

Learning scenarios in an EMI classroom in higher education: Students' perceptions in Taiwan

Hsiang-I Huang

Wenzao Ursuline University of Languages, Taiwan

This study investigated EFL students' perceptions of the implementation of EMI in a university content course in Taiwan, and discussed the learning scenarios students found useful for learning in English language, intercultural sensitivity, and content knowledge and skills. 77 university students participated, and eight different learning scenarios were adopted in the course. The survey results showed that in general, students reported positive attitudes towards EMI vis-a-vis their English ability, content learning and intercultural sensitivity. There were strong positive correlations between the perceived effectiveness of EMI on students' English ability, intercultural sensitivity and content learning. Regarding the effectiveness of the eight learning scenarios examined in this study, the integration of NSs was seen as the most helpful learning scenario to all three types of learning. Low achievers found EMI to be significantly more effective for their English learning, content learning, and intercultural sensitivity than high achievers.

Keywords: English as a medium of instruction; EMI; tertiary EFL; learning scenarios; English ability; intercultural sensitivity; content learning; Taiwan

Introduction

Many higher education institutions around the world have adopted English as a Medium of Instruction (EMI) in recent years to become more internationalized and thus, be more competitive in recruiting international students and staff (Jenkins, 2019). EMI has not only won the support of higher education institutions but also the favour of many teachers, parents, and students. It is alleged to bring many benefits, such as facilitating students' learning in English (Fidan Uçar & Soruç, 2018; G. Hu & Lei, 2014), providing better career opportunities (G. Hu & Lei, 2014; Kuchah, 2016), and allowing more effective global branding. Thus, EMI is not only a characteristic feature of university education in English speaking countries, but has become increasingly popular in many non-English speaking countries (Evans & Morrison, 2011). It has been implemented and has received more attention in Asia in recent years (Fenton-Smith, Humphreys, & Walkinshaw, 2017; L. Hu, 2015; Wilkinson, 2017). However, although EMI has been widely discussed, it has often been approached from a political perspective and situated in postcolonial contexts (Kuchah, 2016), and its English-as-lingua-franca perspective has often been ignored, or less well understood (Jenkins, 2019).

Macaro, Curle, Pun, An, and Dearden (2018) reviewed 83 EMI studies in higher education and found that the evidence about the effects of EMI on improving students' English proficiency and content learning was insufficient. In addition, few studies have discussed the usefulness of different types of learning or teaching activities and scenarios implemented through EMI in university classrooms. This paper reports on research aimed

at understanding how EFL university students in Taiwan perceive the effectiveness of different EMI learning scenarios. The study addresses the following research questions:

1. Do university students in Taiwan perceive EMI as an effective pedagogy? Particularly, is EMI perceived as helpful in improving their English language ability, intercultural sensitivity and content learning?
2. What learning scenarios do the students perceive facilitate their learning?

Literature review

Dearden (2014) defined EMI as “the use of English language to teach academic subjects in countries or jurisdictions where the first language (L1) of the majority of the population is not English” (p. 4).

The use of EMI in higher education has received some attention in recent years, and studies have discussed its effects on students’ learning, particularly on their language learning. Some studies indicate that EMI has positive effects on language learning (Fidan Uçar & Soruç, 2018; Hudson, 2009). In Huang’s (2009) work, students reported perceived improvement in vocabulary and listening. Another study found that although students in universities in Taiwan initially had difficulties learning with EMI, after familiarisation, they perceived improvements in their English receptive and productive skills, discipline-specific vocabulary, knowledge of academic writing, and presentation skills (Huang, 2012). However, some studies found contrasting results (G. Hu & Duan, 2019; Ibrahim, Anka, & Yabo, 2017; Manan, 2019). G. Hu and Duan (2019) found that questioning and responding in an EMI setting had no significant effects on students’ English learning in the classroom. Graham, Choi, Davoodi, Razmeh, and Dixon (2018) conducted a systematic review of 25 studies discussing the effects of Content and Language Integrated Learning and EMI, and the findings were inconclusive.

