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Translanguaging as Multilingual Pedagogy in Algerian EMI Classrooms: University STEM Teachers' Perceptions and Reported Practices

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Abstract:

With the expansion of English as a medium of instruction (EMI) in Algerian higher education, particularly in STEM fields. A question was raised about how teachers support students' limited English proficiency when teaching disciplinary content. Translanguaging appears to be a response to address this challenge. The present study examines teachers' perceptions of translanguaging, its benefits, and its constraints in EMI classrooms. The study adopts a cross-sectional survey design within a quantitative framework. Data were collected using a structured questionnaire administered to 42 university teachers involved in EMI courses. The responses were tested using SPSS. for the reliability of the questionnaire, responses was confirmed through Cronbach's alpha, which indicated a strong level of internal consistency value of (.91) Then analyzed using inferential analyses, such as the Mann-Whitney U test, Spearman correlation analyses, and the Kruskal-Wallis test, which highlight an absence of significant differences between the STEM fields and teaching experience across conceptual clarity and stance; teacher extent and planning; and institutional context, pressure, and assessment alignment dimensions. In addition to descriptive statistics, analyses indicate that teachers have a positive attitude toward translanguaging, as it is commonly used in their daily teaching. Furthermore, instructors report drawing on their students' linguistic repertoires to support their comprehension. However, the study reveals a gap between institutional expectations and classroom practice, especially in assessment. The study, therefore, argues for the official recognition of translanguaging and a flexible language policy that better reflects the multilingualism of Algerian higher education.

Keywords: Translanguaging; English Medium Instruction (EMI); Algerian higher education; language proficiency; teachers' perspectives

1. Introduction

Translanguaging has gained increasing attention in educational research, particularly in multilingual contexts, where monolingual classroom ideologies often operate as policies that exceed the ways in which teaching, learning, and socio-emotional support are actually mediated (Karakaş, 2023). Instead of viewing languages as distinct political systems that need to be separated, translanguaging views multilingual speakers as utilizing their entire linguistic stock to make sense of the world, communicate with others, and build knowledge (Cummins, 2019; Li, 2022; Wei & Ho, 2018). From this angle, Hillcrest (2021) states that all languages that students bring into the classroom should be treated as a resource for learning rather than a barrier to instruction.

This is particularly pertinent in the English-Medium Instruction (EMI) situation. While EMI is often framed as a tool for enhancing international visibility, student mobility, and employability in both higher education institutions (HEIs)

and the labor market (Ouarniki, 2023) its implementation also raises a conflict between institutional aspiration and classroom realities (Ou & Gu, 2024), including linguistic barriers, cultural mismatches, and insufficient institutional support (Lai & Idris, 2025). In EMI classrooms, teachers often have to teach complex subject matter in English (Zhou et al., 2025). This is even though students usually think, reason, and understand the world around them using languages other than English (Hillcrest, 2021). This situation can increase cognitive loading for both educators and students, particularly when students' English language skills are insufficient (Settari & Melouah, 2025) to ensure full participation in the subject matter. Translanguaging proves to be an effective pedagogical method in such situations where teachers and students use their existing language skills to help them understand and learn new material (Lu et al., 2023; Tai & Wei, 2021).

In Algeria, English Medium Instruction (EMI) poses an even greater challenge in a tertiary education system already influenced by Arabic, Tamazight, and French (Ghodbane et al., 2026; Sahki, 2025). French continues to dominate in several university disciplines, especially those of science, technology, engineering, and mathematics (STEM) (Karboua & Haboul, 2026), whereas Arabic and Tamazight remain central to shaping wider social and educational practices (Hammoumraoui & Hocini, 2024). The introduction of English, thus, does not take place in a linguistically neutral context but adds another layer to an already multilingual complexity (Si Fodil, 2025). In practice, this means teachers are often caught between rigid, top-down English-only expectations and complex multilingual classroom realities, where they are obliged to resort to translanguaging as a necessary coping strategy for making sense of scientific knowledge (Bouguebs, 2025; Rahman et al., 2025). Such context can make it not only an aid for understanding but also a practical solution to prevent cognitive overload and counter the challenges of EMI implementation in Algeria (Bara, 2026).

