

Lecturers' Translanguaging Practices in English-Taught Lectures in Turkey

Eda Genc

Ministry of National Education, Kocaeli, Turkey

Dogan Yuksel

The Open University, UK

Samantha Curle

University of Bath, Bath, UK

ABSTRACT

This article presents a qualitative study investigating lecturers' translanguaging practices in English medium instruction (EMI) courses in a Turkish higher education setting. Specifically, a comprehensive investigation of the functions of translanguaging used by lecturers was conducted following Lo's (2015) and Sahan and Rose's (2021) frameworks, which propose pedagogical and social and affective functions. Eighteen hours of EMI lectures from eight different classes were video recorded. The findings demonstrate that lecturers and students used translanguaging mainly for content transmission (a pedagogical function subcategory) by translating technical terminology, presenting new content, and asking and/or answering content-related questions. The lecturers also used translanguaging to encourage student participation and for social and affective functions, such as establishing rapport. These functions have also been observed in previous studies in various EMI settings (e.g., Sahan & Rose, 2021; Söderlundh, 2013; Tarnopolsky & Goodman, 2014), however, our analyses highlighted new context-specific differences. This study elaborates these innovative differences, as well as the pedagogical implications of these original findings.

INTRODUCTION

The internationalisation of higher education has led to the Englishisation of content programmes in different parts of the world (Curle et al., 2020a). This phenomenon, widely referred to as English medium instruction (EMI), is defined as "the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the first language (L1) of the majority of the population is not English" (Macaro, 2018, p. 19). Many reports and reviews in different parts of the world testify to the increase in the Anglicisation and internationalisation of universities (Macaro et al., 2017; Rose et al., 2020; Yuksel et al., 2022). EMI, by definition, implies the use of English only; however, the

theoretical perspective behind EMI has changed in recent years from the predominant use of English only to a more common utilisation of the first language (L1, see Macaro, 2022). Recent research has highlighted the fact that an English-only policy of higher education (HE) in EMI settings can have some drawbacks because the use of the L1 can: compensate for obstacles faced by students with low English language proficiency (Chang, 2021; Pun & Thomas, 2020), facilitate discussion for laboratory work (Pun & Tai, 2021), and support word search sequences (Duran et al., 2022). Moreover, using the L1 as a pedagogical scaffolding tool to ease academic and language-related challenges can be beneficial for students (Tsou, 2021). The use of the L1 in EMI settings has taken another form, called *translanguaging*, where it is regarded as “the act performed by bilinguals of accessing different linguistic features or various modes of what are described as autonomous languages, in order to maximise communicative potential” (García, 2009, p. 140).

Translanguaging practices have been reported in different parts of the world (Dalziel & Guarda, 2021; Kao, 2022; Sahan & Rose, 2021; Tai & Wei, 2021a) in various EMI settings, and is proposed as a pedagogical tool to support students in the challenges they face in their English-taught classes (Aizawa et al., 2020; Kamasak et al., 2021; Soruç et al., 2021). It is argued that low language proficiency levels of the students (Soruç et al., 2021) can be one of the reasons for these challenges, and translanguaging can support students in alleviating these challenges (Curle et al., 2020b; Tsou, 2021). The attitudes of students and teachers towards translanguaging have been investigated in recent studies (Galloway et al., 2017; Fang & Liu, 2020). The functions of translanguaging (Sahan & Rose, 2021) and how translanguaging can be utilised as a scaffolding tool (Liu, 2020; Paulsrud et al., 2021) have also been explored. Our study, based on classroom discourse data from Turkish EMI settings, builds on previous research on the functions of translanguaging in EMI settings and provides a comprehensive analysis of the translanguaging instances in a technical university.

REVIEW OF THE LITERATURE

EMI in Turkey

Turkey was one of the first countries to adopt English as the medium of instruction in higher education, even though it does not have a colonial past. Minifie (1998) reported that Robert College (Istanbul), which provides English-taught courses, is the oldest continuously operating American school founded outside the United States. The founding of the Middle East Technical University (Ankara) in 1956 marked the founding of the second EMI higher education institution in Turkey. Dearden et al.’s (2016) review indicated that 110 out of 178 higher education institutions in Turkey used English in some or all of their programmes to teach academic subjects (62%). Reports by West et al. (2015) and Yuksel et al. (2022) have also showed that the number of EMI programmes in Turkey has grown significantly in the last 20 years. However, this expansion has been not without difficulty. A recent British Council report on Turkish higher education (West et al., 2015) summarised the challenges in implementing EMI. Most challenges were found to stem from the structural problems in Turkish higher education institutions, including the low proficiency levels of the lecturers and students. These language-related challenges have recently been researched in Turkish higher

education English-taught programmes (Altay & Yuksel, 2022; Altay et al., 2022; Kamaşak et al., 2021). Other studies have also examined the general perceptions of EMI by Turkish students (Hasirci & Cosgun, 2018; Soruç & Griffith, 2018). These studies noted that even though students hold a positive attitude towards EMI, they face language-related challenges such as listening to and comprehending EMI lectures and writing English academic essays.