Some studies have explored the effects of EMI on content learning with mixed results (Dafouz, Camacho, & Urquia, 2014; Fidan Uçar & Soruç, 2018; Graham et al., 2018; Hernandez-Nanclares & Jimenez-Munoz, 2017; G. Hu & Duan, 2019; Ibrahim et al., 2017; Manan, 2019). Students in Fidan Uçar and Soruç’s (2018) research believed that EMI facilitated their content learning. However, other studies which compared academic results of EMI and non-EMI groups of students found no significant differences (see, for example, Dafouz et al., 2014; Hernandez-Nanclares & Jimenez-Munoz, 2017) Which suggests, in those contexts at least, that EMI did not foster content learning. Students’ academic levels may also be an important variable amplifying or weakening the effects of EMI on content learning. For example, in Fung and Yip’s (2014) three-year-long study conducted with tenth grade school students, L1 instruction was found to be more helpful to low achievers whereas EMI was more facilitative for high achievers. However, the research of Hernandez-Nanclares and Jimenez-Munoz (2017) contrastingly demonstrated that L1 as the medium of instruction was more helpful for high achiever tertiary students than using EMI.

The above literature illustrates the contradictory nature of findings in this area. It is likely that this is at least partly because insufficient attention has been paid to the EMI learning scenarios in which the research takes place. For this reason, the current study will explore eight types of learning scenarios in EMI, and their perceived effectiveness of enhancing EFL university students’ language competence, intercultural sensitivity and content learning.

Research methods

Research setting

The context in which the study was conducted was an elective ESP course consisting of 3 hours of class per week for 18 weeks. EMI was used throughout the course. The aim of the course was to help students improve their English competence and their content learning. The content consisted of learning to introduce local Taiwanese cultures in English expressively and fluently in order to become professional tour guides.

Participants

In total, 77 language major Year 2 students took the course and participated in the study. Most of them were majoring in English. Most of the students ($n = 74$) were local Taiwanese students and 3 were international students from Spain and Indonesia. The majority of the students were female ($n = 61$) and 16 were male. The average age of participants was 20. On the basis of their College Student English Proficiency Test (CSEPT) test scores, high achievers (scoring 73th percentile and above, $n = 23$) and low achievers (scoring 27th percentile and above, $n = 19$) were identified.

Learning scenarios

The following eight learning scenarios were examined:

1. Integration of international students
This relates to the 3 international students enrolled in the course. Their majors were not English, but they participated in this study alongside local students. They were not native speakers of English.
2. Integration of native speakers of English (NSs)
14 female American NSs close to the participants' age joined the class as guests and peer interlocutors for four consecutive weeks. The study participants were requested to introduce local Taiwanese cultures to the NSs based on given topics every week. This activity was conducted towards the end of the semester to give students an opportunity to practice and apply what they had learned in class with authentic interlocutors.
3. Lectures by a non-native English professor (NNS)
A lecture was conducted in English by a local NNS professor who had studied abroad and had good command of English.
4. Culture-related videos
Showing students course-related videos in English for content knowledge.
5. Video project
Students filmed their own video projects to introduce a local city in English.
6. Student presentations
Students were assigned to make presentations in English to introduce local Taiwanese cultures based on assigned topics

7. In-class discussions (group)
Students were grouped to conduct English discussions.
8. In-class discussions (open)
Open whole-class discussions were conducted.

Research instrument

A survey was conducted during the last session of the course. It had two sections. The first part gathered demographic information including age, gender, nationality, and CSEPT scores. The second part used a 5-point Likert scale to collect participants' perceptions of the effectiveness of the EMI learning scenarios for improving three key aspects: English proficiency, intercultural sensitivity and content learning. Intercultural sensitivity here refers to "an individual's ability to develop a positive emotion towards understanding and appreciating cultural differences that promotes appropriate and effective behavior in intercultural communication" (Chen & Starosta, 1997, p. 5). There were nine survey questions for each aspect which explored the usefulness of the eight learning scenarios and general perceptions of the effectiveness of EMI.