While translanguaging has attracted considerable attention both in international EMI research and in its own right, it remains underexplored in Algerian universities, particularly from teachers' perspectives (Bensaber & Chaal, 2026). Although international studies have addressed translanguaging, there is ongoing inquiry into research that specifically prioritizes teachers' pedagogical reasoning, their classroom decision-making, and their understandings of policy and institutional pressures (Donley, 2022). Teachers are thus required to mediate between official language policy and institutional realities in individual classrooms (Aldaghri, 2023; Pontier & Tian, 2022). For this reason, as Bendahmane (2026) demonstrates, analyzing teachers' viewpoints is crucial for understanding how they negotiate the demands of English-medium instruction within a complex multilingual landscape; multilingual pedagogy is negotiated, helping policymakers evaluate the successful integration of EMI and identify areas for improvement in Algerian higher education.

The current study addresses this gap by examining Algerian EMI teachers' perceptions and practices regarding translanguaging in university classrooms. More specifically, it seeks to answer the following research questions:

1. How do Algerian EMI teachers use translanguaging to address students' limited English proficiency?
2. To what extent do teachers report planning and using multilingual practices in EMI classrooms?
3. How do they perceive the advantages and challenges of translanguaging within the context of a top-down EMI policy?

This study aims to provide valuable insights into the transitional space for EMI conditions in Algeria and the challenges of their implementation. The research, therefore, adopts an exploratory, quantitative design. Accordingly, a structured questionnaire is a consistent instrument for collecting measurable, comparable data informed by teachers' experiences in real classroom settings. In so doing, this study contributes to ongoing debates on multilingual education, language policy, and EMI implementation by highlighting how teachers negotiate the tension between institutional expectations and inclusive classroom practices in a multilingual higher education (HE) setting.

2. Literature Review

2.1 Translanguaging as a Theoretical and Conceptual Framework

Translanguaging was first associated with pedagogical practice in Welsh bilingual education; however, its scope extends beyond that. This study may offer a major perspective on translanguaging, from Garcia, Li, and Cummins to Cenoz. García (2009) defines translanguaging as a dynamic process in which multilingual speakers draw on their entire linguistic repertoire to create meaning, rather than moving between separate, bounded languages. Whereas Donley (2022) expands that concept to describe both a language theory and a transformative pedagogy. This view is valuable because it challenges the assumption that languages should remain separate in education. Thus, translanguaging goes beyond a mere random mixing of languages; rather, it functions as a strategic and meaningful resource that people use for communication, learning, and participation in social and educational contexts (Alsaawi, 2019; Vogel & García, 2017).

Although scholars agree on the pedagogical legitimacy of multilingual making-meaning, they do not view it in the same way. Cummins' notion of interdependence offers a key basis for viewing students' languages as resources. He states that cognitive and academic knowledge acquired in one language can reinforce learning in another. More broadly, cross-language transfer has been theorized through the interdependence and transfer facilitation framework (Chung et al., 2018; Cummins, 2019). This debate matters for EMI because it does not stop at whether many languages are used in class, but also at how teachers decide when to switch between languages to support learning, and when this may limit engagement in English language development.

Li Wei devotes himself to further developing this view, describing translanguaging as something that happens simultaneously between and through linguistic structures (Wei, 2011). Later, he presents translanguaging as a practical theory of language, which assumes that the distinct divisions we set between so-called named languages, language

varieties, and other semiotic systems become less meaningful through translanguaging (Li, 2022; Wei, 2018). This idea offers a useful way to understand multilingualism. It captures the fluid nature of multilingualism. Besides, it shows that multilingual speakers combine flexibly and purposefully different linguistic and semiotic resources for meaning-making (Lu et al., 2023; Wei & Ho, 2018). Moreover, it underscores the significance of translanguaging in educational settings by explaining how multilingual learners genuinely work through, negotiate, and articulate knowledge in classroom contexts (Wei, 2024; Wei & García, 2022).

While the former scholars provide a broader theoretical foundation for understanding translanguaging as multilingual meaning-making, the work of Cenoz & Santos (2020) and Cenoz & Gorter (2020) operationalizes this concept into a pedagogical framework for a real classroom setting. Where teachers meaningfully cross language boundaries and encourage multilingual learners to draw on their diverse linguistic and cultural backgrounds within a specific social and educational context. As a result, translanguaging may foster inclusivity, affirm learners' identities, and promote greater equitable classroom participation (Paudel, 2024; Wei, 2024). This study adopts the pedagogical translanguaging framework to argue that translanguaging in EMI should not be reduced to compensatory switching, but rather recognized as a legitimate multilingual pedagogy (Lynch, 2018).

