# New Connections in EMI Turkey Research Partnership Fund 2020

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# Quality of Instruction and Student Outcomes in English-medium Programs in Turkey

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# Summary

## What were the Main Aims of the Study?

This study aimed to investigate the quality of EMI tertiary education by examining the effects of EMI on content learning, language learning, and EMI teaching. The study included a multi-layered, mixed-method approach at a case university to examine learning outcomes on EMI programs. The study offers several recommendations to improve the quality of EMI education in Turkey.

## How were Data Collected for the Study?

Data were collected through questionnaires, interviews, focus groups, and classroom observations at the case university, a foundation (private) university in Istanbul. Questionnaire data were collected from EMI students (n=544) and teachers (n=118) across a variety of disciplines at the case university. To provide a more in-depth analysis of teaching and learning practices in EMI courses, *qualitative* data were collected through interviews (n=11) with teachers and focus groups (n=6) with students at a social sciences faculty of the university. Classroom observations (n=6) in the form of online recorded classes were also collected from the social sciences faculty.

## What did the Study Find?

The results of this study offer insights into the learning outcomes of students enrolled on EMI programs.

- Data from both strands of this study found that students experienced the greatest language-related challenges with respect to speaking activities in English but had relatively less difficulty following lectures or reading course materials in English.

- This study found no correlation between gender, educational background, or English language test scores and success in EMI courses, as measured by students' GPA and class rank. However, students in the top 5% of their class were more likely to report higher levels of motivation and self-efficacy than students with lower class ranks.

- The EMI teachers at the case university were found to have high levels of English proficiency and expressed confidence in their ability to teach through English. However, they reported that issues with their students' English proficiency affected their ability to effectively convey content in English.

- With respect to language use, this study found that English was almost always used for course materials, lecture slides, and exams. Turkish was occasionally used for class discussions and by students to ask questions in class.

## What are the Main Recommendations of the Study?

This report makes four main recommendations with respect to teaching and learning on EMI programs at universities across Turkey. These are:

1. To offer ongoing, discipline-specific language courses aimed at providing students with the opportunity to practice their productive English skills.

2. To provide support structures for first-year students to facilitate the transition to EMI departmental classes.

3. To encourage EMI teaching pedagogies that support student participation in English.

# Quality of Instruction and Student Outcomes in English-medium Programmes in Turkey

## Introduction

It is now well established that English medium instruction (EMI) is a global phenomenon. EMI is rapidly expanding in higher education institutions worldwide (Dearden, 2014; Macaro 2018; Macaro et al. 2018), as universities increasingly chose to internationalize through 'Englishisation' of the curriculum (Galloway, Numajiri, & Rees, 2020), and Turkey is no exception to this trend (Kirkgoz, 2009). Although the 'exact number of EMI programs and courses are unknown' (Karakaş, 2019: 207), English and EMI play an increasingly important role in Turkish higher education (British Council & TEPAV, 2015).

The growth of EMI means that English has shifted from being taught as a subject, to becoming an important educational language for teaching and learning. However, the decision to teach through English requires more than 'simply switching the vehicle of communication and continuing as usual' (Bradford, 2016, p. 340). Studies have repeatedly found that EMI students experience language-related challenges (Evan & Morrison, 2011), and research is needed to evaluate the quality of learning in EMI programs.

Previous research on EMI in Turkey has largely approached the question of EMI quality through an investigation of stakeholders' beliefs (Kırkgöz, 2014; Macaro & Akincioglu, 2018). Lacking are direct measures of success with respect to content and language learning in EMI programs. This study aimed to address this need by investigating the quality of instruction and student outcomes in EMI programs at a Turkish university. In doing so, it aims to provide evidence of quality of learning outcomes based on direct measures, and thus offer recommendations grounded in empirical research to improve EMI teaching and learning in Turkey.

## Literature Review

### Main Issues Emerging from the Literature:

- Students find EMI challenging, even at high proficiency levels.

- Factors leading to success in EMI are complex and inconclusive, but may include high school background, language proficiency, and prior academic performance in language support classes and Turkish medium classes.

- There is a lack of research on EMI quality and instruction.

Forms of EMI vary greatly according to context; however, a commonly cited definition is:

The use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the first language of the majority of the population is not English. (Macaro, 2018, p. 19)

This definition is relevant to the Turkish higher education context, where research has suggested that language-focused instruction rarely occurs in EMI content classes (Sahan, 2021). Alternative definitions of EMI align more closely with content and language integrated learning (CLIL), which view the objectives of EMI to include both the acquisition of academic content and the development of students' English language skills. This definition might more accurately align with national policy in Turkey, which states the aim of EMI is for students to 'gain foreign language competences related to their fields' (Article 5, Law No. 29662; see Sahan, 2021), as well as student motivations for enrolling to EMI programs (Kırkgöz, 2014).

Although language learning may be an implicit or assumed benefit of EMI, a recent systematic review concluded that there was insufficient evidence to suggest that EMI programs improve student proficiency (Macaro et al., 2018). More concerning, the growth of EMI has gone largely unmonitored in terms of the effects it may have on educational outcomes. Researchers have highlighted concerns over teachers' and students' English proficiency, which has impeded the successful implementation of EMI (Sert, 2008). One study in China (Hu et al., 2014) found that students understanding of academic content in English was shallow compared to L1 (Chinese) medium classrooms. Other researchers have found that EMI students' insufficient English proficiency resulted in difficulty taking notes (Zok, 2010), comprehending lectures (Hellekjær, 2010), and understanding academic texts due to insufficient vocabulary knowledge (Kırkgöz, 2005).

Kamaşak et al. (2021) investigated the academic language-related challenges that students faced at an EMI university in Turkey. Their study found that students experienced the most difficulty writing and speaking in EMI classes. They also found significant differences in the challenges reported by students according to student background and prior EMI experience. In a similar study conducted in Hong Kong, Evans, and Morrison (2011) found that students experienced a number of writing-related challenges, including planning written assignments and expressing ideas in correct English. These studies suggest that students struggle with productive skills in English in EMI classes. Although Soruç and Griffiths (2018) found that students employ a range of strategies to overcome language-related challenges, they warn that 'many students are simply being set up to fail' (p. 46) their EMI content courses without adequate language support.

Research on educational outcomes in EMI programs is still rather limited, although a series of studies in the Japanese context have examined the effects of proficiency and other factors on students' success in EMI programs. Aizawa and Rose (2019) found that although students above a proficiency threshold of IELTS 6.5 experienced statistically fewer linguistic challenges, all students (even at the highest level) experienced difficulties studying in English. In another study investigating the content learning outcomes of 146 EMI business students in Japan, Rose et al. (2019) found that English proficiency was a predictor of success, operationalized as midterm and end-of-term exam scores. However, the study also found that performance in English support classes was a stronger predictor of success than general English proficiency alone, suggesting that targeted language support classes were vital to ensuring student success. Similarly, Aizawa et al. (2020) found that students' English language proficiency was a predictor of challenges in EMI programs, although no language proficiency threshold was observed with respect to ease of study.

In a Turkish university context, one study of 159 final-year students found that students' success in Turkish medium courses was a significant predictor of their success in EMI, leading to the conclusion that 'EMI success is better augmented by students taking some courses through their native language alongside EMI courses' (Curle, Yuksel, Soruç & Altay, 2020). The same study also found that general English proficiency was a poor indicator of success, concluding that preparatory courses needed to focus on language support in the form of English for Academic Purposes, and building up students' knowledge of academic vocabulary, rather than building general language proficiency.