Classroom Discourse in EMI

Recent research in the field of EMI has specifically focused on classroom interaction to unravel the processes that support and/or hinder teaching and learning (e.g., Ege et al., 2022; Dafouz et al., 2018; Hu, 2019; Tong & Tang, 2017; Zhao & Dixon, 2017). Numerous research themes have attracted the attention of researchers, including: discipline-based reasoning in oral interactions (Dafouz et al., 2018), metadiscourse use and strategies (Doiz & Lasagabaster, 2022; Ege et al., 2022; Molino, 2018), and teachers' questioning patterns (Genc & Yuksel, 2021). Research on classroom discourse in the Turkish EMI context has revealed that teachers can enhance student participation in EMI classes by using extra resources, including teachers' expression and turn-taking (Duran & Sert, 2019). Recent research has also revealed that EMI lecturers prioritise content over language (Duran et al., 2022) and usually overlook language issues in their classes. Translanguaging has also been proposed as a scaffolding tool to ease the language-related problems of students (Tai & Wei, 2021a) as well as help lecturers focus more on academic content, and less on language-related/comprehension issues when teaching through EMI.

Translanguaging in EMI

Translanguaging has been proposed as a transformative pedagogy (Gort, 2015) and an important scaffolding strategy (Lin, 2016) to examine the languaging practices of teachers and students as they navigate between two languages and/or go beyond one language in the classroom (Baker, 2011; Wei, 2011). It originally emerged in Welsh revitalisation classrooms to explore the pedagogical practices of teachers and students while they were moving openly between different input and output languages (Williams, 1994). Current literature on translanguaging distinguishes between pedagogical translanguaging and spontaneous translanguaging (Cenoz, 2017; Cenoz et al., 2022; Fuster, 2022; Galante, 2020). The latter is also seen as an act of languaging or code-switching, which entails speakers using the languages in their repertoire to communicate effectively (Álvarez-Caccamo, 1990). Pedagogical translanguaging highlights explicit teaching strategies that are planned by the teacher to utilise "different languages for input and output" (Cenoz, 2017, p. 194), as well as other intentional strategies based on the use of the students' available resources from their entire linguistic repertoire (Galante, 2020). Spontaneous translanguaging, on the other hand, is regarded as an act of allowing students to use their available discursive resources without any planning or deliberation (Galante, 2020). In EMI settings, translanguaging has been examined mainly as a pedagogical strategy. It is seen as a process of knowledge construction that entails using various linguistic structures, systems and modalities to create meaning (Tai, 2021). Tai and Wei (2021b) claim that translanguaging is a powerful scaffolding tool that can be used to

create “co-learning instances” in English-taught courses, both by EMI teachers and learners. This study contributes to this line of argument and investigation.

Following the translanguaging framework as proposed by García (2009) in English-taught programmes, translanguaging has previously been examined as a pedagogical tool (Paulsrud et al., 2021; Tai, 2021) in English-taught courses in various parts of the world such as Japan, Hong Kong and Italy. As a pedagogical tool, translanguaging has been shown to provide a means through which students might mitigate some of the language-related challenges they may face in their EMI programmes of study. Recent studies in EMI settings have focused on how lecturers benefit from it in their classrooms while incorporating academic discourse into everyday discourse, connecting oral and other semiotic resources, and using students’ L1 to build a “translanguaging space” in their EMI classes (Yuan & Yang, 2020). Previous research has also examined the perceptions of teachers and students towards the use of translanguaging (Fang & Liu, 2020). Most teachers in Fang and Liu’s (2020) study acknowledged the significance of translanguaging and adopted it in their content teaching. Students mostly had neutral to positive attitudes towards their peers’ and teachers’ translanguaging practices. This study is rooted in this literature, adding further insight into translanguaging as a pedagogical tool as used in the unique setting of a technical university in Turkey, an under-researched EMI academic subject.

Functions of translanguaging

Previous research that has examined the translanguaging practices of EMI teachers and students identified two main functions of translanguaging (Sahan & Rose, 2021). These were: ‘pedagogical functions’ for content transmission and classroom mechanics, and ‘social affective functions’ for supporting students in class. Yuan and Tang (2020) proposed that translanguaging could give a voice to students to express their thoughts which may not be otherwise possible in English-only interactions. It also offers new linguistic affordances to students who already have a shared first language (Basturkmen & Shackleford, 2015). In this study, we utilise the framework that Sahan and Rose (2021) presented in their study. They elaborated the initial categorisation proposed by Lo (2015). In their study, Sahan and Rose (2021) noted that translanguaging was mainly used as a scaffolding tool by teachers for transmitting content by translating field-specific vocabulary, introducing new content, and asking questions related to the content. Table 1 provides an overview of the main functions of translanguaging.

Table 1. *Functions of translanguaging (developed from the frameworks of Sahan and Rose, 2021 and Lo, 2015)*

Main function	Subcategory	Function	Definition
<i>Pedagogical Function-</i>	<i>Content Transmission</i>	Introduce new content or concepts	Refer to upcoming/subsequent topics; frame or transition to a new part of a lesson.