2.2 The Role of Translanguaging in the Algerian EMI Context

In the Algerian EMI context, translanguaging emerged as a natural response to the multilingual reality of classroom life. At the policy level, although universities traditionally promoted French as the main language of instruction, especially in STEM disciplines, English is now increasingly given similar prominence (Si Fodil, 2025). At the classroom level, however, the reality of teaching and learning remains far more complex (Sahki, 2025). This linguistic situation creates challenges for students who study subjects in Arabic before entering university and then face course content in French in fields such as biology, mathematics, and physics, while English is also being introduced more widely (Abdeljaoued, 2023; Chebab, 2025). These studies are useful in documenting Algeria's multilingual reality, but they have focused more on policy transition and implementation than on how teachers interpret those norms in EMI classrooms.

This transition in language instruction is particularly visible in medical education, where the shift from French to English has become a major implementation challenge (Ghodbane et al., 2026). More specifically, first-year English courses have been compulsory since 2025/2026. This shift also poses challenges for teacher preparedness, as Karboua & Haboul (2026) note that many university teachers, particularly in medical and other STEM fields, were themselves educated in French. This situation leads to a generational mismatch with their Z students, who favor English over French. Under these conditions, translanguaging becomes a relevant strategy, as it can bridge these linguistic demands and help both teachers and students to engage effectively with academic content (Bara, 2026; Deniega & Neri, 2024; Vu et al., 2025).

Beyond the classroom interaction, this linguistic mismatch is more evident in EMI assessment, a critical aspect of higher education. Students may rely on multiple languages during the learning process, yet they are still evaluated primarily on English-only performance (Lopez et al., 2017; Wang & East, 2023; Zano, 2022). More broadly, translanguaging-oriented assessment remains underexplored in EMI research (Lu et al., 2023). The present study addresses that gap by exploring teachers' perception, reasoning, and reported practice in an Algerian EMI setting.

3. Methodology

3.1 Research Design

The current study used a descriptive, exploratory quantitative design to explore Algerian EMI teachers' perceptions and reported use of translanguaging practices in higher education. A survey design was chosen to facilitate the systematic collection of quantifiable data on teachers' underlying beliefs and reported classroom practices regarding translanguaging in EMI contexts. This design was appropriate for two reasons: first, it allowed the investigation of general response patterns across participants, and second, it was set in a well-studied area that remains unexplored in the Algerian context.

3.2 Participants

The participants of the study were 42 EMI teachers from Algerian higher education institutions. This sample was chosen purposefully according to specific inclusion and exclusion criteria. To be selected for the study, participants had to be actively involved in teaching content in English across disciplines at the time of data collection. Also, they had to belong to STEM disciplines where EMI has recently been integrated, such as medicine, computing, mathematics, chemistry, biology, and mechanics. Teachers were excluded if they taught English as a discipline content, including TEFL teachers; if they used French or Arabic as the only language of instruction, such as in economics and management, social and humanities disciplines; or if their responses were incomplete. The population was relatively limited. This phenomenon can be explained by the recent implementation of EMI in Algeria. In many disciplines, especially in STEM fields, French continues to be the primary language of instruction, compared with English. Therefore, although the sample was small (as shown in Table 01) for an exploratory study and the findings cannot be generalized, it offers valuable and initial insights regarding teachers' perceptions and practices of translanguaging in EMI classrooms.

Table 1. Participants' demographic profile (discipline)

Discipline	Number	Percentage
Medicine	16	38.1%
Computing	8	19.0%
Mathematics	7	16.7%
Chemistry	4	9.5%
Biology	4	9.5%
Mechanics	3	7.1%

3.3 Data Collection Instrument

The study used a structured questionnaire to collect data. This instrument was developed to facilitate organized, focused data collection. The first section was concerned with participants' background information. It included their field of study, years of experience, EMI level, course type, and the languages they used for teaching. The second section consisted of 13 Likert-scale items. These items were grouped under four dimensions: conceptual clarity and stance (Q1-Q2), teacher extent and planning (Q3-Q6), and institutional context, pressure, and assessment alignment (Q7-Q9), and teacher purposes (Q10-Q13). Through these four dimensions, the questionnaire aimed to explore teachers' understanding of translanguaging, the frequency with which they use multilingual practices in the classroom, STEM teachers' views on the institutional expectations related to EMI, and the pedagogical purpose behind such choices. The response options ranged from strongly disagree to strongly agree for conceptual and stance; and institutional context, pressure, assessment alignment; and teacher purposes dimensions, and from never to very often for teacher extent and planning dimension. This made the findings easy to analyze clearly and quantitatively.