In Turkey, language support for EMI students is provided through the preparatory year model (see Macaro, 2018), which allows universities to cater to a local student population with generally low levels of English proficiency (see British Council & TEPAV, 2015). More recently, this form of EMI has been classified as 'bridging EMI', where a 'preparatory or bridging course prepares students to transition to EMI' (Richards & Pun, 2021, p. 7). Within this model, students complete an intensive English preparatory program (EPP) before beginning their EMI departmental classes. Although the EPP is completed by most EMI students in Turkey (Kırkgöz, 2007), a recent systematic review concluded: 'In Turkey, the collective research picture is one of deep concern in terms of level of English in general and vocabulary knowledge in particular' (Macaro et al., 2018, p. 53). Given ongoing concerns about language proficiency, the question remains as to the effectiveness of EMI for teaching and learning.

Previous research in Turkey has explored teacher and student beliefs about EMI (Kırkgöz, 2014), aspects of EMI policy development (Kırkgöz, 2009; Selvi, 2014), and the use of the first language in EMI classrooms (Sahan, 2020). However, there is a lack of research on EMI quality, particularly with respect to quality of instruction and learning outcomes. This study aims to address this gap by investigating the effects of EMI on content learning, language learning, and EMI teaching at a university in Istanbul. In doing so, it aims to provide empirical evidence based on direct measures of EMI quality in the Turkish context.

# Methods

## Main Methods:

- Questionnaire data were collected from 544 students and 118 teachers at the case university.

- Interviews were conducted with 11 teachers.

- Six focus groups were conducted with a total of 24 students.

- Six classroom observations were collected from recorded online lessons.

This study investigated the effects of EMI on content learning, language learning, and EMI teaching. Data were collected through a questionnaire directed at teachers and students across disciplines and through fieldwork aimed at exploring EMI programs in one faculty. The study addressed the following research questions:
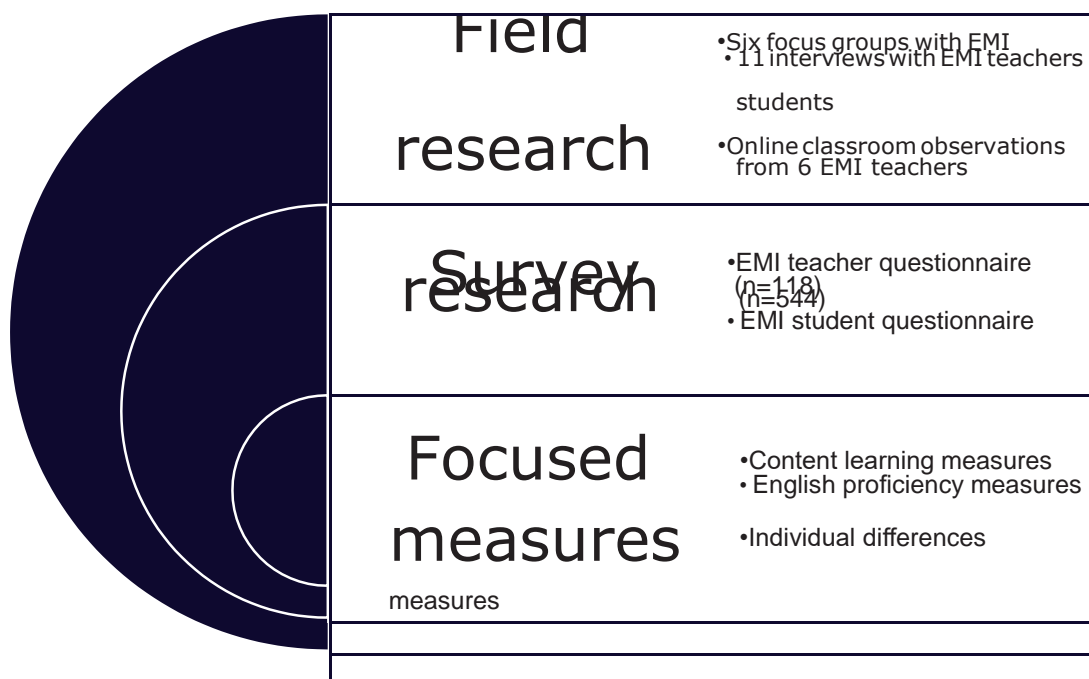
**RQ1:** What effect does EMI have on educational outcomes?

- What effect does EMI have on learners' language acquisition? What language-related challenges, if any, do EMI students face?

- What effect does EMI have on learners' content knowledge acquisition? What content-related learning challenges, if any, do EMI students face?

- What factors influence success in EMI?

**RQ2:** What effect does EMI have on teachers' ability to effectively convey content?

- What language-related challenges, if any, do EMI lecturers face?

- What content-related challenges, if any, do EMI lecturers face?

- How is language used in EMI classes?

The research questions were investigated through an in-depth case study at the research site: a foundation university in Istanbul which offers undergraduate EMI programs across a range of academic disciplines. The case study design allowed for a nested multi-faceted investigation of EMI practices within a contextualized institution. The research design for the study is illustrated in Figure 1. Field research aimed to explore EMI practices directly through observations, and indirectly via teacher interviews and student focus groups. This allowed the project to contextualise the findings of other layers of data collection. The survey research collected general information on EMI experiences of teachers and students. Finally, a focused battery of measures was incorporated into the student questionnaires to take targeted measures of student performance in content learning, English proficiency, challenges, and individual differences such as self-efficacy.

**Figure 1.** A multi-layered research design



| | | |
|---|---|---|
| Field research | •Six focus groups with EMI students | •11 interviews with EMI teachers |
| | | •Online classroom observations from 6 EMI teachers |
| Survey research | •EMI teacher questionnaire (n=118) | •EMI student questionnaire (n=544) |
| Focused measures | •Content learning measures •English proficiency measures | •Individual differences |

# Sample

The case study university was selected as a suitable research site because English is the official language of instruction at the university, and EMI programs are offered across disciplines. This provided a suitable context from which to recruit a sufficient number of participants for the quantitative strand of the study. Moreover, as a foundation (private) university in Istanbul, the case university represents a growing trend among private higher education institutions (HEIs) to offer EMI programs.

The field research (qualitative) strand of the study included 11 interviews with EMI teachers, 6 focus groups with EMI students, and 6 classroom observations (recordings of online lessons due to COVID-19 restrictions). The participants belonged to a social sciences faculty. The 11 teachers interviewed for this study included 7 females and 4 males. Nine of the teachers were local, Turkish teachers, and two were international teaching staff members. The teachers taught tourism, trade and management, finance, computer science, and logistics. Each focus group included four students, for a total of 24 students. The students were enrolled in classes taught in the social sciences faculty, and they consisted of 7 female and 14 male students.

During the survey (quantitative) strand of the study, two online questionnaires (an EMI student questionnaire and an EMI teacher questionnaire) were distributed to teachers and students through the university e-mailing system. Responses from 118 EMI teachers and 544 EMI students were collected and analyzed for this study. The participant demographics are summarized below:

## EMI Teacher Demographics

A total of 184 teachers responded to the questionnaire. However, 66 of the respondents indicated that they taught English in the university's EPP. Because this is an intensive language program—in which English is the subject, rather than the language through which academic subjects are taught—we excluded these 66 teachers from our study. This resulted in a final sample of 118 EMI teachers from 9 faculties. The respondents included 55 male teachers (46.6%) and 61 female teachers (51.7%). Nearly all (n=111, 94.1%) of the teachers were Turkish. The full EMI teacher participant demographics are reported in Appendix A.

The EMI teachers were asked to report their current proficiency in English, from basic to very advanced. The majority of teachers (n=99, 83.9%) reported that their proficiency was advanced or very advanced. None of the respondents indicated that their English proficiency was at the basic level.

# EMI Student Demographics

Questionnaire responses from 544 EMI students were included in this study. Nearly two-thirds (n=347, 63.8%) of the students were female, and 34.2% of the students were male (n=186). Students from more than 11 faculties responded to the questionnaire, and the majority of students spoke Turkish as their first language (n=508, 93.4%). Two-thirds of the students (n=369, 67.8%) encountered EMI for the first time at university, while the rest (n=175, 32.2%) had studied academic subjects in English in secondary school. The participant demographics for the EMI students are reported in Appendix B.

