



Navigating Teachers' Translanguaging Practices and Purposes in Engineering Classrooms in Bangladesh

Abdulla-All-Mijan

M.Phil. Fellow, Institute of Bangladesh Studies (IBS), University of Rajshahi, Rajshahi-6205, Bangladesh and Assistant Professor, Department of Humanities, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh
ORCID: <https://orcid.org/0009-0005-1127-8248>

Saila Ahmed

Professor, Department of Humanities, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

Corresponding Author Email: mijan@hum.ruet.ac.bd

DOI: <https://doi.org/10.36892/ijlls.v8i5.2749>

APA Citation: Mijan, A. A., & Ahmed, S. (2026). Navigating Teachers' Translanguaging Practices and Purposes in Engineering Classrooms in Bangladesh. *International Journal of Language and Literary Studies*, 8(5).579-592. <https://doi.org/10.36892/ijlls.v8i5.2749>

Received:

27/07/2026

Revised:

02/08/2026

Accepted:

29/09/2026

Keywords:

Translanguaging Practices, English-Medium Instruction (EMI), Engineering Education, Multilingualism

Abstract

This paper explores engineering teachers' translanguaging practices and purposes in Bangladesh. It specifically focuses on six universities in Bangladesh that offer engineering courses, including three public universities and three private universities. Data were collected through questionnaire survey, semi-structured interview and classroom observation. For the questionnaire survey, 50 university teachers were purposively selected from six public and private universities representing different geographical regions, engineering disciplines, and academic ranks, while 12 university teachers were randomly selected for the semi-structured interviews. The data illustrated that teachers rely on Bangla (L1) in strategic ways. They use it to break down tough technical ideas, boost student understanding, spark engagement, and offer emotional support especially in casual or face-to-face settings. They suggested using Bangla as a tool for facilitating speaking and explaining concepts. However, they expressed concern that allowing Bangla will hold back students' development of English (L2) proficiency. This study argues that engineering universities in their programs may recognize and legitimize translanguaging as a way to support deeper understanding and facilitate teaching and learning.

1. Introduction

Translanguaging is the fluid and flexible relationship of using multiple languages in a communication act whereby multilingual speakers are able to utilize their rich linguistic range to construct meaning (Williams, 1985). Translanguaging does not consider languages as distinct systems; it considers them as resources which are subject to a strategic use by individuals based on purpose, comfort, and context. Simply, it refers to how multilingual people tend to alternate languages in order to comprehend, describe and share thoughts (Cohen et al., 2017). The idea has gained importance in recent years in the discussion about multilingual education, particularly in the contexts where students and teachers switch between a dominant academic language and the mother tongue (García, 2009).

Migration, international education, and the widespread use of English as the medium of instruction have increased linguistic variation in classrooms around the world. Consequently,

educators have to find their way in the world of multilingualism on a daily basis. García & Wei (2015) emphasized that translanguaging may act as an effective pedagogic tool promoting a better understanding, and enhancing student interaction. According to research, teachers employ translanguaging as a strategy of not only translating words but also linking concepts, making complex theories simpler, relating lessons with personal life experiences of students (García, 2009). When teaching technical courses such as engineering and science, teachers often use two or more languages to explain abstract ideas or theories (Velasco & García, 2014). However, translanguaging is a contested idea even though it has been gaining popularity in many teaching and learning contexts. Particularly, the use of multiple languages is often viewed through the prism of the traditional monolingual ideology that is associated with the use of the English-medium instruction. It is viewed as the manifestation of weakness or incompetence as well. Other educators are concerned that translanguaging can act as an obstacle to the development of the English language or deprive students of academic language. It is deemed unprofessional by other people in formal classrooms. This constant contradiction of multilingual facts with monolingual demands is a popular topic of the linguistics (García & Kleyn, 2016). But its practical consequences may not be the same in every case. However, this issue is especially important in South Asia, particularly in Bangladesh. In Bangladesh, English has become the dominant language of higher education and professional communication (Rafi & Morgan, 2023). Most teachers in engineering universities in Bangladesh work with textbooks, lecture slides, articles and examinations, all of which are conducted in English (L2). Nevertheless, teachers and learners tend to use Bangla when teaching and learning technical subjects which are hard to comprehend. This provides a natural space for translanguaging either deliberately or accidentally. In order to express formulas, provide examples, simplify definitions, or explain steps in solving problems, teachers switch to Bangla. They occasionally change to using English in formal terminologies or writing. Furthermore, most of these practices are not recognized in formal curriculum or institutional policies.

These classroom language practices cannot simply be viewed as discrete making choices to use language; they are also created by a wider sociopolitical and historical context. English-Medium Instruction (EMI) in the higher education sector of Bangladesh creates a colonial language hierarchy and attests to the ongoing internationalization processes (Alasmari et al., 2022). English has been more and more linked to academic prestige, employability, international competitiveness and access to international knowledge, which has made English a language of social and economic advantages, and a linguistic capital. Meanwhile, these expectations can also leave teachers feeling conflicted when they have to work with students of different language and educational backgrounds, especially Bangla medium schools. In this sense, translanguaging is a way of thinking that goes beyond a technique to support understanding in the classroom; it is a process of negotiation between the institutional demand that students and teachers be proficient in English and the linguistic contexts in which they live.