SPSS was used to perform statistical data analysis. Cronbach's Alpha index was measured to ensure the reliability of the survey results, and the value of Cronbach's Alpha was .958. This demonstrates that the survey was highly reliable.

Results

Participants' perceived effectiveness of EMI

There was an overall positive perception among students of the effectiveness of EMI on their English ability ($M = 4.5455$), intercultural sensitivity ($M = 4.0933$), and content learning ($M = 4.3816$) (Table 1). It is notable that the group of participants designated as low achievers (according to their CSEPT scores) had significantly higher means than high achievers for the perceived effectiveness of EMI on their English ability, intercultural sensitivity and content learning (Table 2).

Table 1. Participants' perceptions of the effectiveness of EMI for improving their English ability, intercultural sensitivity and content learning

	<i>N</i>	Mean*	<i>SD</i>
English ability	77	4.5455	.73530
Intercultural sensitivity	77	4.0933	.93250
Content learning	77	4.3816	.74775

*Scores are out of a total 5 points

Table 2. High and low achievers perceptions of the effectiveness of EMI for improving their English ability, intercultural sensitivity and content learning

Perceived effectiveness of EMI on learning	Low achievers (<i>n</i> = 19)		High achievers (<i>n</i> = 23)		<i>t</i> -values
	Mean	<i>SD</i>	Mean	<i>SD</i>	
English ability	4.8421	.37463	4.3478	.71406	2.875*
Intercultural sensitivity	4.5000	.85749	3.7391	.86431	2.807*
Content learning	4.6111	.60768	4.0435	.76742	2.568*

df = 40, *p* * < .005

There were positive correlations between the perceived effectiveness of EMI on students' English ability, intercultural sensitivity and content learning. The correlation between the perceived effectiveness of EMI on students' English ability and content learning was the strongest ($r = .733$), followed by the correlation between the perceived effectiveness of EMI on students' English ability and intercultural sensitivity ($r = .617$), and the correlation between the perceived effectiveness of EMI on intercultural sensitivity and content learning ($r = .582$) (Table 3).

Table 3. Pearson correlations of participants' perceptions of the effectiveness of EMI for improving their English ability, intercultural sensitivity and content learning

	English ability	Intercultural sensitivity	Content learning
English ability	1	.617**	.733**
Intercultural sensitivity		1	.582**
Content learning			1

** Correlation is significant at the 0.01 level (2-tailed).

The participants' perceptions of the effectiveness of eight different learning scenarios are all relatively high in relation to the three key aspects under investigation: English learning, intercultural sensitivity and content learning. The lowest mean score for any item is 3.6 on a 5-point scale. The integration of native speakers of English scenario achieved the highest perceptual scores across all three aspects ($M = 4.4545$ in relation to English ability; $M = 4.3636$ in relation to intercultural sensitivity; and $M = 4.4545$ in relation to content learning). Other scenarios varied in their perceptual order of effectiveness for each of the three aspects but clearly with such high means for all items, the participants are highly positive about all the scenarios (see Tables 4, 5 and 6).

Table 4. Participants' perceptions of the effectiveness of the eight learning scenarios for improving their English ability

	<i>N</i>	Mean	<i>SD</i>	Rank
Integration of native speakers of English	77	4.4545	.67950	1
Student presentations	77	4.2597	.80136	2
Lectures	77	4.1688	.81761	3
Course-related videos	77	4.1039	.77093	4
In-class discussions (group)	77	3.8701	.99142	5
In-class discussion (open)	77	3.7922	1.05553	6
Integration of international students	76	3.7895	1.18114	7
Student video project	77	3.7013	.97421	8

Table 5. Participants' perceptions of the effectiveness of the eight learning scenarios for improving their intercultural sensitivity

	<i>N</i>	Mean	<i>SD</i>	Rank
Integration of native speakers of English	77	4.3636	.79321	1
Course-related videos	76	4.0526	.89286	2
Integration of international students	76	3.9342	1.06252	3
Student presentations	76	3.8947	.93208	4
Lectures	77	3.8571	.98294	5
In-class discussions (open)	75	3.6800	1.02878	6
Student video project	76	3.6184	1.04521	7
In-class discussions group)	75	3.6133	.98493	8