As a measure of academic content learning, students were asked to report their cumulative GPA (out of 4.00) and indicate their class rank according to GPA. For the class rank measure, students were asked to indicate whether they were in the top 5%, top 10%, top 20%, top 50%, or bottom 50% of their class. GPAs were provided by 70% (n = 383) of students, while 87% (n = 471) indicated their class rank. In order to maximize the number of participants included in the analyses with respect to content learning, we have used class rank to compare learning outcomes with respect to individual learner differences. To evaluate language proficiency, students were asked to evaluate their English skills. They were also asked whether they had taken an English language proficiency test. The average TOEFL score reported by the students was 88.65 (n = 26, SD = 18.59); the average score for IELTS was 7.08 (n = 47; SD = 0.99); and the average score for the School of Foreign Languages Placement Exam was 78.97 out of 100 (n = 80; SD = 10.41).

# Instrument Development

The questionnaires were used to gather information related to experiences and challenges teaching and learning through English. The EMI student questionnaire was trailed in a previous study conducted in the Turkish context (Kamaşak et al., 2021), which formed the pilot study for this project. The questionnaires were administered online via a link distributed in December 2020, and a follow-up reminder was sent two weeks later. The link to the questionnaire was closed in February 2021.

In order to evaluate learning outcomes against a variety of factors, the student questionnaire included focused measures pertaining to academic success, English skills, motivation, and self-efficacy. These measures have been used in previous studies examined success in EMI (see Rose et al., 2019; Thompson et al., 2019). The questionnaire also included a measure of academic language-related challenges called the 'EMI Challenges Scale', which is a validated instrument that has been used in previous research conducted in the Japanese context (Aizawa & Rose, 2021) and which was originally adapted from a study examining students' language-related challenges at a university in Hong Kong (Evans & Morrison, 2011). The instrument was previously validated in a Japanese (Aizawa et al., 2020) and Turkish university context (Kamaşak et al., 2021).

To complement the quantitative findings, the field research component of the study provided an in-depth examination of a social sciences faculty within the university. The interviews and focus groups were conducted online via Zoom by one of the researchers. Teachers and students were invited to participate, and interviews and focus groups were scheduled at a convenient time for the participants. The interviews and focus groups were semi-structured in nature and lasted approximately 40 minutes. They followed a question guide that was similar for both the interviews and focus groups but allowed flexibility for the researcher to ask follow-up questions based on the participants' responses. Participants were invited to respond in the language of their choice (Turkish or English). All of the interviews were conducted in English, and five of the six focus groups were conducted in Turkish.

To gather data related to classroom practices, online class recordings were collected from 6 teachers within the social sciences faculty. Due to the COVID-19 pandemic, the university had moved to online education at the time of data collection. Online classes were conducted live with students and recorded by the teacher via a remote learning platform, as per university policy. The recordings were then shared with the research team. The classes were conducted in November 2020. A total of 13 hours of online class recordings were collected.

# Data Analysis

Questionnaire responses were collected via Qualtrics and inputted to SPSS for analysis. Questionnaires were analysed using descriptive and inferential statistics. Focus groups and interviews were transcribed and analysed in NVivo. Each data source was analysed separately following the procedures for qualitative content analysis (Selvi, 2020). The analysis involved two rounds of coding to identify emergent themes. Table 1 shows the coding framework for interviews and focus groups. Classroom observations were used to supplement the findings from the questionnaires, interviews, and focus groups. Following the analysis of other data sources, the classroom observations were reviewed, and key events identified to understand language use in EMI classes.

**Table 1:** Coding framework for interviews and focus groups.

| Main Themes | Teacher Sub-themes | Student Sub-themes |
|---|---|---|
| 1. Language-related challenges | • Students' language skills<br>• Students' English learning background<br>• Language challenges across year of study<br>• Students' motivation to improve their English | • Students' language skills<br>• Students' English learning background<br>• English learning in EMI<br>• Students' motivation to improve their English<br>• Practice using English |
| 2. Content-related challenges | • Subject-specific challenges<br>• Student motivation<br>• Students' study habits<br>• Heterogenous student background<br>• Reduced content teaching | • Subject-specific challenges<br>• Student motivation<br>• Students' study habits<br>• Online classes<br>• Mismatch between academic content and skills needed for career |
| 3. Teaching practices | • Assessment practices<br>• Classroom interaction<br>• Materials & resources<br>• Modifying language input<br>• Using examples or cases<br>• Building rapport | • Assessment practices<br>• Teacher attitude<br>• Modifying language input |
| 4. Language use in EMI classes | • Reasons for English use<br>• Reasons for Turkish use<br>• Turkish to supplement English instruction<br>• International students | • Reasons for English use<br>• Reasons for Turkish use<br>• Turkish to supplement English instruction<br>• International students<br>• Contextual factors<br>• Exams and assessments |

## Ethical Considerations

Ethical clearance was obtained from the case university's Research Ethics Committee prior to data collection. Participation in this study was voluntary, and participants were ensured of anonymity in their responses.

# Findings

## Survey Research Findings

To explore the effects of EMI on learning outcomes and teaching across disciplines, we first investigated the results from the EMI teacher and student questionnaires.

## Language-related Challenges

### Main Findings:

- Students reported the most difficulty speaking in English and found listening to be the easiest of the four skills.

- Teachers also reported that students had trouble participating in speaking activities in EMI classes.

- Nearly all teachers reported that they had the necessary language skills to teach in English.

To investigate what language-related challenges EMI students face, the students were asked to evaluate how difficult they found academic tasks related to reading, writing, speaking, and listening in English on a scale from 1 (very difficult) to 7 (very easy). The results indicate that EMI students had the most difficulty **speaking** in English, with the greatest difficulty reported for 'participating actively in discussion' (M = 4.24, SD = 1.910) and 'speaking accurately' (M = 4.30, SD = 1.793). In comparison, the students reported that 'using visual aids' (M = 5.26, SD = 1.491) and 'speaking from notes' (M = 5.19, SD = 1.663) were 'somewhat easy' to 'easy'. These findings suggest that students experienced the most difficulty speaking spontaneously in English but found speaking tasks easier when given time to prepare.

In contrast, students reported **listening** to be the easiest of the four skills and rated each item on average as 'somewhat easy' to 'easy.' Among the listening activities specified on the questionnaire, students rated 'understanding lecturers' accents' (M = 5.05, SD = 1.666) as the most difficult.

With respect to **writing** and **reading** tasks in English, students had the most difficulty 'using appropriate academic style' (M = 4.34, SD = 1.687) when writing and 'working out the meaning of difficult words' (M = 4.73, SD = 1.554) when reading.

According to the questionnaire results, EMI teachers at the case university generally did not perceive challenges related to their own English language proficiency. Overall, teachers strongly agreed that they had the necessary language skills to teach their classes in English (M = 3.60, SD = 0.57; Figure 2). Only 2% of teachers disagreed with this statement. Nonetheless, in open-ended responses, some teachers commented that they would like to improve their teaching skills through EMI-specific professional development activities: *'Still, I would have liked to receive some training such as teaching excellence for higher education.'*