3.4 Data collection Procedures

The questionnaire was administered in both paper and online formats. Teachers who were physically accessible during the data collection period were given a paper version, while the online format was used to reach participants who could not be contacted directly. The use of both formats did increase the feasibility of the process and facilitated participation in a context where the number of EMI teachers is still small. Participants were informed of the purpose of the study, and their participation was voluntary prior to completing the questionnaire. The data collection process ensured confidentiality and anonymity.

3.5 Data analysis Procedures

The study used both descriptive and inferential statistics. Descriptive analysis was first used to identify and summarise general patterns in teachers' responses. These measures included frequencies, percentages, means, and standard deviations. The study was designed as exploratory research. In addition, several variables were ordinal, and some subgroups had relatively few cases. As a result, this made non-parametric tests more suitable for the analysis, such as: Mann-Whitney U was employed to compare between two groups (teaching experience), Kruskal-Wallis to compare more than two groups (disciplines), and Spearman's rank-order correlation to examine links between teaching experience and the four dimensions. For easier interpretation, the questionnaire originally consisted of 5-point Likert-scale responses. They were collapsed under three broader categories. 1- strongly disagree and 2- disagree are combined into disagree (1-2); 5- strongly agree and 4-agree fall into agree (4-5); and 3- neutral remains unchanged (3). And also, 1- never and 2- rarely are grouped into rarely (1-2); 4- often and 5- very often are combined into often (4-5); and 3- sometimes is kept unchanged (3). Through these procedures, the study examined teachers' understandings of translanguaging, their reported use of it, the reasons for that use, and the institutional contexts in which they located it within EMI.

4. Results

4.1 Reliability Test

To examine the internal consistency of the questionnaire, a reliability test was conducted. The initial 13-item scale had a Cronbach's alpha of 0.839, which indicates strong internal consistency. However, when the items were tested separately across the four theoretical dimensions, reliability testing varied. The dimension of conceptual clarity and stance had the highest reliability of 0.892. The teacher's extent and planning also showed strong reliability, with a value of 0.862. The institutional context, pressure, and assessment alignment dimension produced an acceptable value of 0.760. whereas the teacher purposes dimension showed the weakest internal consistency, with a coefficient of 0.509. Since the dimension of teacher purposes did not meet the acceptable reliability level, it was excluded from the final analysis. After removing this dimension, the internal consistency improved to a Cronbach's alpha of 0.913. Therefore, the final analysis would rely on a 9-item scale and under three reliable dimensions: conceptual clarity and stance; the teacher's extent and planning; and the institutional context, pressure, and assessment alignment.

Table 2. Reliability coefficients by dimension

Dimension	Cronbach's alpha	Decision
Conceptual clarity and stance	0.892	Retained
Teacher extent and planning	0.862	Retained
Institutional context, pressure, and assessment alignment	0.760	Retained
Teacher purposes	0.509	Excluded
Initial items (13)	0.839	Before analysis
Final retained items (09)	0.913	Final analysis

4.2 Participants' Demographics

A total of 42 EMI teachers from Algerian higher education participated in the study. All of them belonged to STEM disciplines. As shown in Table 3 below, most teachers were in the early or middle stages of their careers. More than half of the participants, 54.8%, had between 1 and 5 years of classroom experience. Another 26.2% had six to ten years of teaching. By comparison, only 11.9% had 11 to 15 years of experience, and 7.1% had 16 years or more of teaching experience. Regarding disciplinary background, medicine was the largest group in the sample, followed by computing and mathematics, whereas chemistry, biology, and mechanics had only a few participants. Overall, the relatively small sample size may be explained by the still-developing status of EMI in Algerian higher education, especially in scientific and technical fields. It is offered alongside French, which remains the main language of instruction, and is largely absent from the humanities.

Table 3. Participants' demographic profile (years of teaching experience)

Years of teaching experience	Number	Percentage
1–5 years	23	54.8%
6–10 years	11	26.2%
11–15 years	5	11.9%
16+ years	3	7.1%

To examine whether teaching experience influenced teachers' responses. Mann–Whitney U and Spearman's rank-order correlation tests were the most appropriate analyses for this type of data. The Mann–Whitney U test was administered to test differences between teaching experience groups. Participants were divided into two groups: those with 0-5 years of experience represented less-experienced teachers, and those with 6+ years of teaching experience represented more-experienced teachers, to obtain valid results. Table 4 indicates that Mann–Whitney U analysis revealed that no significant differences were found between the two groups on conceptual clarity and stance ($U = 206.0$, $p = .754$), teacher extent and planning ($U = 253.5$, $p = .378$), or institutional context, pressure, and assessment alignment ($U = 253.5$, $p = .373$). This analysis shows that less-experienced teachers produce responses similar to those of more-experienced teachers across the three retained dimensions. All p-values were greater than the .05 significance level. In other words, no statistical evidence was found of a relationship between teaching experience and the three retained dimensions.