Based on the literature review, it has been found that English language teaching has become a matter of concern in schools, colleges, and universities in Bangladesh. However, very little is known about how translanguaging occurs in academic disciplines, particularly in engineering universities. There is also limited research on how teachers themselves perceive translanguaging and whether they considerate it as a resource, a necessity, a challenge, or a burden (Alasmari et al., 2022). Moreover, teachers' ideological positions and purposes remain underexplored: do they believe teaching entirely in English is more effective, or do they deliberately use Bangla as a teaching strategy? This gap is significant since it is the teachers who play the most important role in determining language practices in the classroom. Their attitudes have an impact on classroom culture, student participation, and clarity of challenging engineering material. To encounter these gaps, the current study is an attempt to investigate the practices and purposes of translanguaging by teachers in the engineering classrooms in Bangladesh. The aim of this study is to conceptualize how teachers switch between the English

and Bangla languages in teaching complex engineering subjects. Additionally, what motivates them to select a particular language, and how they feel the translanguaging process helps or hinders the teaching-learning process. To investigate this, the present research is guided by the following questions:

1. What motivates teachers to use translanguaging in engineering classrooms in Bangladesh?
2. How do institutional policies and students' needs influence instructors' use of Bangla in English-medium classrooms?
3. What are instructors' attitudes and beliefs about translanguaging in their teaching practice?
4. What benefits and challenges do instructors associate with translanguaging in achieving learning outcomes?

Through answering these questions, this study highlights how translanguaging is used in real engineering classrooms, how teachers interpret its benefits and limitations, and how their purposes and ideologies shape everyday teaching practices.

2. Literature Review

The theoretical framework of this study is based on translanguaging theory, which challenges traditional monolingual ideologies. It views language as a flexible and integrated repertoire of linguistic resources instead of separate and fixed language systems (García, 2009). Translanguaging, originally used to refer to Welsh bilingual education (Williams, 1985), has been adapted to refer to the natural and strategic use of multilingual speakers to use all their language resources to communicate, create meaning and build knowledge (Canagarajah, 2011). Such a view goes beyond the traditional code-switching approach where it is assumed that there are two separate language compartments, namely L1 and L2, but instead, language use is a holistic and flowing practice (Lewis et al., 2012).

In educational settings, this theory supports a teaching approach that views students' first language as a valuable learning resource rather than a barrier. It helps students understand, communicate and make meaning more effectively. Gevers (2018) suggested translanguaging is an important educational action that mediates the knowledge of the world and academic content. This is more critical especially in systems such as engineering education where clarity of concept stands out. The translanguaging model is empowering learner which means that various languages can be used as supporting to one another and help in the learning process, which leads to the development of more inclusive and flexible pedagogies that would recognize the diverse language backgrounds of the students (Coleman, 2017). Translanguaging is a new phenomenon in higher education all around the world, especially in multilingual and English-Medium Instruction (EMI) environments. The studies regarding the situation in the United States and Europe also proved its effectiveness in promoting understanding of intricate academic material, developing student interest, and promoting identity development (García & Wei, 2015; Palmer et al., 2014). In STEM subjects, strategic deployment of L1 in a student has been found to scaffold the comprehension of dense technical information in an L2 and decrease the burden on the student, as well as letting them concentrate more on learning than on translating the medium of instruction (Alzahrani, 2019).

Nevertheless, translanguaging implementation does not go without challenges. Researchers have identified several concerns, including possible student confusion, difficulty in setting clear language learning objectives, and the issue of the affective aspects of a multilingual classroom (Ticheloven et al., 2021). Despite these challenges, there is growing international support for using structured and context-specific translanguaging pedagogies. Such approaches are considered effective in meeting the needs of multilingual classrooms in the 21st century. The language situation in higher education in Bangladesh is marked by the use of both Bangla and English. Bangla is the national language and an important part of cultural identity, while

English is the medium of instruction in many prestigious institutions, especially engineering universities. This policy aims to help students access global knowledge and improve their opportunities in the international job market. However, it creates challenges for many students who studied in Bangla-medium schools and must adjust to learning in an English-medium academic environment (Rafi & Morgan, 2023). This gap is strongly felt by engineering faculty members. Many studies have reported the challenges of English-medium instruction (EMI) in Bangladesh. Students often struggle to understand technical terms, follow lectures and participate confidently in class. These challenges can negatively affect their classroom performance. This tends to widen existing socio-economic differences by favoring students from English-medium and urban backgrounds. Moreover, the teachers are often not trained in formal EMI training and their pedagogical practices are not necessarily designed to support learning of students with different levels of English proficiency (Fairuz Anika Zaman, 2024).