		Check student comprehension	Assess student progress and comprehension of the lesson, often realised by a question.
		Explain challenging concepts	Restatement or repeat material/concepts that have already been presented.
		Ask and/or answer questions related to content.	Questions asked by teachers or students directly related to content; these statements have the aim of eliciting a response (responses less than 3 seconds are also coded in this category).
		Translate technical vocabulary	Provide the equivalent of a technical word or phrase in the L1 or L2.
		Relate the lesson content with everyday examples	Provide an example from 'daily life' to illustrate a concept; apply content to a real-world (non-mathematical) example.
	<i>Classroom Mechanics</i>	Manage discipline	Address issues of student behaviour in or related to the class.
		Manage classroom routines	Provide a directive; aim to elicit a non-verbal response.
		Encourage student participation	Encourage participation, responses, or involvement from students in class.
		Draw students' attention to the class content	Direct students' attention toward a specific (ongoing) aspect of the lesson.
		Provide 'off-content' information related to the course	Statements and/or questions that relate to aspects of the course other than content material, such as course announcements, reminders, and logistics.
<i>Social or Affective Functions</i>	Supporting students in class	Build a supportive atmosphere in class	Statements that aim to develop a (personal) relationship and/or create a friendly atmosphere; use of jokes or humour; refers to shared cultural values or norms.
		Emphasise the importance of the topic for career or future studies	Underline the importance of a particular topic, concept, or course for reasons related to the student's future studies or career.

This study adopts this analytical framework to explore the functions of EMI lecturers' translanguaging practices in a Turkish technical university.

METHODOLOGY

Context of the study

The study was carried out in a technical university with a student population of 8,000 in a major metropolitan city in Turkey. At the time of data collection, the technical university had 11 full and 4 partial EMI programmes out of the 19 programmes it offered. This study focused on courses in the full EMI programmes to ensure internal consistency (see Genc, 2020). In full EMI programmes, all lessons were supposed to be lectured in English based on the regulations posted on the website of university and course catalogues. Our analysis revealed that courses in full EMI programmes included instances of translanguaging in the classes, both by the lecturers and the students.

Participants

Eleven lecturers from the technical university were approached to participate in the study, and seven agreed to take part in the study. The initial lecturer pool had both female and male lecturers, but finally, only male lecturers opted in to participate in the study. The lecturers' demographic characteristics, including their gender, age and teaching experiences, were collected via a background questionnaire prior to the class observations (see Table 2 for details). Each of the classes observed had between 24 and 32 students. There were also around three-to-four international students in each class, mostly from countries with historical links to Turkey (e.g., Azerbaijan and Kyrgyzstan) or who had taken intensive Turkish language courses before attending the EMI courses. All participants (the lecturers and their students) were asked to consent to data collection and video recording prior to the observations. The study received ethical approval prior to data collection.

Table 2. *Demographic characteristics of the lecturers*

Lecturer	Gender	Age	Academic programme	Experience in teaching in years	Been abroad	Degree Abroad
T1	Male	N/A	Maths	11–15	Never	No
T2	Male	39	Maths	11–15	2 years	No
T3	Male	N/A	Maths	11–15	N/A	Yes
T4	Male	N/A	Molecular Biology and Genetics	16–20	7 years	Yes
T5	Male	50	Computer Engineering	16–20	8 years	Yes
T6	Male	49	Computer Engineering	16–20	11 years	Yes

T7	Male	37	Bioengineering Department	1–5	7 years	Yes
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Data Collection

This qualitative study used purposeful sampling in the data collection process (Rose & McKinley, 2020). We recognise that utilising a non-probability sampling strategy during the data collection process might hinder the generalisability of the results to other EMI settings (Dörnyei, 2007). The study employed observation as the primary data collection tool. Audio and video recording devices were utilised during the data collection process. In addition to recording the class, information about the participants was obtained via a background questionnaire. The names of the lessons, their durations (minutes/seconds) and their levels are provided in Table 3.

Table 3. *Features of the observed lessons*

Name of the Lesson	Lecturer	Duration	Level of the class (year)
Real Analysis	T1	109.43	Undergraduate (3)
Statistics	T2	74.46	Undergraduate (3)
Numeric	T3	142.43	Undergraduate (3)
Special Topics in Molecular Genetics	T4	104.36	Post-graduate (1)
Writing Rules and Research Ethics	T4	87.45	Post-graduate (1)
Introduction to Computer Science Laboratory	T5	102.46	Undergraduate (2)
Object-Oriented Programming (lesson 1)	T6	90.59	Undergraduate (2)
Object-Oriented Programming (lesson 2)	T6	103.2	Undergraduate (2)
Chemistry (lesson 1)	T7	159.49	Undergraduate (2)
Chemistry (lesson 2)	T7	162.47	Undergraduate (2)

Data Analysis

InqScribe was used for data transcription. The transcribed data for all sessions added up to 18hours, 59minutes, and 33seconds. The data was transcribed according to the transcription convention presented in the Appendix. After data indexing, data reduction, and second data indexing, deductive coding was used to identify the functions of translanguaging in the

current classroom discourse data. We used utterance as the unit of analysis in our study, following that as postulated by Sahan and Rose (2021).