**Figure 2.** EMI Teachers' language skills

### I have the necessary language skills to teach my

1   1

35

63

■ Strongly Disagree ■ Disagree ■ Agree ■ Strongly
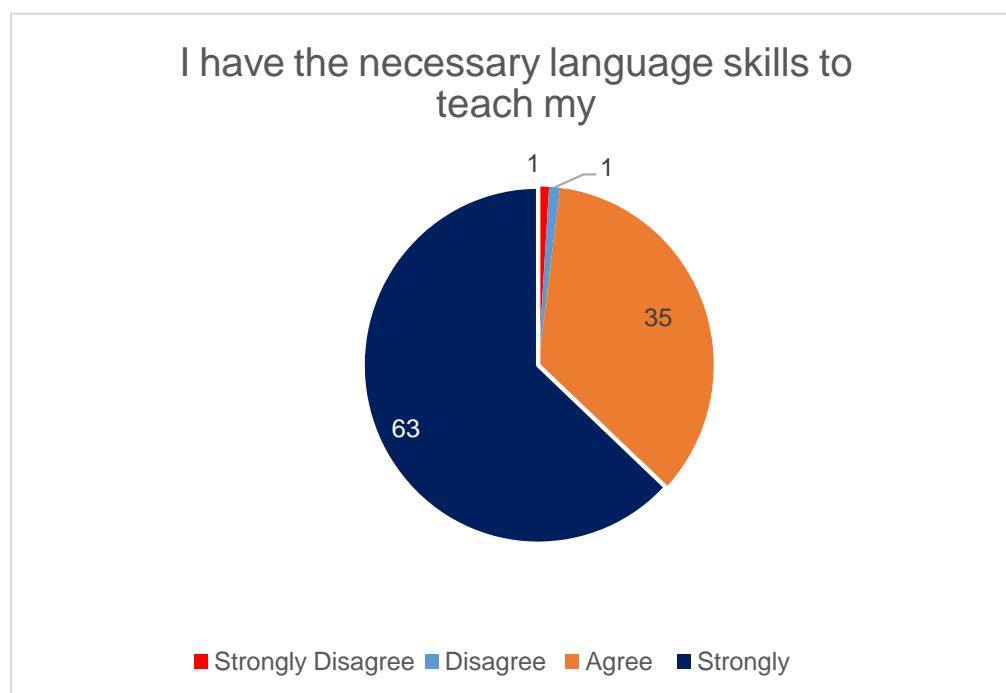
Although the teachers rated their own English proficiency as adequate for EMI teaching, they reported that their students faced a variety of language-related challenges. The teachers were asked to assess the level of difficulty with which their students completed certain activities in English (Table 2). The results suggest that students experience the greatest difficulty participating in speaking activities (M = 2.87, SD = 1.48). Students had comparatively less difficulty engaging in listening activities (M = 4.12, SD = 1.56) or completing reading assignments (M = 4.16, SD = 1.63). These findings corroborate the language-related challenges reported by students in the student questionnaire and are supported by qualitative data collected through interviews and focus groups (See Field Research Section). Collectively, these findings suggest that students may benefit from additional language support classes focused on academic or discipline-specific communicative competencies.

**Table 2:** Student difficulty in English ('Please assess the level of difficulty with which your students do the follow activities in English,' 1 = very difficult, 7 = very easy)

|  | Mean | Std. Deviation |
|---|---|---|
| Complete written tasks (e.g. essays, reports) | 3.71 | 1.63 |
| Engage in listening activities (e.g. follow the lecture) | 4.12 | 1.56 |
| Complete reading assignments (e.g. textbook, articles) | 4.16 | 1.63 |
| Participate in speaking activities (e.g. discussions, asking questions) | 2.87 | 1.48 |

## Learning Outcomes and Academic Success

### Main Findings:

- No correlation was found between students' GPA and their English proficiency test scores.
- Students in the top 5% of their class were more likely to agree that they were good at English, were working hard in their lessons, and were confident that they could complete assignments and tasks.

Students were asked to indicate on a sliding scale from 0 to 100 (strongly disagree to strongly agree) how successful their content and language learning was in EMI courses. The students reported that their learning of

content through EMI courses (M = 75.44, SD = 24.71) was more successful than the improvement in their English language skills (M = 67.97, SD = 31.37). These results question the effectiveness of EMI for language learning, although they suggest that EMI may not impede content knowledge acquisition.

However, students were also more likely to report doing well and receiving good marks in their English courses compared to their university subjects (Table 3), which may suggest that students find academic content more difficult to learning than English. In other words, this might mean that students encounter more challenges related to content than language in their EMI courses.

**Table 3:** Students' reported success in English and university subjects

| English learning | M | SD | Content learning | M | SD |
|---|---|---|---|---|---|
| I have always done well in English. | 5.15 | 1.76 | I have always done well in my university subjects. | 4.91 | 1.41 |
| I usually get good marks in English. | 5.57 | 1.56 | I usually get good marks in my university subjects. | 5.08 | 1.41 |
| Compared to other students I am good at English. | 5.34 | 1.67 | Compared to other students I am good at my university subjects. | 4.92 | 1.45 |
| Studying English comes easy to me. | 5.42 | 1.67 | Studying my university subjects comes easy to me. | 4.57 | 1.59 |

A Pearson correlation was used to investigate whether there was any significant relationship between students' English language exam scores and their GPA. The results indicated no significant correlation between students' GPA and their TOEFL scores, IELTS scores, or School of Foreign Languages Placement exam scores. These findings suggest that students with higher levels of English language proficiency did not necessarily perform better in the EMI subject classes.

To investigate other factors that may influence success in EMI, Pearson's Chi-Squared tests were conducted to examine the relationship between students' class rank with respect to GPA and the following factors:

- Gender
- Educational background
- English skills
- Motivation
- Self-efficacy

No significant relationship was found between gender and students' class rank. Similarly, no relationship was found between students' educational background and their GPA rank. In other words, students who had studied through English in secondary school were not more likely to have a higher GPA than students who encountered EMI for the first time at university.

With respect to English skills, students in the top 5% of their class were more likely to **strongly agree** that they were good at English compared to other students. However, no differences according to class rank were found in students' responses to the following statements: 'I have always done well in English', 'I usually get good marks in English' or 'Studying English comes easy to me.'

With respect to motivation, students in the top 5% of their class were more likely than students with lower class ranks to **strongly agree** that they were working hard in their lessons, prepared to put a lot of effort into their lessons, and spending lots of time studying for their lessons. Students in the top 5% and the top 10% were more likely to **strongly agree** that they were doing their best to perform well in their lessons compared to students in the lower percentiles.

In terms of the self-efficacy measures, students in the top 5% of their class were also more likely to be **very confident** that they could complete the assignments and tasks required for their EMI lessons, compared to students with lower class rank. However, no relationship was found between student groups according to class rank in terms of confidence participating in class discussions, understanding the textbook, understanding the lecture, or asking questions to the instructor.

# Language use in EMI Classes

## Main Findings:

- Both teachers and students reported that course materials, slides, and exams were nearly always conducted in English.
- Lower levels of English use were reported for student discussions.
- Students also reported lower levels of English use to ask and answer questions in EMI classes.

In both questionnaires, EMI teachers and students were asked to indicate on a sliding scale from 0 to 100 the proportion of English used in their classes for various activities (Figure 3). The mean scores of the teachers' responses indicated that course materials (M = 92.67, SD = 20.05), PowerPoint slides or other visuals (M = 94.57, SD = 17.68), and exams and assessments (M = 95.49, SD = 15.73) were nearly always in English, while student discussions (M = 54.08, SD = 30.26) were only conducted in English about half the time.

The students reported similar patterns of English language use: According to student responses, course materials (M = 90.57, SD = 19.05), PowerPoint slides and other visuals (M = 91.76, SD = 17.40), and exams and assessments (M = 93.09, SD = 16.43) were nearly always in English, with English used about half the time to discuss classwork with classmates (M = 41.50, SD = 32.78). However, compared to teachers, students reported lower levels of English use to ask (M = 51.94, SD = 29.43) and answer (M = 57.14, SD = 28.13) the teacher's questions and to take part in whole-class discussions (M = 52.58, SD = 29.65).