According to recent studies conducted in Bangladesh, translanguaging practices would be the natural and practical reaction to these challenges. Research has shown that code-switching and translanguaging is an inherent behavior by students and teachers in order to learn. Indicatively, Saha & Rahman (2022) observed that the learners indicated improvement in their understanding and cognitive comfort when teachers taught them in Bangla to explain complicated concepts. In a similar study, it was found that when students were given the opportunity to use Bangla in group discussions and peer to peer collaboration, student engagement and the level of conceptual learning were enhanced (Rafi & Morgan, 2023). The attitudes of students to translanguaging practices are generally positive, considering them to be key scaffolds that help to minimize anxiety and enable students to convey ideas more effectively (Fairuz Anika Zaman, 2024). The attitudes of teachers are more ambivalent. Although some teachers recognize the value of using Bangla to teach difficult topics and manage the classroom, they are also concerned that too much use of Bangla may increase students' dependence on it and conflict with English-only institutional policies (Rafi & Morgan, 2023). This ambivalence is further enhanced by the fact that there are no institutional support and professional growth on how to strategically support translanguaging practices.

Recent research on English-Medium Instruction suggests that the use of language is not only a pedagogical problem, but also related to the question of power, ideology and educational equity. In this sense, English serves not just as a mode of communication, but also as a symbolic resource that is linked to academic power, professional mobility and engagement in the global knowledge economy. These may be language ideologies that unintentionally benefit students who have a higher level of English competence and that can hinder the children who come from local-language educational backgrounds. Translanguaging has thus been thought of pedagogically as a counter-normative approach that disrupts the monolingual framework and allows learners to utilize the entire linguistic repertoire in the development of disciplinary understanding. English language learning outcomes need not be compromised, but strategic integration of Bangla with English can facilitate epistemic access and help minimize language inequality and maximize the inclusion of non-English speakers in EMI classrooms without sacrificing the ultimate aim of English learning.

Although research on translanguaging is increasing, an important gap remains. In Bangladesh, most studies have focused on general universities or other educational institutions. Very few studies have examined translanguaging practices in engineering classrooms. These universities have a unique context, where English-medium instruction (EMI) is expected, but both teachers and students face practical challenges in the classroom. This study addresses this gap by exploring how teachers use and understand translanguaging, how it supports students' learning of engineering content and whether it helps create more effective and equitable learning environments.

3. Methodology

3.1. Research Design

The present study was a mixed-methods study that aimed to investigate the translanguaging practices and purposes among the faculty members in the engineering universities in Bangladesh. Quantitative and qualitative data were gathered and analysed to address the research objectives. A questionnaire survey was conducted through a structured questionnaire whereby 50 faculty members from six universities were involved. Also, semi-structured interviews and face-to-face classroom observations were carried out to receive qualitative data.

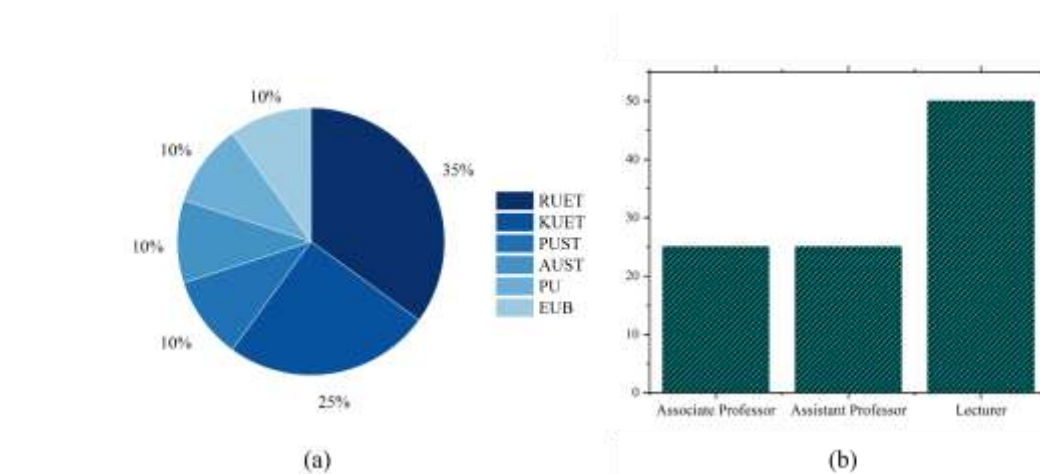
3.2. Participants

The group of respondents included 50 faculty members from six universities of Bangladesh, three of which were public universities and), Khulna University of Engineering and Technology (KUET), and Pabna University of Science and Technology (PUST) were the public universities. The private universities included Ahsanullah University of Science and Technology (AUST), Presidency University (PU) and European University of Bangladesh (EUB).

Out of the participants, there were 18 faculty members from RUET, 12 from KUET, 05 from PUST, 05 from AUST, 05 from PU and 05 from EUB. Figure 1 (a) shows the distribution of the faculty in the six universities. A total of 12 associate professors, 12 assistant professors and 26 lecturers were taken as a sample from different engineering departments. Figure 1 (b) indicates the allocation of academic designations. Purposive sampling, a non-probability sampling method that is frequently utilized in qualitative and mixed methods research, was used to recruit participants that would ensure that they would provide relevant information and insights on the phenomenon being studied. The selection of the six universities was based on four criteria: (1) the universities have engineering programs in which English is the main language of instruction; (2) the universities are public as well as private to allow for variation in the institutional context; (3) the universities are geographically distributed throughout various parts of Bangladesh to capture a wider range of teaching environments; and (4) the universities include faculty with academic ranks ranging from lecturer to associate professor and cover a range of engineering disciplines. This sampling strategy was designed to include as much variation in participants' institutional experiences and pedagogies as possible, not to provide statistical representativeness. This is a sign of diversity that was deemed necessary to clarify and understand the ways and means of the translanguaging practice and purpose in the various EMI classrooms in Bangladesh.