In the current study, Lo (2015) and Sahan and Rose’s (2021) frameworks for the functions of translanguaging, which propose two main functions, (a) pedagogical functions and (b) social and affective functions, were used. Pedagogical functions were then grouped into two categories: content transmission and classroom mechanics. Each subcategory had different functions to better explain how translanguaging was utilised in class (see Table 1 above).

Interrater reliability

After the first author identified and coded the instances of translanguaging and their functions, the second author and an external reviewer coded the data to enhance the reliability of the coding and establish consistency. The external reviewer had an MA degree in the field of English Language Teaching and had experience in classroom discourse, translanguaging and EMI research. Ten per cent of the data were selected randomly, and both the second author and the external reviewer were first asked to identify the instances of translanguaging and identify subcategories and functions. A manual was used to explain the specific details of translanguaging based on the current data and frameworks proposed by Lo (2015) and Sahan and Rose (2021). The results of the interrater reliability are provided in Table 4. The first author prepared a manual for this process in which the patterns were described in categories, and two examples of each pattern were presented. The manual was given to the raters, who used it to provide ratings. The patterns in the manual were not used in the randomly selected data for the reviewers.

Table 4. *Interrater reliability results*

Patterns	First rater- Second author (%)	Second rater- External rater (%)
Identification of translanguaging instances	98	93
Coding of main categories	91	90
Coding of translanguaging functions	88	83

FINDINGS

This study focused on the functions of EMI lecturers’ translanguaging practices in their EMI courses. To provide a comprehensive analysis, we first identified the percentages of translanguaging utterances in each class (please see Table 5 for details). Our analysis revealed that, on average, 2.73% of the utterances in all sessions were coded as instances of translanguaging. We also observed that while two lecturers (T1 and T2) had the highest number of translanguaging utterances, some lecturers (T4 and T6) never used the common L1

of the majority of the students in some of their classes. We also observed that other lecturers (T3, T5 and T7) had quite low percentages of translanguageing use in their classes.

Table 5. *The distribution of translanguageing in each class*

Lecturers	Courses	Number of utterances per session	Number of Translanguageing	Ratio (%)
T2	Statistics	913	116	12.70
T1	Real Analysis	909	108	11.88
T3	Numeric	1,143	25	2.18
T7	Chemistry 1	1,416	29	2.04
T7	Chemistry 2	1,252	22	1.75
T4	Writing Rules and Research Ethics	840	7	.83
T5	Introduction to Computer Science	721	4	.55
T6	Object-Oriented Programming 2	1,705	-	-
T6	Object-Oriented Programming 1	1,559	-	-
T4	Special Topics in Molecular Genetics	913	-	-
	Total	11,371	311	2.73

We also analysed the percentages of the subcategories of translanguageing instances in our database. As can be seen in Figure 1, our data included 11.371 utterances. The content transmission function had the highest percentage (2.05%, n = 233), followed by the classroom routines function (.59%, n = 67) and social and affective functions (.10%, n = 11).