Similarly, Spearman's rank-order correlations were conducted to examine whether years of teaching experience were associated with scores on the three dimensions. The results showed no significant associations between teaching experience and conceptual clarity and stance ($r_s = -.061$, $p = .701$), teacher extent and planning ($r_s = -.063$, $p = .691$), or institutional context, pressure, and assessment alignment ($r_s = -.090$, $p = .573$). The correlation was very close to zero. According to the previous tests, teaching experience shows no statistically significant effect, which may be due either to a weak relationship between teaching experience and the three retained dimensions or to a very weak observed association in this sample.

Table 4. Mann–Whitney U and Spearman tests in relation to teaching experience

Variable	Mann–Whitney U tests		Spearman's test	
	U	p	Spearman's rho	p
Conceptual clarity and stance	206.0	.754	-0.061	.701
Teacher extent and planning	253.5	.378	-0.063	.691
institutional context, pressure, and assessment alignment	253.5	.373	-0.090	.573

At the level of discipline, a series of Kruskal-Wallis tests was used to determine whether the three dimensions studied differed across the six disciplines: Biology, Medicine, Mathematics, Computing, Chemistry, and Mechanics. Table 5 indicates that there were no differences between disciplines for concept ($H = 5.119$, $p = .402$), teacher extent and planning ($H = 2.165$, $p = .826$), and institutional context, pressure, and assessment alignment ($H = 6.478$, $p = .262$). Since all p-values were also above the significance level (0.05), there was no statistical evidence detected. This can be interpreted as there were no differences across the six disciplines and the retained dimensions.

Because the groups were small, the six disciplines were then combined into three broader families: life sciences (medicine, biology), formal sciences (mathematics, computing), and physical/engineering (chemistry, mechanics). The results again revealed no statistically significant differences for conceptual clarity and stance ($H(2) = 1.399$, $p = .497$), teacher extent and planning ($H(2) = 1.580$, $p = .454$), or institutional context, pressure, and assessment alignment ($H(2) = 1.240$, $p = .538$). Therefore, these findings suggest that the distributions of the three dimensions were similar across both the six discipline categories and the three broader disciplinary families. As Kruskal-Wallis tests were not significant, no post hoc pairwise comparisons were conducted. However, these findings should be interpreted carefully due to the small group sizes.

Table 5. Kruskal–Wallis results across six/three discipline families

Variable	06 disciplines		03 discipline families	
	H	p-value	H (2)	p-value
Conceptual clarity and stance	5.119	.402	1.399	.497
Teacher extent and planning	2.165	.826	1.580	.454
Institutional context, pressure, and assessment alignment	6.478	.262	1.240	.538

4.3.Descriptive Statistics

The findings revealed that teachers were generally favorable towards translanguaging. However, this orientation positivity was not equally strong across all the dimensions. Some dimensions attracted more agreement than others. Table 6 below shows that the highest mean was scored for teacher extent and planning, with 3.863. This may indicate that teachers use translanguaging extensively in their teaching practices. The low standard deviation of 0.813 across all three dimensions confirms this interpretation and indicates the least variation in participants' responses. At the item level, agreement also varies from one item to another: item 4 shows high similarity ($SD = 0.802$), while item 5 shows greater variation ($SD = 1.249$). Conceptual clarity and stance ranked second. This dimension obtained a mean of 3.547 and a standard deviation of 1.162. This score suggests a moderate level of familiarity and understanding towards translanguaging. At the same time, the larger standard deviation indicates that participants' responses varied considerably, particularly for item 1, where the SD was 1.271. Finally, the institutional context, pressure, and assessment alignment reported a mean of 3.293 and a standard deviation of 0.911. At the item level, item 8 reported the lowest mean (2.595) and the highest SD (1.210). These results suggest that teachers are more confident in using translanguaging as a classroom practice than as an institutional approach.