Figure 1.

Participants distribution; (a) University wise number of faculties, (b) designation of faculty members.



3.3. Data Collection

To reduce selection bias, the interviews were conducted with faculty members using simple random sampling from a group of faculty members who responded to the questionnaire survey and agreed to participate in interviews. A list of 12 participants was drawn from a computer-generated list of eligible participants; each participant had a separate identification number. Selected subjects were both public and private universities, and varied by academic rank. In the event a selected participant declined or was not available, another participant was randomly selected from the remaining eligible participants using the same process. It had close-ended and Likert-scale questions enabling the respondents to specify the frequency and the degree of agreement concerning certain teaching behaviors. The survey was administered through face-to-face and online Google Forms so that it can be accessible in the six universities.

In order to get a better understanding, semi-structured interviews with 12 randomly chosen faculty members were carried out among people who participated in the survey. The interviews addressed the thoughts of teachers concerning their pedagogical practices, classroom experiences and institutional settings. The interviews took about 25-30 minutes each and they were done via face-to-face and online platforms like Zoom or Google Meets depending on the choice of the individual taking the interview. Moreover, to capture actual teaching situations, patterns of interaction with students and strategies of engagement, three classroom sessions were observed first hand. A structured checklist and short field notes were used to record observation data. The triangulation of data and the enhanced validity of the results were guaranteed by the combination of the survey approach, the interview approach, and the observation.

3.4. Data Analysis

To analyse the data, the procedures included quantitative and qualitative methods of data analysis, which corresponded to the mixed-method design of the study. The purpose of the analysis was to combine both numerical data from the questionnaire and information on interviews and classroom observations and give a full picture of the teachers' translanguaging practices and purposes in engineering classrooms in Bangladesh. The collected quantitative data were analyzed using IBM SPSS Statistics, Version 29.0. All the answers in the Likert-scale questionnaire were numerically coded between 1 (Strongly Disagree/Never) and 5 (Strongly Agree/Always)). The frequency distribution, standard deviation and the mean of the responses were used as the descriptive statistics to generalize the responses and determine the significant trends among various institutions and academic ranks. A comparison was made to explore the disparities in public and private universities and between various designations of faculty (associate professor, assistant professor and lecturer). Responses to the five-point Likert-scale items were interpreted using predetermined mean score ranges adapted from common descriptive interpretation practices. Mean scores of 1.00-1.80 indicated a very low level of agreement or frequency, 1.81-2.60 indicated low, 2.61-3.40 indicated moderate, 3.41-4.20 indicated high, and 4.21-5.00 indicated a very high level. These categories were used to facilitate interpretation of the descriptive statistics presented in the results section.

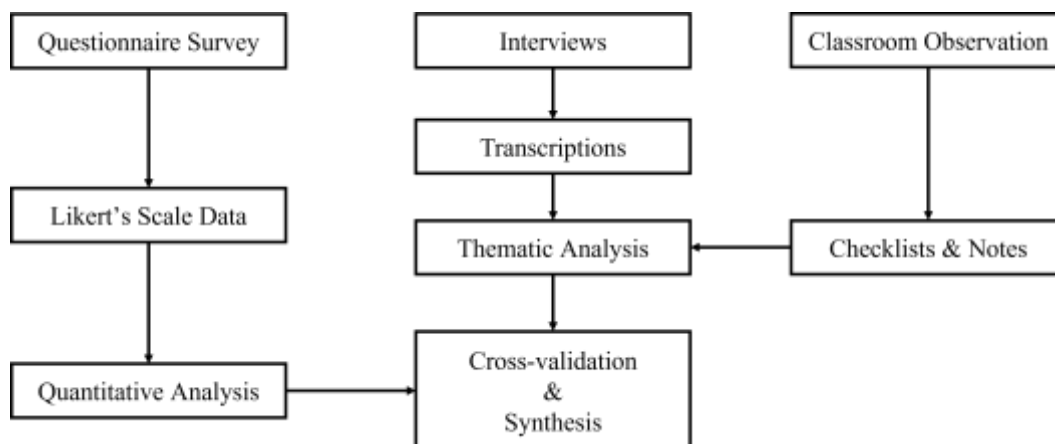
Thematic analysis approach in the analysis of semi-structured interviews was adopted. An Audio format of the recorded copy of the 12-interview session was initially verbatim transcribed, and then read repeatedly (so that the researcher gets used to the data). Preliminary codes were created to encompass valuable notions, which were further categorized into general themes that represented the pedagogical ideologies, institutional endorsement, and classroom predicaments by the teachers. A comparison of the themes in the participants was conducted to determine the similarity of the perspectives and the disagreements. Key quotes have been picked out to justify the findings and add details to the interpretation of quantitative findings.