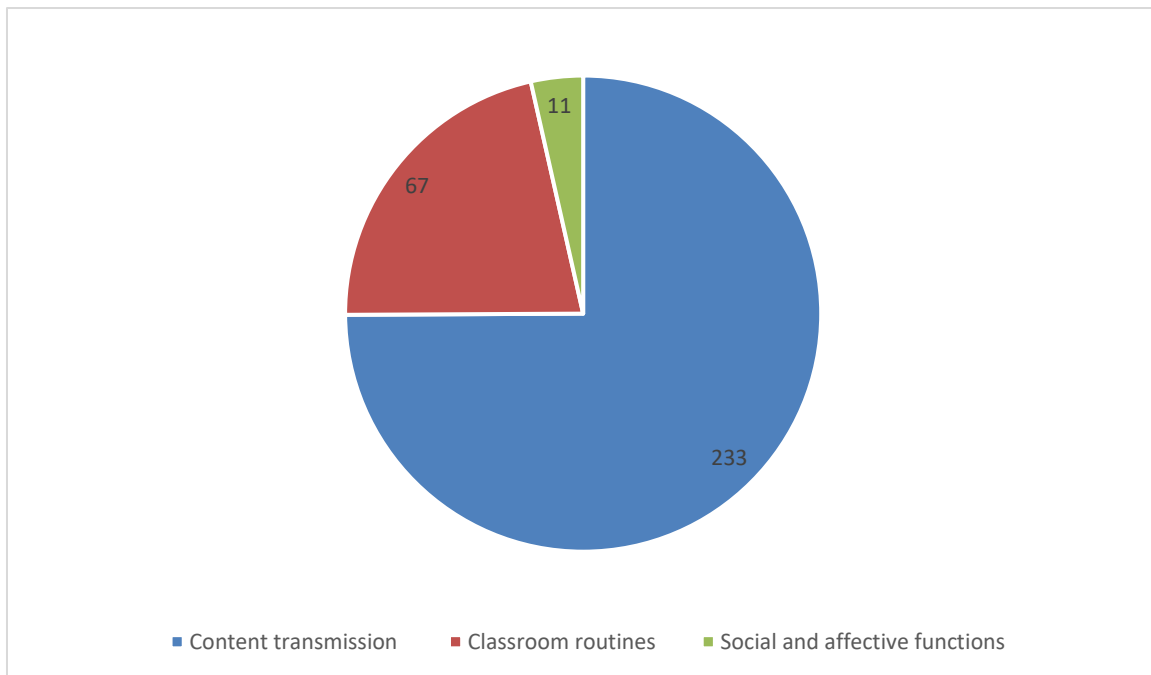


Figure 1. The distribution of three main categories of translanguaging.

We also explored the percentages of subfunctions in the database. Our analysis revealed that ‘asking and/or answering questions related to content’ had the highest ratio among all the functions of translanguaging (24.47%), followed by ‘presenting new content or concepts’ (18.79%) and ‘translating technical vocabulary’ (16.31%). All these functions fell under the subcategory of content transmission. ‘Relating the lesson content with everyday examples’ had the lowest percentage (1.45%) in the content transmission category. The function of ‘Emphasising the importance of the topic for career or future studies’ (a social and affective function) had the lowest ratio (1.06%).

Table 6. Percentages of each function in the classes observed

Main Function	Subcategory	Function	%
<i>Pedagogical Function-</i>	<i>Content Transmission</i>	Ask and/or answer questions related to content	24.47
		Present new content or concepts	18.79
		Translate technical vocabulary	16.31
		Check student comprehension	7.39
		Explain challenging concepts	4.11
		Relate the lesson content with everyday examples	1.45
			(74.52)
<i>Classroom Mechanics</i>		Encourage student participation	6.78
		Manage classroom routines	5.76
		Provide ‘off-content’ information related to the course	5.11

		Draw students' attention to the class content	3.95
		Manage discipline	2.92
			(21.65)
<i>Social or Affective Functions</i>	Supporting students in class	Build a supportive atmosphere in class	2.76
		Emphasise the importance of the topic for career or future studies	1.06
			(3.82)

Content Transmission

There are two hundred thirty-four utterances produced by the lecturers with the function of Content Transmission. As stated before, the most frequently used type of translanguaging function was asking and/or answering questions related to the content. An example of this function is provided in Excerpt 1. Labels S1, S2 and S3 for students and T1, T2, and T3 for lecturers were used in the extracts (see the Appendix).

Excerpt 1

A teacher translanguaging for content transmission in a question.

12	T1	We have a countable subset of A. Ne demekti countablein tanımı, sayılabilir kümenin tanımı? [<i>Eng. What is the definition of countable, the definition of countable set?</i>]
13	S3	We can find more one another from natural numbers? [
14	T1] Yes, exactly exactly. So there exist şöyle yazalım hatırlamış oluruz burda. [<i>Eng. Let's write it like that; we can remember it here.</i>] So there exists a one to one function map yes F from E to end or end to E.

In his Real Analysis class, the lecturer asks a question about the topic that was discussed a few minutes ago and is still on the agenda in turn 12. While he asks a question in Turkish, the common L1 of the majority, he prefers using technical terms [e.g., countable] in English. He also uses both English and Turkish at the same time. This translanguaging practice emerges to enhance teaching and learning processes. In other words, T1 wants students to internalise technical terms with their common usages, which is one of the so-called aims of EMI. The student chooses to answer in English in turn 13 instead of following the lecturer's choice of the L1, and then the lecturer provides the feedback in the L1, the language chosen by the student. The interaction in this excerpt includes a range of linguistic resources where the

interlocutors interact with each other. The implication we can draw from this excerpt is that the primary goal is meaning-making.

However, the students also adapt to the teachers' language preference of the L1, which is often observed as an encouragement tool for the student's participation, as exemplified in Excerpt 2.

Excerpt 2

A lecturer's translanguaging act for content transmission in questions

62	T1	There are also other metric spaces. Some trivial metric spaces that we will not using this course, but I am sure that you have seen them in topology from the [inaudible]. Indiscrete topology neydi ya da discrete topology neydi? [<i>Eng. What is indiscrete topology or discrete topology?</i>].
63	S5	Discrete topology (+++) P'den gelen tüm alt kümelerini içeren bir [<i>Eng. Discrete topology is (+++), which contains all its subsets from P</i>]. [
64	T1] Everything is ok. Indiscrete topology. (++) Aslında o da metricten gelen bir Topology [<i>Eng. Actually, it is also a metric from topology</i>]. Ok. [the teacher starts to clean the board while speaking]. For now, these examples are enough. We just need to know the basic nature of spatial structure on real numbers.

In Excerpt 2, the teacher asks a question in turn 62 in Turkish, and the student also responds in Turkish. T1 produces two sentences in English by pointing to the written formula on the board. As he feels the long silence and unresponsiveness in the classroom, he suddenly turns to the students. He speaks in Turkish with the aim of eliminating the language barrier that may have been responsible for the silence. The interlocutors proceed with the interaction in the shared language, which is the same L1 for them, reflecting that they focus on the content and prefer not to consider the language policy of the higher education institution.