**Figure 3.** Proportion of language use reported by EMI teachers and students (range: 0-100)
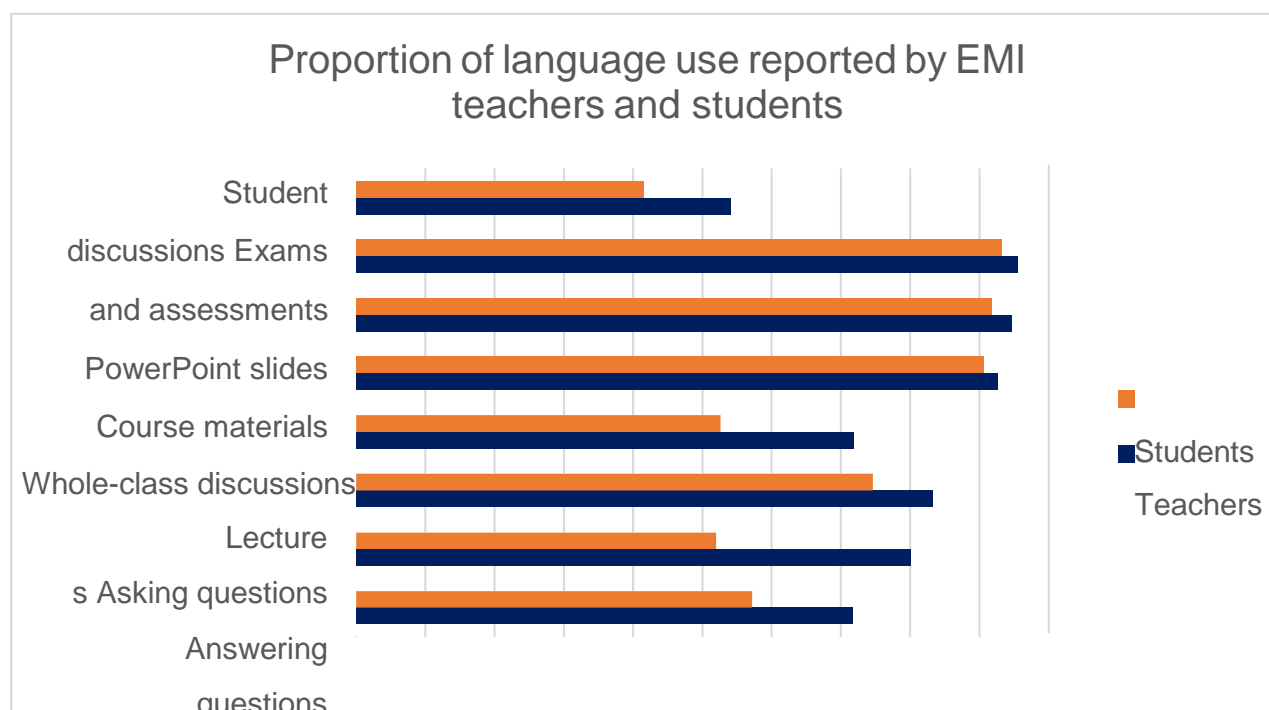


These results suggest that it was relatively common for students to participate in English, a finding which is in line with the language challenges reported by teachers and students (See Language-related Challenges Section above). These results with respect to language use were also confirmed by the qualitative data set (See Field Research Section), including the classroom observations in which teachers used English slides and materials but occasionally switched to Turkish during class discussions lectures, and in which students commonly asked and answered questions in Turkish.

# Field Research Findings

Four themes emerged from the analysis of interview and focus group data:

1.    Language-related challenges

2.    Content-related challenges

3.    Teaching practices

4.    Language use in EMI classes

# Language-related Challenges

## Main Findings:

- In focus groups, students reported that they had difficulty speaking in English and limited opportunities to practice English outside of class.
- Overall, the teachers expressed confidence in their own English abilities but noted challenges resulting from their students' English proficiency.
- Both teachers and students highlighted issues related to English language teaching at the secondary school level.

Language-related challenges were a major theme in the student focus groups. Students highlighted issues related to their **English language skills**, specifically speaking. The students noted that, while they often did not have trouble reading or writing in English, they struggled to speak in English, which negatively affected their ability to participate in EMI lectures (FG1; FG5; FG6). Across the six focus groups, students noted that they had limited opportunities to **practice using English** outside of class, which made it difficult to keep up their English skills after the EPP.

In terms of language acquisition through EMI, students in three focus groups (FG3, FG5, FG6) stated that they were **not learning English in EMI classes.** Students in one focus group stated that their English was not improving through EMI because *'there is no speaking [in my EMI classes].… I finished the prep program in 2019, and I haven't spoken English since then'* (Student 1, FG3). In FG5, the students stated that the EPP primarily emphasized reading and writing, which is why they faced few challenges related to these skills; however, they noted that it was difficult to continue developing their English skills through EMI classes because they received limited language support after the EPP. Students in four focus groups noted that their **motivation to improve their English** affected their language development, because they did not spend much time studying English for their EMI courses. One student stated that he had trouble speaking English in class but added, *'I don't think I worked very hard when it comes to English. Maybe if I studied, it would have been different.… I have no problem understanding, but I lock up entirely when speaking because I don't know what to say'* (Student 4, FG1).

In interviews, the teachers expressed confidence in their own English abilities as well as the English proficiency of teaching staff in their faculty. None of the 11 teachers identified their own English proficiency as a challenge to teaching. This supports the findings from the EMI teacher questionnaire (See Survey Research Section) in which teachers strongly agreed that they possessed the requisite language skills to teach in English. Instead of highlighting issues related to their own language proficiency, the teachers emphasized language-related challenges faced by their students. All of the teachers highlighted issues with their **students' language skills** in terms of speaking (n=10), reading (n=1), writing (n=3), and listening (n=3). As with the questionnaire results, the teachers expressed the greatest concern with respect to their students' speaking skills. One teacher stated: *'They are afraid to speak up and ask questions in English. In class, they really do not want to ask any questions in English at all. That's a major problem'* (Teacher 6).

Four teachers also noted that many of their students lacked **motivation to improve their English** skills. One teacher explained that he used to offer a lunchtime English club but stopped the supplemental lessons due to lack of student participation (Teacher 9). In terms of **language challenges across year of study,** six teachers stated additional support was needed to help students transition to EMI content classes. One teacher suggested that, in the first year after the EPP, *'the lectures should be taught in smaller, if possible, in smaller classrooms, and the terminology of the first year's lectures--economics, mathematics, and humanities--should be given'* in concurrent English support classes (Teacher 8).

Students in some focus groups (FG2, FG3, FG4) stated that the language-related challenges they experienced were the results of their **English learning background** in secondary school, with one student noting that he 'started learning English from zero' at university (Student 2, FG3). As a result, although they praised the university's EPP, the students stated that one year was insufficient to prepare them for academic study in English (FG3). Similarly, the teachers interviewed for this study were generally positive about the university's EPP, stating *'there is a very good theoretical education in prep school'* (Teacher 8). However, several teachers (n=3) noted that students enter university with low levels of English proficiency due to shortcomings in their secondary school English education. One teacher described this as a *'fundamental problem in Turkey'* (Teacher 9) that cannot be solved with one year of English preparatory education. Commenting on her students' English education, one teacher stated that '*there is really a spectrum. Some of them are really good; some of them cannot follow anything, or they claim they cannot follow anything*' (Teacher 6).

# Content-related Challenges

## Main Findings:

- Students identified few content-related challenges in focus groups, although they reported that online classes presented obstacles to learning.

- Teachers noted subject-specific challenges to teaching, and some teachers suggested that EMI slowed down the pace of content instruction.

- Both teachers and students identified students' motivation and study habits as factors affecting success in EMI classes.

Across focus groups, the students did not generally perceive EMI as an obstacle to content learning. While language-related challenges were a major theme in the student focus groups, the students mentioned few content-related challenges in their EMI programs. The primary challenge identified by students with respect to content learning was the switch to **online classes**, which made participation more difficult (FG5) and negatively affected students' motivation (FG4). These findings were confirmed in the classroom observations, in which student participation was generally low. Only a small number of students actively contributed to online discussions, and the teachers had to call on students by name to draw out their participation.