The data from classroom observation were analyzed. Review of the observation notes and checklists code used to track instructional practice patterns, teacher-student interactions and engagement. The study examined the extent to which teaching behaviors matched those reported by teachers in the questionnaire and interviews. New methods, student involvement,

and classroom management were put under new themes. Using observation data along with surveys and interviews made the interpretations valid. The flow chart demonstrated the entire process of data analysis from scratch. In a last parallel convergent analysis strategy, the quantitative and qualitative results were analyzed in an independent manner. However, both were integrated at the interpretation stage. By doing this, the researcher was able to match the statistical patterns and the contextual explanations, which ensured that the end conclusions represented both the statistics and the lived experiences of faculty members across six universities.

Figure 2.

Flow diagram of data analysis.



Source: Developed by the researcher.

3.5 Ethical Considerations

All stages of this research strictly maintained ethical standards. Before collecting data, approval from concerned institutional authorities was obtained to ensure compliance with accepted ethical guidelines of educational research. All participants were notified of the study's purpose and nature, that participation is voluntary, and that they can withdraw from the study at any stage without penalty. Prior to filling out the questionnaire, being interviewed, or being classroom observed, every participant gave their informed consent. The consent process included a short-written statement mentioning how participants' data and response will be kept confidential and the intention behind data usage and publication. Verbal consent for recording or note-taking during interviews and classroom observations were also obtained. To keep confidentiality and anonymity, researcher did not include participants' names or institutional identifiers in any data files, transcripts, or reports. For analysis, each participant was assigned a code number. The data that were collected were stored in password-protected files accessible only to the researcher. Researcher presented all interpretations and findings in aggregate form to prevent identification of individuals and institutions. The principles of respect, transparency, and academic integrity were respected by following ethical rigour throughout the research.

4. Results

This part gives the results of the mixed-methods study. The engineering teachers in Bangladesh use Translingual language patterns with their supporting beliefs and perceived results of that language. The data is arranged in order of the frequency and context of language use, purposes, faculty ideologies, benefits, and challenges they associate with translanguaging.

4.1 Patterns of Translanguaging Integration in Instruction

The findings indicate that translanguaging is not occasional, rather a common practice as it can be seen in the survey results in Table 1. The average teachers indicated moderate to high

Teachers' Translanguaging Practices in Engineering Classrooms

usage of Bangla in teaching ($M = 3.57$). The most frequent activity they do is letting students answer in Bangla orally ($M = 4.02$, $SD = 0.97$). This implies that educators are more interested in learning and engagement than English-only policies. They also rely on Bangla to explain some complicated technical concepts ($M = 3.62$) and on the classroom management ($M = 3.47$). Such practices demonstrate that Bangla is found in the pedagogical and administrative uses.

Table 1.

Use of Bangla and English in classroom teaching.

Questions	Mean (M)	SD
I explain technical concepts using Bangla alongside English.	3.62	0.91
I use Bangla to build rapport with students (e.g., casual talk).	3.28	0.94
I use Bangla for classroom management (e.g., giving instructions).	3.47	1.01
I use Bangla in face-to-face classes.	3.55	0.88
I allow my students to answer questions orally in Bangla.	4.02	0.97
I allow students to write short answers in Bangla when needed.	3.60	1.03
I allow students to discuss ideas in Bangla before presenting in English.	3.42	0.99
Average	3.57	0.96

To better understand why semi-structured interview of teachers choose Bangla in these situations, their open-ended responses were examined as shown in Table 2. The qualitative results indicate that the teachers are good, strategic decision makers on when and how to introduce Bangla into the lesson. The most frequent one is the necessity to ease a complicated technical material ($N = 11$). In engineering theories, formulas, interactions are too dense in English, teachers turn to Bangla to present them as better understandable. The other prevalent case is that of first-year students ($N = 10$) particularly those taking foundation courses. According to teachers, such students tend to find the English-only teaching process challenging, and the transition to Bengali is a reasonable and beneficial decision. Another reason why Bangla is used deliberately is when clarity is of the utmost importance. As an example, it is used by teachers when providing the essential information regarding the critical aspects of the exam ($N = 7$) to ensure that the students do not overlook anything important. When used in the lab, Bangla aids in relating theoretical information to practical work ($N = 6$), which makes the process of switching the textbook with an experiment a bit easier and easier to grasp. Yet, this approach of a multilingual teacher is not universal among the teachers. Some of them would like to continue using English as the only medium of instruction ($N = 5$). The basis of their own ideology lies in the fact that their constant exposure to English can equip the students better to academia and the workforce. This variation in belief indicates the varying perspectives that the teachers have on the use of language in engineering education.

Table 2.

When instructors use Bangla in classrooms.

When do instructors use Bangla inside the classroom?	Sample quotes	N
To explain complex technical terms or formulas	"I switch to Bangla when students fail to grasp difficult engineering terms."	11
In first-year or low-proficiency classes	"I use Bangla mostly with freshers who struggle with English lectures."	10
To clarify exam or assignment instructions	"I explain assessment guidelines in Bangla to ensure clarity."	7
During discussions comparing theory and practical work	"For lab classes, I often explain steps in Bangla for better understanding."	6

When do instructors use Bangla inside the classroom?	Sample quotes	N
Avoiding Bangla completely to maintain English medium	"I try to stay with English-only practice to encourage fluency."	5

4.2 Translingual Practices in Informal Academic Contexts

The use of Bangla finds applications beyond the formal teaching environment such as office hours. The data indicates a slightly reduced use of the frequency of the act of translanguaging, though it takes on a variety of functions, including affective functions. The quantitative data on office hours and consultations can be found in Table 3.