Furthermore, there is implicit encouragement for the students who know the answer but do not know how to convey it in English. In turn 64, the teacher communicates in two different languages to provide a better understanding.

Translanguaging is also frequently used in examples to explain content. For instance, in excerpt 3 a math example is provided in the L1 to explain the content (i.e. Content Transmission). In our corpus, we observed forty-one math-based examples in the L1 to transfer content by translanguaging in the Statistics class. Translanguaging was used seven times in the Numeric class and only once in the Real Analysis class. The other classes had no math-based examples in Turkish, as their content was unrelated to maths.

Excerpt 3

Math-based examples of content transmission in Turkish

429	T3	What was its mathematical function? You know what we should draw to get a curve like this? How a function should we draw? Yeni gelen arkadaşlar için söylüyorum mesela ben size bir function veriyorum ve [inaudible] bu şekilde bu function nasıl bir function. Biraz matematiksel düşünebilirsiniz. Hı? [<i>Eng. I am telling the new friends, for example, I am giving you a function and [inaudible] like this, how a function is this? You can think a little bit mathematically.</i>]
430	S2	Sinus.
431	T3	Sinus x olabilir mi bu? Konuşuyoruz hep beraber. Kendi sinus x , o sinus x. [<i>Eng. Could this be sinus x? We are talking together. It is sinus x itself, and that one is sinus x.</i>]
432	S5	Yeah.
433	T3	No, the sinus has periods. So sinus had a period.

In Excerpt 3, the teacher asks the students a question in turn 429, but he does not get a response. To elaborate, he provides an example while explaining it in turn 429 for the new students, specifically by his falling and milder intonation. As the teacher focuses on the content and his main goal is to convey the meaning to the students, he switches to the shared L1. As he maintains the same goal in turn 431, he continues with spontaneous translanguaging. It can be concluded that the teacher succeeds in creating interaction and conveying what he means by the S5's reaction, 'yeah', in turn 432.

Classroom Routines

Classroom management was examined using six coding categories: managing disciplines, providing feedback, giving instructions, encouraging students to participate, drawing students' attention and providing off-content information. The teachers' most frequently used classroom management translanguaging practice is to provide feedback like praising or criticism.

Excerpt 4

Feedback by praising student's responses

76	T1	Let's recall the definition of interior point. I think they are seen as the notion of interior point analysis. Analiz 1'de büyük ihtimalle gördünüz değil mi? [<i>Eng. You probably learnt in Analysis I, right?</i>]
77	S1	İçine dahil oluyordu. Aralığını görsel olarak hatırlıyorum da [<i>Eng. It was included. I remember visually but</i>]
78	T1] Tamam güzel. Ok. Aralık dedin. İçine dahil olan dedin doğru terimleri kullandın yani aslında. Ok. Gerisini ben tamamlarım. Yani şu aslında şeyi söylemiş oluyoruz iç nokta, iç bölgeye ait nokta derken herhangi bir tane komşuluğunu aldığım yani onun özel bir tane komşuluğu kümenin içinde kalmak zorunda. [<i>Eng. Ok nice. Ok. You said interval. You said included,</i>]

actually you used the correct terms. Ok. I will complete the rest. In other words, we actually say that when we say the interior point, the point belonging to the interior part, we mean the one that I take any of its neighbours, that is, its particular neighbourhood have to stay in the set.] So let's say, we say E is an interior point of our subset E ok.

In Excerpt 4, the teacher's translanguaging is presented to provide feedback in the Real Analysis class. The teacher asks students to remember a definition in turn 76 in English. In the same turn, he switches to Turkish. A student responds with an incomplete definition in the shared L1 in turn 77. The teacher verbally praises the student's response with gestures of approval at the end of each sentence in the shared L1. The teacher's praise in the L1 and is understood by everybody, which indicates that the teacher prioritises the meaning. Additionally, the teacher continues to use the content transmission function of translanguaging by clarifying and explaining the previously given content to ensure negotiation of meaning after praising in turn 78.

Excerpt 5 contains a classroom interaction that occurred in the L1 at the very beginning of the second session of the course.

Excerpt 5

Providing 'off-content' information related to the course

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- | | | |
|----|----|--|
| 21 | T5 | Başlayalım. Terim olarak da daha sonra yapacağımız quizler için de quizler bu minvalde olacak. Tamam mı? Umarım bir fikir edinmişsinizdir. Nasıl olacak vs diye. Hani soru düzeyleri sorulan şeyler çok elementer düzeyde şeyler olacak. Tamam? Vize ve finaller olmayacak. [Eng. <i>Let's start. As a term, for the quizzes we will do later, they will be like this. Okay? I hope you got an idea. How it will be etc. The question levels, the asked things will be at elementary level. Okay? There will be no midterms and no finals.</i>] |
| 22 | S2 | Hocam peki quizin puanlaması nasıldı? [Eng. <i>Sir, how is the scoring of the quiz?</i>] |
| 23 | T5 | Toplamı yüzde beş etkileyecek iki soru da aynı puanda hani ona on puan veririm her ikisine de oranlayacağız tamam? Yani syllabusta yazıldığı gibi şeyde yüzde beş etkili olacak. Tamam mı? [Eng. <i>Two questions that will affect the total by five percent have the same score. I will score it with ten, we will rate them both okay? So, as written in the syllabus, it will be five percent effective. Okay?</i>] Ok. Any question? So we can start. Ok. In the last chapter we started with basic topology of real numbers. |
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The topic of the interaction is the quizzes, which is an off-topic content of the lesson. In other words, it was a follow-up activity from the previous assessment material, which had no