One student explained that the difficulty of **the academic subject** affected her content learning, regardless of the language of instruction: *'The terms are hard to understand in English and also in Turkish. It is not the language; it is the topic'* (Student 1, FG6). In other focus groups (FG1, FG2, FG3), the students stated that studying in Turkish would be easier but that studying in English was more beneficial for their future careers. One student explained*: 'Yes, [Turkish would be easier], but it doesn't help us in our department. In the future, when we graduate, we cannot work at an international firm if we do not know a foreign language'* (Student 2, FG1). The students also stated that their **motivation** to study the subject (FG1, FG3, FG6) and their **study habits,** such as memorizing for exams (FG5, FG6), affected their content knowledge acquisition.

Compared to students in focus groups, the EMI teachers emphasized content-related challenges more than English-language related challenges. Some teachers (n=4) stated that the nature of **the academic subject** caused challenges because it was difficult or highly technical, and this created problems for students regardless of language. Other teachers (n=2) argued that EMI caused more challenges for certain academic disciplines—such as the social sciences—because language was important for meaning making: '*Your English might be*

*limited but you can do chemistry, and math, et cetera…. So, we have to separate the social sciences. [In business,] you have to know the different tones of red in order to be able to communicate, and negotiate, and convince people'* (Teacher 9). Some teachers (n=4) discussed **reduced content teaching** as a challenge because lecturing in English slowed down the pace of instruction and limited the number of examples that could be covered in a single class session.

Other content-related challenges identified by teachers included low **student motivation** to study the subject (n=4), **heterogenous student backgrounds** in terms academic ability (n=8), and **students' study habits** (n=7). These themes are similar to the language-related challenges that teachers identified (See Language-related challenges above), and they suggest that students' individual differences with respect to academic ability may influence their content learning in EMI programs.

With respect to success in EMI, students in three focus groups (FG1, FG2; FG4) stated that it was important to define what it meant to be a successful EMI student. They stated that there was a **mismatch between academic content learning and the acquisition of skills needed for their careers**. Rather than measure success in terms of GPA, the students stated that soft skills, including communication skills in English, were necessary for a successful career, and they argued that the development of these skills often occurred independently from the marks they received in their academic courses.

# Teaching Practices

## Main Findings:

- Students reported that their teachers' attitudes were important in terms of building rapport in EMI classes.

- Some teachers stated that they could teach academic content more effectively in English than in Turkish. Nonetheless, teachers identified ways in which they adapted their teaching practices for EMI.

In addition to the factors mentioned above, students also stated that their lecturer's teaching styles affected their content learning. Across focus groups, the students emphasized the importance of their **teachers' attitudes** in terms of building rapport and creating a welcoming environment in class that encouraged class participation. In some focus groups, students stated they learned best when their teachers **modified their language input** (FG3, FG5), making it easier to follow the lecture, and were transparent about **assessment practices** (FG2, FG5).

In interviews, the teachers' varied in their responses on how EMI effected content teaching: some teachers (n=8) stated that they could convey content knowledge more effectively in English than Turkish, either because the subject material was more developed in English *('You should understand how certain ideas are presented in English, and well, all finance is global,'* Teacher 6) or because they had studied the subject exclusively in English and therefore lacked knowledge of Turkish technical terminology. One teacher stated: *'in the academic arena, I read and write much better, I can express myself much better in English anyway. My accent might not be perfect, but my vocabulary in English is much better than my Turkish'* (Teacher 1). Several of the teachers (n=5) also expressed confidence in their English skills because they had attended English-medium schools from a young age. As such, many of the teachers interviewed stated that teaching in English positively affected their ability to teach their academic subjects.

Nonetheless, the teachers described ways in which they adapted their teaching practices for EMI, including changing their **assessment practices** (n=7), encouraging **classroom interaction** (n=5), selecting only English-language **resources and materials** (n=7), **modifying their language input** (n=2), and **using cases and examples** to teach (n=2). Two teachers also emphasized the importance of building rapport with students. One teacher explained: *'When [the students] are more comfortable, then they learn better. At the beginning of the semester, that's why I try to be funny'* (Teacher 4).

# Language Use in EMI Classes

## Main Findings:

- Both teachers and students stated that Turkish was used to summarize or clarify key concepts in class.
- Students reported that exams and assessments were almost always conducted in English.
- A common reason for Turkish use reported by both students and teachers was that students asked for Turkish explanations in class.
- Both teachers and students stated that the presence of international students resulted in more English-only instruction.

In focus groups, the students described classroom language use as depending on **contextual factors,** such as the academic subject and teacher preferences. They also noted that the presence of **international students** resulted in more English-only instruction: *'When there is a foreign student, the teachers speak more English but generally Turkish and English are mixed'* (Student 1, FG1). The students in this focus group agreed that they preferred 'mixed' language instruction because they benefitted from exposure to English while Turkish helped to clarify complex ideas. This was a common theme across focus groups, in which students described the ways in which **Turkish was used to supplement English instruction** during lectures and discussions. However, they noted that English was almost always used for **exams and assessments,** a finding which corroborates the results of the questionnaire (See Language use in EMI Section). One student explained how these language practices affected his study habits: *'The exams are in English, the books are in English, and the sample questions are in English. So even if the teacher explains something in Turkish, I prefer to study those terms in English in order to prepare for the exam'* (Student 2, FG4). However, another student noted that mixed language use could cause trouble for students with lower levels of English proficiency: *'The exams are in English, but we speak Turkish in the class. This might be the biggest problem sometimes. Maybe not for us but for the students who understand English less than we do. This might be the biggest problem for them'* (Student 1, FG6). In line with the language-related challenges reported across focus groups, one student stated: *'I don't think most students have a problem writing in English. Generally, we can write in English; we just need practice speaking. Because we do not have practice speaking, there is a disconnect conducting the classes in English. Otherwise, we can easily write in English for our exams and such'* (Student 3, FG4).

In terms of the **reasons for English use**, students in some focus groups (FG3, FG4, FG5) stated that they decided to enrol in this university because the language of instruction was English: *'If it were Turkish, I would not have chosen this department'* (Student 1, FG5). However, students in five of the six focus groups (FG1, FG2, FG3, FG5, FG6) stated that the students were the primary **reason for Turkish use** in class, either because the students' proficiency was low or because they preferred Turkish explanations. One student explained: *'Our teachers' English is very good, but when the majority of the class cannot understand English, they have to explain in Turkish'* (Student 4, FG5). Another student commented: *'Sometimes the teachers ask us at the beginning of the year, do you want me to teach in English, Turkish, or both? In this situation, most students want Turkish, so the teacher lectures in Turkish'* (Student 3, FG1). In another focus group (FG6), students stated that they felt pressure from their classmates not to speak English or ask the teacher to speak English because Turkish was 'easier' for the students to understand.

In interviews, teachers described similar patterns of language use: 10 of the 11 teachers stated that they used Turkish in their EMI lectures to some degree, and the eleventh teacher stated that, while she never used Turkish in class, her students occasionally asked questions in Turkish. These findings suggest that a range of flexible language practices are used in EMI classes, a finding that supports the questionnaire results (See Survey Research Section) and is in line with the literature (Kuteeva, 2020; Sahan, 2020).

The most common **reason for Turkish use** provided by the teachers (n=7) was that students asked for Turkish explanations. One teacher stated, *'Even in graduate classes, I'm experiencing some pressure that, 'please teacher, tell us this in Turkish, we couldn't get it''* (Teacher 10). Other teachers added that Turkish helped clarify explanations and draw students' attention in class. For these reasons, many teachers (n=9) preferred a 'hybrid model' (Teacher 10) of language use, by which **Turkish was used to supplement English instruction.** These teachers stated that the majority of their classes were conducted in English, but that they occasionally used Turkish to summarize or clarify key concepts.