Table 3.

Use of Bangla outside classroom (office hours, consultation).

Questions	Mean (M)	SD
I often explain academic concepts in Bangla during consultations.	3.12	1.15
I use Bangla to build rapport or in informal discussions.	3.04	1.21
I allow my students to use Bangla during academic guidance sessions.	3.20	1.25
Average	3.12	1.20

Table 3 demonstrates that teachers also informally use Bangla but not as frequently as they do when they are teaching in the regular classroom. On average, the use of Bangla in these informal spaces is moderate ($M = 3.12$), which is noticeably lower than the mean frequency of Bangla use inside the classroom ($M = 3.54$). The largest average score is associated with the possibility to use Bangla during the guidance or mentoring lessons ($M = 3.20$). This implies that there is a conducive environment and students will be at ease as they will be free of the language barriers. Interestingly, the standard deviations of these eight informal items are slightly low compared to classroom practices. This is an indication that there is a more regularity in the way teachers use Bangla outside of the classroom than their diverse use of it during the formal classroom time.

Table 4.

When instructors use Bangla outside classrooms.

When do instructors use Bangla outside the classroom?	Sample quotes	N
To discuss students' personal or academic problems	"Students feel comfortable sharing issues when I use Bangla."	10
When explaining research or project instructions	"I use Bangla for project guidance so students fully understand expectations."	9
With low-proficiency students during feedback	"If they struggle in English, I give feedback in Bangla."	7
To clarify university procedures or forms	"I use Bangla when helping them understand admin formalities."	4

The qualitative research findings show that there is a visible change in the informal use of Bangla. As much as the explanation of research-related instructions remains an important reason that makes the use of the L1 necessary ($N = 9$), a more convincing theme becomes apparent: teachers use Bangla to discuss personal or academic concerns with the students ($N = 10$). This demonstrates the strength of the mother tongue when it comes to establishing trust and emotional bond. Bangla will establish a secure and comfortable environment that will allow the students to express their difficulties at school and at home without any fear. In addition to emotional support, Bangla also has a strategic value in terms of ensuring clarity. It is used by teachers to ensure that students have a good grasp of the key issues like final-year project and to offer constructive and clear feedback to them particularly the struggling English

learners (N = 7). By doing so, the L1 will not only turn into a comforting tool but also an accurate and academic achievement tool.

4.3 Faculty Ideologies on Translingual Pedagogy

The concept of translanguaging both inside and outside the classroom is supported by a set of beliefs held by the faculty. The beliefs about the matter, as evident from Table 5, indicate a positive but practical approach to the use of Bangla in engineering education, despite well-defined demarcations based on the context of academia.

Table 5.

Teachers' perspectives on Translingual classroom practices.

Questions	Mean (M)	SD
Bangla can be used to explain complex engineering concepts.	3.78	0.91
Bangla can be used to build rapport with students.	3.65	0.94
Bangla can assist in classroom management.	3.56	0.99
Bangla can be used in oral responses.	3.12	1.21
Bangla can be used in written work (short answers).	2.74	1.18
Students can use Bangla in peer discussions.	3.46	1.02
Average	3.39	1.04

The use of the Bangla language in explaining intricate engineering concepts received the strongest expression of agreement from faculty members, as indicated in Table 5, with a mean of 3.78. The overall mean score of 3.39 represents a moderate level of agreement with translanguaging practices, although individual items such as using Bangla to explain complex engineering concepts (M = 3.78) reached the high category. The opinions of faculty members were somewhat cautious in other areas. It is apparent from the data available that a preference for using the Bangla language in a physical class setting (mean = 3.31) outweighs a preference for use in an online setting (mean = 3.09), likely due to challenges in managing a bilingual approach on online platforms, as well as a sense that online delivery ought to be strictly within the format of instruction. Most telling is the lack of preference for use in written form (mean = 2.74), suggesting a strong demarcation line where English fluency must be articulated. This is a telling point about a philosophical approach, suggesting a tool in facilitating a purely communication approach, while not utilizing the English language's counterpart as a means of written instruction.

4.4 Perceived Impact of Translingual Teaching Practices

Table 6.

Perceived advantages of Translingual practices.

Questions	Mean (M)	SD
Using Bangla increases student engagement.	3.60	1.00
Using Bangla enhances motivation to learn technical English.	3.45	1.07
Using Bangla improves comprehension of engineering content.	3.70	0.96
Using Bangla makes students feel more confident and relaxed.	3.52	1.04
Average	3.57	1.02

The overall mean score of 3.57 indicates a high level of agreement regarding the positive pedagogical effects of translanguaging. Table 6 below highlights the results obtained from the quantitative data, which indicate a strong level of agreement on a number of positive impacts. As Table 6 below shows, the main strength of Translanguaging, from the perspective of the faculty, is the improvement it brings about in content understanding (Mean = 3.70). This is followed very closely by the positive impact it has on student engagement (Mean = 3.60), as

well as the development of a confident and non-anxious learning environment (Mean = 3.52). The high mean values here indicate that the lecturers regard the Bengali language as a vital means to overcome the cognitive as well as affective challenges faced by the students within the English Medium Instruction setting, making it easy to comprehend difficult subjects like engineering. The findings from Table 7 below can be referred to for a qualitative explanation of the mean values.