specific relationship with that day's topic. The teacher (turn 21) and the student (turn 22) agree on the choice of the language preference from their linguistic repertoire. The teacher's adherence to the institute's English-only policy makes itself apparent with the teacher's transition to English when the off-content issue is closed, and the lesson's topic is started.

Excerpt 6

A sample of translanguaging produced to encourage students

279	T1	P is, P is one over six again. Q is five over X. N is four. So X is changing, X is changing, and the question, in this question, X is [inaudible], so we must calculate in Binomial Distribution. What the probability of X is equal to 2. Ok. Let's try together. (++) Hadi yazdırın bana? [<i>Eng. Come on, help me write it</i>].
282	S3	Beş bölü altı. [<i>Eng. Five divided by six.</i>]
283	T1	Hıhı? [<i>Eng. 'continue' as he looks at the student and nods in approval.</i>]
284	S3	Karesi. [<i>Eng. Square.</i>]
285	T1	Yeah. This is again super for this. Easy hı [<i>Eng. right</i>]? Ok. Let's go further.

Excerpt 6 illustrates the use of the L1 to encourage students to participate in the resolution of a math-based problem. Since there is no response, the teacher restates his utterance in the L1 in an affectionate intonation after a two-second pause (line 279). The teacher's linguistic skill results in a student response in turn 282 in the same language used by the teacher, namely in Turkish.

In Excerpt 7, the teacher directs students' attention to a specific topic in the lesson with the help of translanguaging.

Excerpt 7

Directing students' attention toward a specific aspect of the lesson by translanguaging

441	T7	This is a real line, ok? Sinus must have periods. Ok? What could it be? X square? (++) Could it be X square? X square parabola? Minus X is two-inverted parabole. X cube? It actually goes to something, you know. Have you ever seen how to draw such a shape? As mathematicians, how do you reach heart-shaped caps spread on the net?
442	SS	Heee. [<i>Eng. Yes, we have remembered.</i>]
443	T7	Hatırladınız mı öyle bir şey? Ama biraz araştırırsanız iyi olur. Arkadaşlar bu tam olarak FX exponential minus X [inaudible] yaparsanız tam olarak bu shape'e ulaşırsınız arkadaşlar. Bunu artık bilin bence. Tamam mı önemli bir dağılım. Burdan ıı neydi nasıl polar koordinatlara gidiyorsunuz önemli şeyler bunlar tamam? [<i>Eng. Do you remember something like that? But you better do some research. If you do exactly FX exponential minus X [inaudible] you</i>]

will exactly reach this shape. I think, know this from now on. Alright, it is an important distribution. Those are important things how you are going to polar coordinates.] Şimdi [Eng. Now] this is the function this is the base function of normal distribution Ok? This is the base function. We already know that integral.

Excerpt 7 is an example of the teacher's directing students' attention towards a specific aspect of the lesson. The teacher asks a question in turn 441, and he gets no satisfying response from the students despite asking the same question repeatedly. Therefore, the teacher needs to emphasise the topic's importance and draw the student's attention to it in turn 443. He uses translanguaging as a tool for classroom management, and he chooses Turkish to emphasise the significance of the topic.

Social or Affective Functions

Translanguaging practices with the social or affective function of the teachers were observed only while they were building rapport. The teachers used translanguaging 12 times to create a friendly atmosphere.

Excerpt 8

Building rapport by translanguaging

-
- | | | |
|----|----|---|
| 25 | T2 | Şuraya bir quiz 2 yazalım geç gelenler panik olsun. Sonra soruyu silmiş olsun ve göstermeyelim. [Eng. <i>Let's write quiz 2 here and those coming late would panic. Then, someone delete the question and not show it.</i>] |
| 26 | S1 | Çok mantıklı hocam. [Eng. <i>Very wise sir.</i>] |
| 27 | T2 | İkinci quiz yaptığım için çok mantıklı. Ok başlayalım. Bir ara daha vereceğiz arkadaşlar. [Eng. <i>It is very sensible as I did the second quiz. Ok, let's start. We'll give a break more, guys.</i>] Ok, so let's start. (+++) now (+++), we will just recall some basic notions about topology, but in this course, we will not meet to study arbitrarily. |
-

In Excerpt 8, the teacher uses translanguaging in a joke he makes. The teacher and the students in the classroom are waiting for the other students to come to the course's third session. The teacher makes a joke at turn 25 in Turkish. It is obvious that the teacher follows the officially accepted education language of the institute at turn 27. In other words, the teacher attempts to establish a friendly atmosphere in the classroom by using Turkish, another language in the repertoire of the majority of the class. He suddenly transitions to English when the class starts.