Among the **reasons for English use**, the teachers (n=4) stated that it was important for students to develop their English language skills, which they emphasized were important for the students' future careers. One teacher explained: *'They may learn finance better, but would it be beneficial for them? I think their being exposed to English as much as they can be, is a great asset'* (Teacher 6). Another teacher stated that she had an obligation to teach in English because it was the university's policy: *'This is an ethical problem. [Our] university is a 100 percent English teaching university. Our teaching language is English, and we are responsible to the parents, to the students'* (Teacher 3). Finally, the teachers (n=9) stated that the presence of **international students** decreased the amount of Turkish used in class. One teacher described how her Turkish students refrained from speaking Turkish when an international student was present: *'When there is a foreigner in the class, students, they don't speak Turkish anymore. With their limited practice, they try to speak in English…. Even in the lessons, they don't speak Turkish because they want to integrate with [the international students]'* (Teacher 11). Because the presence of international students resulted in more English use, another teacher stated: *'Generally I hope, every semester I hope, I get foreign students. I do not care from where. Even if I just have one foreign student in my class, I know the course is going to be, is going to have to be 99 percent, 99.9 percent in English'* (Teacher 1).

The language practices reported by teachers and students were confirmed by the classroom observations. In each of the classroom observations analysed for this study, English was the primary language of instruction used for lectures, and the teachers presented their slides and course materials entirely in English. Turkish was occasionally used to support English explanations or encourage class discussions. For example, Teacher 3 encouraged participation by asking students to translate her questions from English to Turkish when they were reluctant to respond. While Teacher 3's lecture was in English, some students asked and answered questions in Turkish, which the teacher responded to in English. In a lecture on economic globalization, Teacher 5 provided a Turkish explanation of import substitution industrialization, a complex concept central to the lecture. The teachers also used Turkish to confirm that their students understood English explanations, as in the example below from a lecture on smart technologies:

Teacher 1: They try to reproduce these parameters in their own company so that they can become excellent like the leader in their sector. *Tamammı?* [Okay?] That is what best practices means. *Anlatabildim mi arkadaşlar? Önemli biraz.* [Was I able to explain that friends? It is a little bit important]

Student: Yes.

Teacher 1: Is everybody okay with that *arkadaşlar* [friends]?

Teacher 1's question in Turkish (*Anlatabildim mi arkadaşlar?)* is notable because his explanation of 'best practices' was conducted entirely in English. A similar practice was observed in Teacher 5's class: after explaining a concept in English, the teacher asked in Turkish whether the students had any questions before moving on to a new topic. These examples demonstrate how English served as the language of teaching and learning but Turkish was drawn upon to support English explanations.

# Summary of Findings

This study examined the effects of EMI on students' educational outcomes and teachers' ability to effectively convey content. Overall, this study confirms and extends the findings of previous research in the Turkish context which has found that EMI students experience difficulty speaking in English (Kamaşak et al., 2021; Kırkgöz, 2009; Sert, 2008). Data from both strands of this study revealed that students experienced the greatest difficulty speaking in class, although they had relatively less trouble following their lectures or reading course materials in English. In terms of learning outcomes, these findings suggest that students at the case university are able to follow their EMI courses, although they may struggle to participate in class discussions in English.

## Educational Outcomes

This study found no correlation between gender, educational background, or English language test scores and success in EMI courses, as measured according to students' GPA and class rank. In other words, students who had studied academic subjects in English in secondary school were not more likely to succeed in university EMI programs than students who encountered EMI for the first time at the tertiary level. This result differs from the

findings of Aizawa and Rose (2020) in Japan, in which they found high school experiences of English medium instruction correlated with later ease of study at an EMI university. In our study, we found students with higher levels of English proficiency, as measured by their language test scores, were not found to have higher GPAs or class ranks than students with lower levels of English proficiency. These findings differ from those of studies conducted in the Japanese context (Rose et al., 2019; Thompson et al., 2020) which have found that language proficiency is a predictor of success in EMI programs, but they suggest that English proficiency alone may not be an indicator of success in EMI programs. The findings do concur with those by Curle et al (2020), which also found a lack of statistical significance on general English proficiency and EMI content course performance at another Turkish university.

Although no correlation was found between GPA and English language test scores, students in the top 5% of their class were more likely to agree that their English was better than their peers. They also reported higher levels of motivation and self-efficacy than students with lower class ranks. These findings suggest that factors such as motivation and confidence in one's ability to complete assignments in English might influence success in EMI programs, and they add to Thompson et al.'s (2019) findings that self-efficacy was a predictor of success in EMI programs.

While this study measured success in EMI according to students' GPA and class rank, in the focus groups, students questioned whether GPA or exams scores were the best indicators of success in EMI programs. Instead, they emphasized the importance of soft skills that would be necessary in their future careers. These skills included the ability to communicate effectively in English, and they implied that students in the social sciences faculty of the case university may be more oriented toward professional than academic goals. Similarly, students stated that EMI was a motivating factor in select their courses at the case university because they perceived English as necessary for their future careers.

Despite these motivations, the results of this study suggested that students' language acquisition through EMI may be limited. In questionnaire responses, students on EMI programs rated the improvement of their English language skills lower than their academic content learning. Students in focus groups reported that their language skills were not improving through EMI, in part due to a lack of opportunity to practice their productive English skills in EMI courses. These findings suggest that additional language support may be needed after the EPP to support students' ongoing language development in EMI programs.

## Content Teaching

Overall, the EMI lecturers at the case university were found to have high levels of English proficiency and expressed confidence teaching in English. Many of the lecturers interviewed stated that they could teach their academic subjects better in English than in Turkish, suggesting that EMI might improve their ability to convey content. These findings contradict some previous reports in other contexts that have highlighted a lack of proficient lecturers as an obstacle to educational quality (e.g. Dearden, 2014). However, the majority of teachers in the field research proportion of the study had received some or all of their education through English, perhaps as the result of intentional hiring practices of our case university. Different results might be found in universities where recruited teachers have less experience learning through English, which might be more problematic in other universities that are less internationally oriented. Although they reported few language-related challenges with their own English proficiency, the EMI lecturers in interviews indicated that their students often struggled to communicate in English. Some teachers also noted that EMI resulted in reduced content teaching because lecturing in English slowed down the rate of instruction.

With respect to language use, this study found that EMI classes were characterized by flexible language practices involving both Turkish and English. This finding confirms those of other studies on EMI classroom language use in Turkey (Karakaş, 2019; Sahan, 2020) and globally (Jiang, Zhang, & May, 2019; Kuteeva, 2020). Notably, this study found that English was almost always used for course materials, lecture slides, and exams, while Turkish was sometimes used for class discussions—a finding that has been reported in other EMI contexts such as China and Japan (Galloway, Kriukow & Numajiri, 2017). These patterns of language use were reported across academic disciplines in the questionnaire responses and observed in the classroom observations from the social sciences faculty. Mixed language use appears to have encouraged student participation and advanced the content learning of local students. Nonetheless, in field research, teachers and students reported that their classes were more likely to be English-only when international students were present. Similar to research in other contexts (e.g., Kuteeva, 2020, in Sweden), these findings suggest that language use in EMI classrooms is determined by the contextual needs of teachers and students.

# Conclusions and Recommendations

## Main Recommendations:

- To offer ongoing, discipline-specific language courses aimed at providing students with the opportunity to practice their communicative English skills.
- To provide support structures for first-year students to facilitate the transition to EMI departmental classes.
- To encourage EMI teaching pedagogies that support student participation in English.
- To carry out future research into the effects of online education on EMI learning outcomes.

Based on the findings of this study, we have four primary recommendations. First, language support courses should be revised to meet the needs of EMI students in this specific context. The findings from multiple data sources suggest that students struggle to participate in speaking activities in class, such as joining class discussions or asking questions to the lecturer. These challenges could be addressed through targeted language support courses aimed at providing students with more opportunities to practice speaking English outside of their EMI classes. Additional language support courses would also address the issue of modest to no language development throughout EMI programs. Although language learning may not be an explicit aim of EMI, it is often cited as an implicit benefit of and motivation for EMI study (Galloway, Kriukow, & Numajiri, 2017; Jiang, et al., 2019; Kırkgöz, 2014), claims which are supported by the results of this study. This recommendation may require a large policy shift in the model of EMI provision in Turkey to move from a 'preparatory' model of EMI, where support is provided prior to undertaking EMI to a 'concurrent support model', where support is provided throughout the duration of the program (Macaro, 2018). There may be benefits to creating hybrid models of language support both prior to and while undertaking EMI.