Table 6. Means and standard deviations by dimension

Dimension	Mean	SD
D1: Conceptual clarity and stance	3.547	1.162
1. Teachers' familiarity with translanguaging as a multilingual pedagogy.	3.571	1.271
2. Teachers' awareness of translanguaging legitimacy.	3.523	1.173
D2: Teacher extent and planning	3.863	0.813
3. Clarifying content by moving between languages.	3.857	1.001
4. Planning multilingual activities to support learning.	3.928	1.021

5. Using other languages when students struggle with English terminology.	3.785	1.249
6. Using AR/FR to maintain understanding, despite the official expectations	3.880	0.802
D3: Institutional context, pressure, and assessment alignment	3.293	0.911
7. Discouraging colleagues/supervisors from using multilingual practices.	3.595	1.083
8. Teachers' feelings of tension/guilt/less professional when using other languages.	2.595	1.210
9. Current EMI assessments ignore multilingual learning processes (English-only writing).	3.690	1.023

4.4 Item-Level Findings

4.4.1 Conceptual Clarity and Stance

Table 7, which relates to conceptual clarity and stance, indicates that most participants held a positive view of translanguaging. In general, responses suggest that they had a supportive orientation to pedagogy in the classroom. Question 1, 69.05% of respondents agreed that they were aware of using multiple languages as a strategy in teaching practice. On the other hand, 21.43% disagreed,

and 9.52% remained neutral. A similar pattern emerged in response to question 2. In that item, 69.05% agreed that using different languages during a single lesson should be recognized as a valid instructional strategy, not merely as code-mixing, especially in the EMI context. Meanwhile, 28.57% disagreed, and 2.38% selected a neutral response. The results for conceptual clarity and stance dimension suggest that most participants view translanguaging as an important pedagogical practice in question 1. In contrast, the response in question 2 indicates that educators remain hesitant to accept it as a planned pedagogical strategy, due to the higher level of disagreement.

Table 7. Conceptual clarity and stance

Item	Disagree (1–2)	Neutral (3)	Agree (4–5)
Q1	21.43%	9.52%	69.05%
Q2	28.57%	2.38%	69.05%

4.4.2 Teacher Extent and Planning

Table 8 is related to the classroom practice dimension. It indicated that translanguaging was common among the participants. However, it was not included as a formal lesson plan. This means that teachers did not structure it in planned classroom activities in advance. In Question 3, 52.38% of respondents reported they often use multiple languages to explain disciplinary content. This finding suggests that over half of the sample relied on translanguaging during their daily classroom teaching. Question 4, however, produced a different result. Only 28.57% reported regularly designing activities that promoted the use of multiple languages for learning. Meanwhile, 45.24% reported doing it rarely. This difference suggests that teachers always use multilingual strategies in class, without intentionally planning them into lesson design. The most significant result emerged from Question 5. Here, 66.67% of participants reported they often turned to other languages when they found it difficult to explain content taught only in English to students with a deficiency in the language of instruction. For question 6, 30.95% of participants reported that they often rely on their students' linguistic backgrounds to maintain content flow during lessons, even though their institutions expected them to use only English in the classroom. In contrast, 40.48% doing so rarely. And 28.57% reported doing sometimes. Therefore, these results indicate that translanguaging was often used as an immediate support strategy rather than as an explicit, planned pedagogical choice.

Table 8. Teacher extent and planning

Item	Rarely (1–2)	Sometimes (3)	Often (4–5)
Q3	19.05%	28.57%	52.38%
Q4	45.24%	26.19%	28.57%
Q5	11.90%	21.43%	66.67%
Q6	40.48%	28.57%	30.95%

4.4.3. Institutional Context, Pressure, and Assessment Alignment

Compared with the previous subscales, this dimension of institutional context, pressure, and assessment alignment showed variability in responses. Table 9 indicates that teachers did not share the same perceptions of institutional expectations regarding translanguaging. Question 7 produced a comparable distribution of responses. In this item, 38.10% of respondents agreed that colleagues or supervisors discouraged them from using other languages. At the same time, 33.33% disagreed. Another 28.57% remained neutral. Responses to question 8 revealed a division of opinion. A total of

38.10% agreed, whereas 40.48% disagreed that colleagues or supervisors discouraged the use of languages other than English while teaching. Question 9 provided the clearest result in this dimension. As 54.76% of participants agreed, actual assessment practices impose an additional cognitive load on students when evaluations are in English only. In this case, students need to pay attention to the language of instruction besides the disciplinary content. Taken together, the responses in this dimension suggest that institutional pressure was not experienced equally by all teachers. Meanwhile, they agree that assessment practices in EMI clearly reveal the tension between the classroom's multilingual nature and monolingual policy expectations.