Table 7.

Advantages and disadvantages of Translingual practices.

Advantages	Sample quotes	N	Disadvantages	Sample quotes	N
Builds student confidence and reduces anxiety	"Bangla helps shy students express themselves."	6	May reduce English fluency	"Students rely too much on Bangla, slowing down English improvement."	12
Helps low-proficiency students keep pace	"It helps weak students follow the lecture."	8	Creates dependency on L1	"They expect everything repeated in Bangla."	7
Enhances comprehension of technical concepts	"Students understand better when I switch briefly."	7	Reduces exposure to technical English	"It limits their habit of using English terms."	4
Total		21			23

5. Discussion

This research examines teachers' translanguaging practices and purposes in engineering classrooms in Bangladesh. The findings clearly indicate that, in engineering universities, both languages are used in a thoughtful and practical manner, with the native language serving as a supportive scaffold to help achieving the main learning objectives. The discussion that follows interprets these findings through two key lenses: the pedagogical rationales driving these practices and the underlying challenges they reveal.

5.1 Pedagogical Rationales for Translingual Practices

The data show that engineering teachers use translanguaging intentionally. Teachers use Bangla strategically within classroom instead of switching between languages randomly. One of the main reasons for this is to improve students' cognitive understanding. Teachers mainly use Bangla to explain difficult concepts, definitions, and equations (as it can be seen in Table 2). This demonstrates that teachers consider students' first language (L1) as an important tool for helping them understand complex technical concepts. Engineering subjects require a clear understanding of concepts and many topics are difficult for students to understand when taught only in English. The use of Bangla helps students first understand the content, enabling them to communicate it later in English. These results are consistent with previous studies conducted in EMI classrooms, indicating that the L1 can be of great importance in simplifying challenging academic content. Other than cognitive clarity, the other significant purpose of translanguaging is to establish a supportive and inclusive learning environment. The qualitative information (especially Table 4) demonstrates that in most cases, teachers switch to Bangla to establish rapport, decrease anxiety, create the impression of cooperation. When communication is conducted in the native language, students can be more comfortable in asking questions, revealing that they are confused or discussing individual academic difficulties. This way, translanguaging is not merely a method of teaching, it reflects in the emotional dimension as well as the relationship dimension of the classroom.

5.2 Navigating Ideological Differences and Practical Constraints

In this study, no statistically significant differences were found, but the individual responses of faculty members from each public and private university with regard to

pedagogical motivation for translanguaging showed remarkable similarities. Both institutional types noted that Bangla was used mainly to explain complicated engineering ideas, to get the students engaged in learning, and to overcome the language barriers in learning. Similarly, lecturers, assistant professors, and associate professors voiced similar concerns about maintaining students' proficiency in English while also making sure they had conceptual understanding. The results indicate that the shared demands of EMI engineering classrooms are more influential than institutional type or academic rank on shaping translanguaging practices.

Though the results show the obvious pedagogical advantages, there is also a challenge in the beliefs of teachers in the practice of languages. This difference revolves around the issue of the need to support momentary understanding and the need to guarantee the good English proficiency in the long term. Educators have a strong belief in the application of Bangla in the accomplishment of certain practical activities like concept explanation, providing definitions, and classroom control (Table 5). They regard the two languages as belonging to the common set of lingual instruments. However, this supportive role also has some limitations. The possibility of using Bangla in written work is one of the most notable lines created by the faculty members (Table 5). To them, any written communication particularly in the technical sector should be in English. This reflects the practical need for engineering graduates to develop strong academic and professional English skills of report writing, global communication and future employment. This issue becomes clearer when considering the drawbacks identified by the teachers (Table 7). Teachers are most concerned that excessive use of Bangla may reduce student' English fluency. This issue reveals one of its fundamental paradoxes, as teachers are expected to offer instant language support by means of the Bangla language, but they should also enable students to become independent in English. They must balance two important goals, making learning accessible and supporting student' long-term English language development. This challenge is not unique to Bangladesh. It reflects a long-standing debate in second language learning: should learners use their first language (L1) to improve understanding or should they learn by using only the target language? The dilemma is further enhanced in a technical subject such as engineering, where students have to comprehend considerable concepts, yet at the same time to express the concepts using English, in order to achieve higher grades and professional contributions.

6. Conclusion

The outcomes of this study have several practical implications for engineering education in Bangladesh and other multilingual EMI setting. Firstly, in higher education, it is time to go beyond the implicit acceptance of translanguaging and establish explicit institutional standards that define the strategic use of students' first language as a pedagogical tool and not as off-piste from EMI. Such policies should give sufficient pedagogical flexibility to teachers so that they can use Bangla as a medium of purposeful use in explaining complex concepts, scaffolding learning and helping in student engagement while keeping English as the main language of academic communication. Second, PD opportunities should be provided to engineering faculty to strategically rather than intuitively implement translanguaging. The orientation of teacher training program could be bilingual teaching methods, effective classroom discourse management, scaffolding methods, or strategies for balancing concepts and English language development. These trainings would help the teachers to take pedagogical decisions on the time and manner of introducing Bangla without jeopardizing students' long-term English competence. Third, curriculum designers and academic units ought to take account of the importance of structuring bilingual learning materials that can be built into engineering curricula. These can involve the inclusion of bilingual glossaries of technical terms, scaffolded learning materials, guided peer discussions, and classroom activities where students build academic knowledge in Bangla and then gradually move towards English dominant academic

communication. At the school level, the curricular support would help to mitigate language barriers and facilitate more meaningful engagement and learning for students with varied experiences in their schooling.