A second recommendation concerns the transition from learning English as a subject to using English as a language for academic study. In interviews, teachers identified the transition to EMI courses as a challenge for first-year students. In addition to the language support courses recommended above, the structure of students' first year courses could be redesigned to provide support for both content and language learning. In line with suggestions proposed by teachers in this study, first-year content courses could be restructured to include smaller class sizes, which would encourage more student participation in English, and offered in collaboration with language instructors to provide discipline-specific language support. The approach could embody the characteristics of 'collaborative EMI', defined as situations where 'the content teacher and the English teacher collaborate in teaching content classes' (Richards & Pun, 2021, p. 7). This could lay the foundation for more active student participation in class and support the development of students' academic language throughout their four years of study and would answer calls for better integration of language teachers within EMI programs (see Galloway & Rose, 2021).

A third recommendation concerns EMI teaching pedagogy. To overcome language-related challenges—particularly with respect to speaking English—both teachers and students reported using Turkish in class discussions and to clarify explanations in English, often at the students' request. Although these flexible language practices may enhance student participation in EMI lectures composed primarily of domestic students, they raise questions about the effectiveness of such strategies in classes with international students. To address this need, professional development programs should encourage EMI teaching pedagogies that support student participation in English. Examples of such teaching strategies were found in this study, and they might form the basis for effective EMI pedagogy. This study also found that students reported less difficulty with prepared rather than spontaneous speech in English. Classroom activities that scaffolding students from prepared to spontaneous speech in English might address this challenge in EMI settings, although more research is needed to investigate the effects of such teaching strategies on learning outcomes. This recommendation is line with a recent report.

Fourth, EMI programs might explore ways in which to overcome students' non-language related difficulties. The interview data with teachers revealed that some of the problems students encountered were related to the academic content (i.e. the topics being taught), rather than specific issues related to language. In other research in Turkey, Curle et al. (2020) found that performance in Turkish-medium classes was a strong predictor of success in EMI courses, offering 'evidence of the positive effect of offering some basic, introductory content courses through the L1 alongside EMI courses' (p. 8). This might point to the benefit of providing some content

through the medium of Turkish in partial EMI programs, to help lay a foundational knowledge of key concepts in the Turkish language to aid learning in English. This type of approach follows a 'transitional EMI' model, prevalent in China and Korea, in which some courses are initially taught in the home language, and later taught in English (Richards & Pun, 2021).

To conclude on an optimistic note, our study has revealed a number of positive aspects of EMI provision at our case university, that has challenged research findings elsewhere. First, we have found that, contrary to findings in many other countries, recruitment of highly proficient EMI teachers was not an issue at our case university. Second, our survey results and educational measures found little evidence that students at our case university are disadvantaged in their educational outcomes (GPA) due to factors such as gender, high school background and general English language proficiency. Thus, despite some of the issues around performance raised in the interviews and fieldwork, it appears that the English preparatory program may be successful in creating an even playing field for students entering the university form heterogeneous backgrounds. Finally, the teachers in our sample appeared to be highly cognizant and open to new ways to approach EMI to support students and promote participation in their classes, indicating fruitful grounds for future professional development to improve practices.

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# APPENDIX

## Appendix A: EMI Teacher Questionnaire Participants Demographics

| | | Frequency | Percent |
|---|---|---|---|
| **Gender** | Male | 55 | 46.6 |
| | Female | 61 | 51.7 |
| **Nationality** | Turkish | 111 | 94.1 |
| | International | 7 | 5.9 |
| **Age** | 20-30 years old | 21 | 17.8 |
| | 31-40 years old | 32 | 27.1 |
| | 41-50 years old | 38 | 32.2 |
| | 51-60 years old | 14 | 11.9 |
| | 61 or over | 13 | 11.0 |
| **Faculty (academic discipline)** | Arts and Sciences | 27 | 22.9 |
| | Commerce | 23 | 19.5 |
| | Economics and Administrative Sciences | 19 | 16.1 |
| | Engineering | 13 | 11.0 |
| | Education | 9 | 7.6 |
| | Health Sciences | 9 | 7.6 |
| | Pharmacy | 9 | 7.6 |
| | Fine Arts | 4 | 3.4 |
| | Communication | 3 | 2.5 |
| | More than one faculty | 2 | 1.7 |
| **Level of English proficiency** | Very Advanced (e.g. CEFR C2, IELTS 7.5+, TOEFL 96+/590+) | 54 | 45.8 |
| | Advanced (e.g. CEFR C1, IELTS 6.5, TOEFL 79/550) | 45 | 38.1 |
| | Upper Intermediate (e.g. CEFR B2, IELTS 5.0, TOEFL 53/477) | 16 | 13.6 |
| | Lower Intermediate (e.g. CEFR B1, IELTS 3.5, TOEFL 40/433) | 3 | 2.5 |
| | Basic (e.g. CEFR A1/A2, IELTS 2.5, TOEFL 19/347) | 0 | 0 |
| **Students taught** | 1st year undergraduate | 52 | 44.1 |
| | 2nd year undergraduate | 65 | 55.1 |
| | 3rd year undergraduate | 77 | 65.3 |
| | 4th year undergraduate | 80 | 67.8 |
| | Graduate students (masters/PhD) | 74 | 62.7 |
| **Teaching experience** | Less than 1 year | 13 | 11.0 |
| | 1-4 years | 29 | 24.6 |
| | 5-9 years | 15 | 12.7 |
| | 10 years or more | 61 | 51.7 |
| **PhD degree** | From a university in Turkey | 55 | 46.6 |
| | From a university outside Turkey | 37 | 31.4 |
| | No PhD | 26 | 22.0 |

# Appendix B: EMI Student Questionnaire Participant Demographics

|  |  | Frequency | Percent |
|---|---|---|---|
| **Gender** | Male | 186 | 34.2 |
|  | Female | 347 | 63.8 |
|  | Prefer not to say | 11 | 2.0 |
| **First language** | Turkish | 508 | 93.4 |
|  | Other | 43 | 7.9 |
| **Faculty (academic discipline)** | Arts and Sciences | 115 | 21.1 |
|  | Commerce | 104 | 19.1 |
|  | Education | 82 | 15.1 |
|  | Engineering | 55 | 10.1 |
|  | Medical Sciences | 51 | 9.4 |
|  | Economics and Administrative Sciences | 50 | 9.2 |
|  | Health Sciences | 26 | 4.8 |
|  | Pharmacy | 25 | 4.6 |
|  | Communication | 9 | 1.7 |
|  | Fine Arts | 4 | 0.7 |
|  | Architecture | 1 | 0.2 |
|  | Other | 22 | 4.0 |
| **Year of study** | 1st year undergraduate | 172 | 31.6 |
|  | 2nd year undergraduate | 95 | 17.5 |
|  | 3rd year undergraduate | 110 | 20.2 |
|  | 4th year undergraduate | 130 | 23.9 |
|  | Graduate students (masters/PhD) | 13 | 2.4 |
|  | Other (e.g. 5th year undergraduate) | 24 | 4.4 |
| **EMI in secondary school** | Yes | 175 | 32.2 |
|  | No | 369 | 67.8 |
| **English language proficiency test** | School of Foreign Languages Placement Exam | 156 | 28.7 |
|  | TOEFL | 39 | 7.2 |
|  | IELTS | 57 | 10.5 |
|  | TOEIC | 2 | 0.4 |
|  | Other | 62 | 11.4 |
|  | None (I have not taken any of these tests.) | 267 | 49.1 |