There were significant differences between the perceptions of effectiveness of the low and high achievers in relation to some of the learning scenarios. Low achievers perceived the effectiveness of the integration of NSs on their English ability and on their intercultural sensitivity more highly than the high achievers (Table 7). There were similar significant differences in perceptions of the effectiveness of the course-related video scenario on their intercultural sensitivity and on their content learning (see Tables 8 and 9).

Table 6. Participants' perceptions of the effectiveness of eight learning scenarios for improving their content learning

	N	Mean	SD	Rank
Integration of native speakers of English	77	4.4545	.69860	1
Student presentations	77	4.3506	.80731	2
Lectures	77	4.2468	.71000	3
Course-related videos	77	4.0909	.79772	4
Student video project	77	4.0260	1.02565	5
In-class discussions (group)	75	4.0133	.83007	6
In-class discussions (open)	75	3.9467	.92843	7
Integration of international students	76	3.9342	1.09952	8

Table 7. High and low achievers' perceptions of the effectiveness of learning scenarios for improving their English ability

Perceived effectiveness of learning scenarios	Low achievers		High achievers		t-values
	Mean	SD	Mean	SD	
Integration of NSs	4.7895	.41885	4.3478	.71406	2.492*

df = 40, p * <.005

Table 8. High and low achievers' perceptions of the effectiveness of learning scenarios for improving their intercultural sensitivity

Perceived effectiveness of learning scenarios	Low achievers		High achievers		t-values
	Mean	SD	Mean	SD	
Integration of NSs	4.6842	.47757	4.1304	.91970	2.370*
Course-related videos	4.3684	.59726	3.7826	.95139	2.329*

df = 40, p * <.005

Table 9. High and low achievers' perceptions of the effectiveness of learning scenarios for improving their content learning

Perceived effectiveness of learning scenarios	Low achievers		High achievers		t-values
	Mean	SD	Mean	SD	
Course-related videos	4.3684	.68399	3.9130	.73318	2.065*

df = 40, p * <.005

Discussion

Perceptions of EMI

In general, participants reported that the use of EMI had improved their learning in English language, content knowledge and skills, and intercultural sensitivity. This positive perception corresponds with previous findings (Fidan Uçar & Soruç, 2018; Huang, 2009; Hudson, 2009). It is likely that students perceived a higher impact of EMI on their English ability than on the other two aspects due to the fact that they were learning in an English-only environment. EMI was also seen to have an impact on students' content learning. This is consistent with Fidan Uçar and Soruç's (2018) study. An interesting finding of the current study is that low achievers reported significantly better effects of EMI on their English ability, intercultural sensitivity and content learning than high achievers.

Even though the course was conducted in an EFL classroom where the majority of the participants were local students, students still reported positive changes in their intercultural sensitivity at the end of the course. This might have been caused by the intercultural elements integrated into this course, such as the enrolment of international students, the participation of native English speakers and the culture-related course content.

The Eight EMI learning scenarios

Lectures

English lectures by a NNS course instructor were ranked in the top three most effective EMI learning scenarios for both learning language and content. This corresponds with Evans and Morrison's (2011) explanation that lecturers talk a lot, and they provide the most natural and effective learning input for learners. This result shows that Taiwanese college students may still consider lectures as an essential element in classroom learning.

Integration of NSs

Although the integration of NSs only lasted for four weeks, it was seen as the most effective EMI learning scenario in this study. This result suggests that EFL students in Taiwan prefer NS to NNS, even when the NNS was trained and educated professionally in the taught subject and language of instruction. This may be explained by the deeply rooted belief of NNS students in some EFL countries that NSs provide better and more authoritative language input than NNS (Benke & Medgyes, 2005). Doiz, Lasagabaster, and Sierra (2013) also reported that NNS instructors in EMI programmes might focus more on content instead of linguistic accuracy, and this might have contributed to the preference reported in this study.