To build on the current study, future research is suggested to take into consideration students' views on translanguaging, explore differences in disciplinary contexts within engineering disciplines, and use longitudinal and classroom-based intervention studies to assess the efficacy of translanguaging for conceptual learning and English language development. Comparative studies of various universities and multilingual higher education contexts would also help to develop a broader understanding of the effect of institutional language policies on teaching practices. This study concludes that the idea of translanguaging does not mark a shift from English-Medium Instruction, but is a pedagogically informed practice that offers teachers a way to deal with the linguistic realities of multilingual classrooms and supports academic learning and language development. Incorporating strategic translanguaging in engineering education can be a way to make it more inclusive, equitable and responsive to the needs of students in Bangladesh and other multilingual EMI contexts.

References

- Alasmari, M., Qasem, F., Ahmed, R., & Alrayes, M. (2022). Bilingual teachers' translanguaging practices and ideologies in online classrooms in Saudi Arabia. *Heliyon*, 8(9), e10537. <https://doi.org/10.1016/J.HELIYON.2022.E10537/>
- Alzahrani, T. (2019). Investigating Translanguaging Practices and Attitudes of International Students in Higher Education at an American University. *Arab World English Journal*, 1(1), 118–128. <https://doi.org/10.24093/AWEJ/ELT1.9>
- Canagarajah, S. (2011). Translanguaging in the classroom: Emerging issues for research and pedagogy. *Applied Linguistics Review*, 2(2011), 1–28. <https://doi.org/10.1515/9783110239331.1>
- Cohen, L., Manion, L., & Morrison, K. (2017). The ethics of educational and social research. *Research Methods in Education*, 111–143. <https://doi.org/10.4324/9781315456539-7>
- Coleman, Hywel. (2017). *Teachers' 'Other' Language Preferences: A Study of the Monolingual Mindset in the Classroom*. 354. <https://papers.ssrn.com/abstract=2919179>
- Fairuz Anika Zaman, B. (2024). *Practices of learning English among the textile engineering students in Bangladesh*. <https://dspace.bracu.ac.bd:8443/xmlui/handle/10361/25466>
- García, O. (2009). Education, Multilingualism and Translanguaging in the 21st Century. *Social Justice through Multilingual Education*, 140–158. <https://doi.org/10.21832/9781847691910-011/>
- García, O., & Kleyn, T. (2016). Translanguaging with multilingual students: Learning from classroom moments. *Translanguaging with Multilingual Students: Learning from Classroom Moments*, 1–235. <https://doi.org/10.4324/9781315695242>
- García, O., & Wei, L. (2015). Translanguaging, Bilingualism, and Bilingual Education. *The Handbook of Bilingual and Multilingual Education*, 223–240. <https://doi.org/10.1002/9781118533406.CH13>

- Gevers, J. (2018). Translingualism revisited: Language difference and hybridity in L2 writing. *Journal of Second Language Writing*, 40, 73–83. <https://doi.org/10.1016/J.JSLW.2018.04.003>
- Lewis, G., Jones, B., & Baker, C. (2012). Translanguaging: Ueveloping its conceptualisation and contextualisation. *Educational Research and Evaluation*, 18(7), 655–670. <https://doi.org/10.1080/13803611.2012.718490>
- Palmer, D. K., Martínez, R. A., Mateus, S. G., & Henderson, K. (2014). Reframing the debate on language separation: Toward a vision for translanguaging pedagogies in the dual language classroom. *Modern Language Journal*, 98(3), 757–772. <https://doi.org/10.1111/MODL.12121>
- Rafi, A. S. M., & Morgan, A. M. (2023). Translanguaging and power in academic writing discourse: the case of a Bangladeshi university. *Classroom Discourse*, 14(2), 192–214. <https://doi.org/10.1080/19463014.2022.2046621>
- Saha, S., & Rahman, M. M. (2022). Translanguaging Pedagogy in the EAP Classroom of Private Universities in Bangladesh. *Article in Journal of Higher Education Theory and Practice*. <https://doi.org/10.33423/jhetp.v22i17.5656>
- Ticheloven, A., Blom, E., Leseman, P., & McMonagle, S. (2021). Translanguaging challenges in multilingual classrooms: scholar, teacher and student perspectives. *International Journal of Multilingualism*, 18(3), 491–514. <https://doi.org/10.1080/14790718.2019.1686002>
- Velasco, P., & García, O. (2014). Translanguaging and the Writing of Bilingual Learners. *Bilingual Research Journal*, 37(1), 6–23. <https://doi.org/10.1080/15235882.2014.893270>
- Williams, C. (1985). Bilingualism and bilingual education: Language and literacy in a changing world. *Multilingual Matters*.