besides, there are two other benefits of having bilingual classes. First, the students will understand the content subjects better because there will be conceptual transfer which involves 'the understanding of a concept in one language being used to help understand a similar concept encountered in another language' (Kenner, Gregory, Ruby, & Al-Zami, 2008, p. 120). Lemberger (2002), as cited in Kenner et al., (2008) gave an example from a US secondary school science class, in which some Russian pupils who learnt content subjects were allowed to use both Russian and English. Learning occurred rapidly as these students were able to connect existing knowledge in Russian with new vocabulary in English. Second, according to Kenner et al. (2008, p. 122), the use of more than one language to investigate the same material encourages students to compare the vocabulary and structures involved, thus increasing knowledge about how language works.

Conclusion

This study was done at a university in Indonesia in which EMI policy has been introduced and implemented since the second semester of 2011/2012 academic year. The findings of this study suggest that both the students and teachers recognize the importance of English and the use of the language as the medium of instruction. However, they also experience dilemmas in the teaching and learning process. EMI teaching makes the majority of the students feel burdened when they need to respond in English. The teachers also notice that the majority of the students have insufficient English ability to cope with the material of the content subjects. Thus, the language barrier seems to affect the students' academic performances.

There are some plausible solutions proposed in this study, namely to provide intensive content-based EAP courses for the students, to provide pedagogical as well as the

language trainings for the teachers and to implement the second level of CLIL (Coyle et al., 2010), or to have a bilingual education policy instead of EMI policy. In short, a lot of work remains to be done and changes must be made. Equipping students and teachers with the necessary skills before and during the implementation of EMI is the responsibility of the educational institution.

The results of the study presented above also pose further questions for further research, such as (1) Do other Indonesian students and teachers in different types of universities encounter similar language problems in their EMI courses? (2) Do Indonesian university students and teachers at different education levels (e.g. graduate vs. undergraduate) react differently to EMI and encounter different types of problems in their EMI courses? and (3) What are the effective strategies used by teachers giving English instruction to overcome their and their students' English language difficulties? These and other questions have become increasingly important as the use of English in academia is growing, while at the same time the population of university students increases and becomes more (linguistically) heterogeneous.

Finally, a medium of instruction should become an enabling tool which facilitates the learning of subject content (Kyeyune, 2004). A medium of instruction should also be a means for students to reflect on different facts and viewpoints in order to construct a new view of the world including the meaning they attribute to the new concepts they are introduced to, and the values they attach to them (2004). This implies that a medium of instruction should not be the cause of students' academic failure. In fact, it should help the students to develop their academic competency. It is very important then to insure that students will be 'cognitively challenged yet linguistically supported to enable new dialogic learning to take place requires strategic and principled planning' (Coyle et al., 2010, p. 43).

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References

Bowering M. (2003). *Challenging students with the use of English in the mathematics and science classrooms*. Paper presented at the International Conference 2003 Mastering English for Science and Technology (HELP), 27–28 September 2003, Kuala Lumpur.

Brumfit, C. J. (2004). Language and higher education: Two current challenges. *Arts and Humanities in Higher Education, 3*, 163–173.

Byun, K., Chu, H., Kim, M., Park, I., Kim, S., & Jung, J. (2011). English-medium teaching in Korean higher education: Policy debates and reality. *Higher Education, 62*, 431–449.

Coleman, J. A. (2006). English-medium teaching in European Higher Education. *Language Teaching, 39*, 1–14.

Coyle, D., Hood, P., & Marsh, D. (2010). *CLIL: Content and language integrated learning*. Cambridge: Cambridge University Press.

Cresswell, J. (2011). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson Education.

Cummins, J. (1986). Empowering minority students: A framework for intervention. *Harvard Educational Review, 56*, 18–36.

Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative and mix methodologies*. Oxford: Oxford University Press.

Evans, S., & Green, C. (2007). Why EAP is necessary: A survey of Hong Kong tertiary students. *Journal of English for Academic Purposes, 6*, 3–17.

Graddol, D. (1997). *The future of English?* London: British Council.

Hellekjær, G. O., & Westergaard, M. R. (2003). An exploratory survey of content learning through English at Nordic universities. In C. van Leeuwen & R. Wilkinson (Eds.), *Multi-lingual approaches in university education: Challenges and practices* (pp. 65–80). Nijmegen: Valkhof Pers.

Hong, W. M. (2008). *Lexical aspect and L1 influence on the acquisition of English verb tense and aspect among the Hong Kong secondary school learners* (Unpublished PhD dissertation). Hong Kong Polytechnic University, Hong Kong (Publication No. AAT 3341106).

Hughes, R. (2008). Internationalisation of higher education and language policy. *Higher Education Management and Policy, 20*, 1–18.

Kenner, C., Gregory, E., Ruby, M., & Al-Zami, S. (2008). Bilingual learning for second and third generation children. *Language, Culture and Curriculum, 21*, 120–137.

Kırkgöz, Y. (2009). Students' and lecturers' perceptions of the effectiveness of foreign language instruction in an English-medium university in Turkey. *Teaching in Higher Education, 14*, 81–93.

Klaassen, R. G., & De Graaff, E. (2001). Facing innovation: Preparing lecturers for English-medium instruction in a non-native context. *European Journal of Engineering Education, 26*, 281–289.

Kyeyune, R. (2004). *Challenges of using English as a medium of instruction in multilingual contexts: A view from Ugandan classrooms*. Boston, MA: Multilingual Matters.

Larsen-Freeman, D. (2000). *Techniques and principles in language teaching*. Oxford: Oxford University Press.

Lemberger, N. (2002). Russian bilingual science learning: Perspectives from secondary students. *International Journal of Bilingual Education and Bilingualism, 5*, 58–71.

Marsh, H. W., Hau, K. T., & Kong, C. K. (2000). Late immersion and language of instruction (English vs. Chinese) in Hong Kong high schools: Achievement growth in language and non-language subjects. *Harvard Educational Review, 70*, 302–346.

Mehisto, P., Frigols, M., & Marsh, D. (2008). *Uncovering CLIL*. New York, NY: Macmillan.

Mohan, B. A. (1990). *LEP students and the integration of language and content: knowledge structures and tasks*. Paper presented at the First Research Symposium on Limited English Proficient Student Issues. Retrieved July 3, 2012, from http://www.ncbe.gwuedu/ncbepubs/

Spanos, G., Rhodes, N.C., Dale, T.C., & Crandall, J.A. (1988). Linguistic features of mathematical problem solving: Insights and applications. In Mestre & R.Cocking (Eds.), *The influences of language and culture on learning mathematics: The psychology of education and instruction* (pp. 221–240). Hillsdale: Lawrence Erlbaum Associates.

Storch, N., & Wigglesworth, G. (2003). Is there a role for the use of the L1 in an L2 setting? *TESOL Quarterly, 37*, 760–769.

Xanthou, M. (2008) Learning subject matter through the medium of a foreign language (CLIL): On its effects on primary school learners' L2 vocabulary development and content knowledge. Retrieved February 1, 2013, from http://conferences.ncl.ac.uk/pglinguistics/2008/presentation_documents/Xanthou.pdf