Offering sufficient opportunities to produce output is important for successful language learning (Swain, 1985), and recognition of this may have contributed to the high perception of the effectiveness of the integration of NSs scenario. Activities with the NSs provided students with ample opportunities to put their knowledge into practice, discuss and share their cultural values, and apply what they had learned in close to real-life scenarios, such as acting as local hosts to introduce and explain Taiwanese culture in English. The interactive design of the NS activities also engaged students in a continuous learning loop of receiving input from NSs and producing output in English.

The fact that the integration of the NS scenario along with the incorporation of international students, the use of course relevant videos, and student presentations all

scored higher than lectures in facilitating intercultural sensitivity suggests that intercultural sensitivity is not primarily acquired through traditional learning. It is more likely to be developed through self-awareness and self-reflection. By researching, collecting, self-studying/learning culture-related knowledge, sharing cultural experiences with foreigners, and presenting local Taiwanese cultures, participants understood their home culture and foreign cultures better, and thus, were more likely to increase their intercultural sensitivity.

It is noteworthy that low achievers were significantly more positive than high achievers about the effectiveness of the integration of NSs on their English learning and intercultural sensitivity. This suggests the integration of NSs may be a more helpful teaching scenario for low achievers.

Integration of international students

Evans and Morrison (2011) found that local students enjoyed interacting with international students. In the current study, the integration of international students was perceived as the third most effective learning scenario for facilitating intercultural sensitivity. However, it was perceived as the least effective and second least effective scenario respectively for content learning and for English learning. Krashen's (1985) input hypothesis may explain these results. He claimed that the input should be authentic and one step beyond a learner's level (also known as "i + 1"). The international (Spanish and Indonesian) students' level of English was similar to that of the Taiwanese students and thus might not have contributed the "i+1" comprehensible input required for learning.

It is also important to acknowledge that the international students had been in Taiwan for a year or two so they knew the local language and culture to some degree which may have reduced the need to communicate in English and eliminated the knowledge gap. There were also only three international students to share among 74 Taiwanese students, which reduced opportunities to interact. By contrast, local students had more access to NSs because there were more of them. This may have influenced participants' perceptions of effectiveness.

Course-related videos

Course-related videos were perceived as the second most helpful scenario for improving intercultural sensitivity, and the fourth most helpful for improving English and content learning. Interestingly, low achievers perceived significantly more effectiveness from course-related videos on their intercultural sensitivity and content learning than high achievers. As videos provided visual images, audio, and occasionally subtitles and texts, they may offer better and easier comprehension which may make video more attractive for low achievers.

Student presentations

The presentation assignment was perceived as the second most effective EMI learning scenario for language and content learning. It was also ranked fourth most effective for intercultural sensitivity. Perhaps it was reasonably popular because it provided opportunities to practice the language, and subject-related knowledge and skills to produce output. Students worked in teams to discuss the topic but made individual presentations. This learning scenario facilitated the students' learner autonomy by making them responsible for their own learning. They had to search, understand, digest, and organize all the information and knowledge they obtained by means of various resources,

and then produce and demonstrate what they had learned in English. This might have contributed to their language and content learning. However, it should also be acknowledged that the resulting presentation was worth 50% of the overall course grade and this may also have contributed to perceptions of the effectiveness of the scenario by association with its importance. This high grade value also pushed students to work hard on their presentations in order to pass the course. Output related to other learning scenarios might have received less attention because they received a lower portion of the course grade.

In-class discussions (group & open)

Discussions in small groups and with the whole class were not perceived to be as helpful as other learning scenarios. Perhaps this is because students might not have been as fully engaged as they were in presentations or interacting with NSs. Students might also have used their L1 for discussions with their local peers (and possibly even with international peers). Evans and Morrison (2011), Ibrahim et al. (2017), and Jenkins (2019) addressed similar code mixing and switching problems. Furthermore, some participants might have avoided speaking in groups, and thus missed chances to practice and improve their English.