Table 9. Institutional context, pressure, and assessment alignment

Item	Disagree (1–2)	Neutral (3)	Agree (4–5)
Q7	33.33%	28.57%	38.10%
Q8	40.48%	21.43%	38.10%
Q9	16.67%	28.57%	54.76%

5. Discussion

The findings from this sample, particularly in STEM-related domains, suggest that translanguaging is not an incidental classroom practice but a pragmatic mode of action for teaching content through English in a multilingual environment (Deniega & Neri, 2024; Ou & Gu, 2024). Teachers usually see the switching between as a valuable resource for meaning-making and learning (García, 2009; Li, 2022; Wei & Ho, 2018). This finding is particularly significant in Algeria, where EMI has emerged within a complex linguistic landscape. Such complexity is evident in Chebab's (2025) analysis of Algerian medical education, where students come from an Arabophone background, teachers are Francophone, and professional practice remains largely anchored in French. Abdeljaoued (2023) reports a comparable situation in Tunisia, where EMI also develops within multilingual classroom practice. These studies suggest that Algeria is not an exceptional case, but one example of a broader North African multilingual reality.

Regarding the first research question, the findings show that teachers use translanguaging to facilitate students' understanding of disciplinary content. This practice seems necessary, especially when students do not yet have a strong level of English proficiency. Under these conditions, translanguaging becomes a practical and relevant classroom resource. Several studies in the Algerian context (Belazreg and Benaissa 2024; ; Chebab, 2025) studies show that alternating among English, Arabic, and French helps clarify complex concepts and explain terminology. As a result, the teaching process continues to flow, and the content becomes more accessible to students. From this view, translanguaging is employed as a pedagogical bridge through which teachers scaffold understanding in the Algerian EMI context (Bara, 2026) and in international contexts beyond (Aba Sha'Ar & Rofiah, 2024; Itoi & Mizukura, 2023; Rauteda, 2024). However, its frequent use can create a comfort zone that reduces learners' engagement with the target language and obscures more structural issues, including a lack of authentic EMI materials, weak curriculum design, and limited teacher preparation for successful EMI implementation (Bouguebs, 2025; Ou & Gu, 2024).

Regarding the second research question, the results reveal that translanguaging appears to be more emergent than deliberately designed classroom practice (Aba Sha'Ar & Rofiah, 2024; Pontier & Tian, 2022). This distinction matters because it addresses the gap between teachers' recognition of translanguaging as an effective teaching strategy and their willingness to incorporate it into planned instructional lesson design. This interpretation is totally confirmed by Cenoz & Santos (2020) claim about spontaneous translanguaging. Additionally, a possible explanation for teacher recognition is what Block & Moncada-Comas (2022), Macaro et al. (2018), and Jiang et al. (2024) report in their studies that many EMI teachers see themselves as content specialists rather than language assistants, and that this multilingual strategy is used only in response to a potential breakdown in the flow of content, rather than as a preplanned section within the lesson structure. For this reason, the present study goes beyond descriptive confirmation; it suggests that the next stage of EMI development in Algeria needs more than policy reform to reach teachers' professional roles in multilingual classrooms.

The third question addressed institutional context, attitudes, and the alignment of teaching practices with assessment. Participants' responses showed some hesitation, reflecting a mixed understanding of translanguaging, since EMI teachers often work under complex institutional expectations (Bouguebs, 2025). The findings of this dimension may offer useful insights, particularly when situated within the wider literature. Findings from Itoi & Mizukura (2023) and Liu & Fang (2022) align with this interpretation, which acknowledges translanguaging as a valuable learning resource in EMI. However, it may remain associated with marginalization and shaped by peer and instructor attitudes. The present study does not provide strong evidence of such pressure in Algeria; however, it still suggests a tension between policy and practice that requires further investigation.

Furthermore, Teachers' responses indicate another possible tension within this dimension regarding assessment. They suggest that students may learn the subject content through multilingual processes, while academic outcomes are evaluated only through English norms. This situation leads to a mismatch between learning and assessment. The study by Hammache (2026) reinforces this point: students are not equally prepared for EMI adoption. He thus calls for a gradual English assessment system that evaluates academic performance based on students' linguistic preferences. Additionally, many similar studies from broader Arabic EMI contexts, such as Abdeljaoued (2023) and Lai & Idris (2025), confirm this interpretation. Participants' experiences indicate that assessment does not fully reflect students' actual competence,

though multilingual practices play an important role in facilitating comprehension and learning. This raises important concerns and reinforces calls for more translanguaging-informed approaches to assessment (Akbar & Taqi, 2020; Wang & East, 2023). In the Algerian EMI context, institutions are required to provide a clear objective for assessment, whether it focuses on disciplinary knowledge alone or on both the content and the language of instruction.