DISCUSSION

This study explored the translanguaging practices of EMI lecturers at a technical university in Turkey. Our findings revealed that most of the lecturers we observed (five out of seven) used translanguaging. Some lecturers, however, followed a strict English-only policy in their classes and did not use their students' first language. This finding contradicts previous research (e.g., Lo, 2015), where all lecturers resorted to translanguaging practices, including 21 EMI lecturers in the Turkish higher education setting (Sahan & Rose, 2021).

In our study, similar to previous conceptualisations of translanguaging, we considered two major types of translanguaging, namely pedagogical and spontaneous translanguaging. Even though our framework and coding scheme did not specifically focus on the differences between these two types of translanguaging, we observed that the lecturers in our study mostly used spontaneous translanguaging practices. We did not observe any explicit and deliberate translanguaging planning either in the presentation slides of the lecturers or in their other course materials. By contrast, we saw that translanguaging practices mostly derived from emerging students' needs and challenges in understanding content and language and was used as a tool to communicate effectively.

As previously stated, in our study, we used a modified version of the framework of Sahan and Rose (2021), which was based on Lo's (2015) initial model. In Lo's (2015) study, translanguaging was mainly used for the function of content transmission (67%). Similarly, in Sahan and Rose (2021), content transmission was the major function of translanguaging. Our study supported these findings, showing that content transmission was again the major function of translanguaging (74.52%). Thus, our study provided further support for the idea that translanguaging can support students in their EMI courses who might experience language-related challenges (e.g., Altay & Yuksel, 2022; Kamasak et al., 2021; Soruç et al., 2021). This might take the form of a pedagogical translanguaging act where the lecturer purposefully tailors their content to include their students' whole linguistic repertoire or, as was the case in our study, by allowing the use of discursive resources available to students to deal with emerging language-related issues and challenges. Managing classroom routines was the second major function of translanguaging in the classes we observed. As the use of translanguaging was unplanned and emerged during discussions, all these acts were considered spontaneous translanguaging; a finding that also aligns with previous research (Lo, 2015; Sahan & Rose, 2021).

The least commonly used translanguaging function employed by lecturers in our study were the social and affective functions. These mainly aim to support students by building a supportive atmosphere in class and emphasise the importance of the academic subject being taught for students' future career or studies. Similar to our study, Lo (2015) and Sahan and Rose (2021) observed fewer instances of social and affective functions in EMI classes. Our findings contradict earlier research that argued that using the L1 in English-taught classes primarily fulfils social and affective functions, such as establishing rapport (e.g., Tarnopolsky & Goodman, 2014). Our overall findings support Sahan and Rose's (2021, p. 352) conclusion that teachers' use of translanguaging in English-taught classes is an essential component of

“content teaching rather than a practice reserved for classroom management or socio-affective purposes.”

CONCLUSION: limitations and pedagogical implications

Our findings highlighted context-specific differences in the utilisation of translanguaging, which may provide a road map for future research. In this study, we focused only on EMI technical classes. Future research might also examine discipline-specific differences in terms of how lecturers’ translanguaging practices function in other academic subject EMI classes. Another focus of future research might be the functions of translanguaging in *multilingual* EMI classes. Our findings revealed that some lecturers never used the students’ first language in their classes. Reasons for translanguaging, as well as reasons for *refraining* from using the L1 in EMI classes might also be further researched. In this study, the data was only collected from male lecturers as no female lecturers volunteered to take part in this study. Our findings might therefore be gender biased. Differences might exist between lecturers’ translanguaging practices based on gender, another line of potential future research. Finally, a methodological limitation of this study was the use of video-recordings. Utilising the screenshots of classroom interaction could have enriched our findings. Further research on translanguaging might take this methodological approach.

One pedagogical implication that can be drawn from this study is increasing EMI teachers’ awareness of translanguaging as a tool in their linguistic repertoire; teaching teachers strategies of how to move strategically between the English and L1 of their students. Some of the teachers in our study refrained from using the L1 of the students in their classes, presumably because they believed that English-only instruction could benefit their students more. Explaining the pedagogical impact of translanguaging to these teachers and demonstrating the differences between the dominant use of L1 and translanguaging can alleviate some of the concerns of these teachers. It should be borne in mind, however, that translanguaging can be a pedagogical tool that can be used when needed and overuse of the first language, or using it as a secondary medium of instruction, as Sahan and Rose (2021) state, may mitigate the intent to teach through English Medium Instruction.

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APPENDIX

Transcription Conventions

Symbol	Meaning
T1, T2, T3	Identified Teacher Turns
S1, S2, S3	Unidentified Student Turns
(+)	Pause (+: one second)
[Overlapping speech
]	
(())	Extra information from the researcher
[Tr.]	Utterances in Turkish