Student video project

Interestingly, though the student video project was similar to student presentations in terms of the nature of the task, it was ranked as the least and the second least helpful EMI learning scenario for language learning and intercultural sensitivity, respectively. There is no clear evidence explaining the perceived differences between video projects and presentations, but it may be related to the modes of these scenarios. Presentations occurred in class with an audience and professor whereas there was no audience present while recording the video. The physical audience might have pushed students to learn and perform better.

The effects of English proficiency levels

The results show that low achievers found EMI to be significantly more facilitative to their English learning, content learning and intercultural sensitivity than high achievers. This result contradicts Fung and Yip's (2014) findings. The participants' age and the course content might explain this contradiction. Participants in the Fung and Yip's (2014) study were younger (tenth graders) and studying physics which probably resulted in more challenging content. In the current study, the most notable differences between low and high achievers is that the former considered the integration of NSs and course-related videos significantly more helpful to their learning than did high achievers.

Pedagogical implications

Several pedagogical implications arise from the findings of this study. First, EMI should be encouraged at the university level in Taiwan to foster students' language competence, content learning and intercultural sensitivity; and so that teachers will have more confidence in implementing it, especially with low achievers. It is widely believed that the implementation of EMI would only help high achievers and would, conversely, intimidate low achievers. However, the results of the current study demonstrate that students, low achievers in particular, perceived positive benefits of EMI. Second,

instructors may consider including any or all of the eight learning scenarios discussed in this study in order to improve their students' learning. The range of scenarios caters to the diversity of students' needs and teaching styles. Most importantly, the scenarios provide alternative approaches to boost both language input and output. Some students, and indeed teachers, may not feel initially comfortable with those scenarios which do not conform to long-standing conventions in Taiwanese classrooms but just as in the research reported here, experimentation provides stimulus and it is gratifying to see how the students rise to the challenge. Finally, it is important to bear in mind that while positive feedback from students is encouraging it is the teachers who have pedagogical knowledge. That is to say, if students like a scenario it is encouraging because it means they will be willing to do it again but it does not demonstrate that it provides optimal learning in the given context, that is for the teacher to assess. Further research is needed in this area.

Conclusion

This study investigated EFL students' perceptions of the implementation of EMI in a content course in Taiwan, and discussed the learning scenarios students found useful for learning. In general, students reported positive attitudes towards EMI in relation to their English ability, content learning and intercultural sensitivity. There were strong positive correlations between the perceived effectiveness of EMI on students' English ability, intercultural sensitivity and content learning.

Regarding the effectiveness of the eight learning scenarios examined in this study, the integration of American NSs was seen as the most helpful learning scenario to all three types of learning. The four learning scenarios perceived as most effective for students' English learning were (1) the integration of NSs; (2) student presentations; (3) NNS lectures, and (4) course-related videos. Regarding intercultural sensitivity, the integration of NSs ranked the highest, followed by course-related videos, the integration of international students, and student presentations.

Several other findings also deserve attention. First, students preferred NSs to international students and NNS lectures which is consistent with widely held beliefs in Taiwan that NSs are the most authoritative source of language learning. Second, it is interesting that students preferred presentations to discussing with their peers. This may be because they value more learning scenarios that require more output production. Third, they considered giving presentations as a more helpful learning scenario than conducting a video project. This suggests that the modalities of students' assignments matter, perhaps favouring face-to-face communication over digital communication. Finally, EMI was seen as more helpful by low achievers. In particular, the use of NSs and course-related videos were perceived as significantly more effective by low achievers than by high achievers. This finding suggests that there is a need to differentiate and develop different learning scenarios for different types of learners.

This study only looks at students' perceptions of effectiveness. The next step is to investigate students' actual language performance. This could be done through a combination of qualitative interviews and observations of students' performance in EMI settings.

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About the author

Hsiang-I Huang is an assistant professor at the Department of English, Wenzao Ursuline University of Languages. Her research interests include English language teaching, intercultural communication, public speaking, and ESP.

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