The inferential analyses add an important layer to the present study and call for careful interpretation. The Mann-Whitney U test was used to examine whether teachers' responses differed by teaching experience, while Spearman's rank-order correlation assessed whether years of experience were associated with scores on the three retained dimensions. Then, a complementary Kruskal-Wallis test was conducted to investigate any possible differences in teachers' responses across disciplinary groups. All three tests returned statistically insignificant results, suggesting an overall uniformity in perceptions across experience levels and STEM fields. This result might be attributed to the small and unequally sized groups of the sample, future studies with larger, more balanced samples are needed to disentangle statistical power from substantive uniformity. The absence of significant differences may also reflect a convergence effect where institutional conditions and pressures that govern the implementation of EMI in Algeria equally affect teachers across experience categories and specialties. The macro-level constraints, including top-down English-only policy expectations, absence of institutional training on translanguaging, and a multilingual student population that brings Arabic and French into the classroom, override the micro-level variations that experience or discipline might otherwise produce. This aligns with the conclusions reached by Bouguebs (2025) and Ou & Gu (2024), who agree that the institutional context has a greater effect on teachers' pedagogical decisions than individual background variables in under-resourced EMI settings.

Overall, these interpretations are compatible with previous research that underscores translanguaging as a flexible strategy in multilingual classrooms for making meaning. It also aligns with the view of translanguaging as a social and contextual practice rather than a fixed method tied to one subject area. Based on this, institutions are recommended to adopt flexible EMI approaches that recognize the role of translanguaging in maintaining access to content. In addition, professional development should enable teachers to reflect on when and how to use this instructional strategy to improve learning without weakening academic language objectives.

Like all studies, this research has several limitations that hinder the generalisability of its findings. First, the researcher purposively selected the population; thus, the study had a modest sample size of about 42 EMI teachers. This selection may also introduce selection bias. Teachers who agree to participate may already be more interested in or familiar with translanguaging than those who choose not to participate. Additionally, the study may be affected by social desirability bias, as the questionnaire addressed teaching practices that were institutionally discouraged; therefore, responses may reflect what participants consider acceptable and expected by the institution and EMI policy rather than actual teaching behavior. Second, the study relied on a cross-sectional design to identify associations between variables but not to establish causation. The third limitation concerns the study's instrument. Although the questionnaire allows us to detect broad structures in a large population, it relies on self-reported measures; a classroom observation tool would offer more objective, direct observations of teacher/student behavior. Furthermore, the dimension of the teacher's purpose in using translanguaging was excluded due to an unacceptable reliability level. The strong internal consistency of that dimension may provide different cross-sectional findings. Finally, the lack of statistical significance in the inferential analyses should be interpreted with caution. It does not disprove the effect of discipline and experience. It only suggests that the present sample did not reveal measurable differences, perhaps because of the limited sample size, the imbalance among disciplinary groups, and the simplified classification of experience.

6. Conclusion

In conclusion, this study examined the extent to which STEM EMI teachers use translanguaging as a pedagogical practice within EMI classrooms. The findings suggest that translanguaging, when used strategically, should not be treated as a threat to EMI. Rather, it is considered a resource that may make the subject matter more inclusive, accessible, and responsive to students' real needs. EMI teachers view translanguaging as a spontaneous response to language difficulties in multilingual contexts. In addition, beyond its pedagogical practicality, they use it to reduce the tension between institutional expectations and classroom realities. The inferential analyses confirm their perception, particularly when disciplinary background and teaching experience indicate no difference across the three retained dimensions. Based on these findings, institutions should gradually adopt language policies that reflect the realities of multilingual classrooms, recognize translanguaging as a valid instructional practice, and empower teachers through continuous professional development. Therefore, this study has offered an overview of teachers' perceptions of translanguaging and its pedagogical benefits and constraints; however, it has also highlighted avenues for investigating students' perspectives on translanguaging and for comparing them with teachers' reported practices to determine whether the pedagogical benefits teachers identify are similarly experienced by students. Also, they should conduct longitudinal observational research to investigate the development of translanguaging practices over time, use discourse analysis to explore real classroom interaction, and compare institutional language policies to understand how different EMI contexts can support or restrict the multilingual practices in Algerian higher education.

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