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| **RESEARCH ARTICLE**

Ibn Tofail University Students' Attitudes Towards Implementing English as a Medium of Instruction (EMI)

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| **ABSTRACT**

This study investigates Ibn Tofail Faculty of Science students' attitudes towards implementing English as a medium of instruction (EMI). This research examines students' language proficiency, educational backgrounds, and equity issues in a possible shift to EMI. Findings corroborate existing literature indicating strongly positive attitudes towards a possible shift to EMI but highlight disparities in linguistic readiness between public and high school graduates. This study underscores the need for a comprehensive language policy centred around fostering equity to ensure the success of any possible shift to EMI.

| **KEYWORDS**

1. Introduction

This paper defines English as a medium of instruction (EMI) as 'using English to teach academic subjects in non-speaking English jurisdictions and institutions' (Coleman, 2006). Adopting English as a Medium of Instruction (EMI) in Moroccan universities has been a popular demand, especially among the younger generations. Advocates of EMI highlight its potential benefits for Morocco, including integrating into the world of academia dominated by English and affording Moroccan youths greater competitiveness in the global job market (Belhiah & Abdelatif, 2016). Morocco's linguistic reality, influenced by its colonial history, presents serious challenges for any possible shift that may attempt to dethrone the French language. Educational reforms have not led to significant improvements, in part because of low levels of French proficiency among higher education students (Moroccan High Commission of Education, 2008). Previous research highlights that Moroccan students often hold positive attitudes towards English (Ben Haman, 2021). Irrespective of students' positive attitudes, little research has delved into the practical implications of adopting EMI. This study aims to investigate Ibn Tofail University faculty of science students' attitudes towards a possible shift to EMI in Moroccan universities. Additionally, the study aims to capture students' self-assessed English proficiency against their educational background. Ultimately, this research paper attempts to spark a broader discussion about the implications of a possible shift to EMI in Morocco, especially concerning educational equity.

2. Literature Review

2.1 Medium of Instruction in Morocco: A Historical Review

A study of the language policy in Morocco needs to begin with a historical overview of the French language in the country. French was positioned as the medium of instruction in Morocco during the protectorate period (1912–1956). Georges Hardy, Director of Education, Fine Arts and Antiques in Morocco (or the Directeur de l'instruction publique, des beaux-arts et des antiquités au Maroc) and a close advisor to Lyautey, led French language policy in Morocco . This policy aimed to create linguistic hegemony in Morocco to exert total control over the educational, social, and economic spheres (Segalla, 2001). Hardy's policy in the protectorate of Morocco was influenced by his previous experiences, namely in French West Africa (AOF), where he worked as the director of education, promoting the French language and culture as a tool for colonial control (Hardy, 1917). Hardy's 1920 curriculum for colonial Morocco was a systemic attempt to marginalize native languages, mainly Arabic. Notably, Arabic was marginalized entirely in rural areas. While it represented a segment of the curriculum in urban areas, it had a ratio of only one hour to five compared to French (Segalla, 2003). In his introduction to the French linguistic legacy in Morocco, Zouhir (2013) references directives from the General's Bureau in Rabat to impose French as the medium of instruction in urban schools. In addition to quantitatively marginalizing Arabic, Hardy's policies ensured adverse Arabic instruction occurred (Hardy, 1929). Interestingly, instruction focused primarily on grammar and language basics, avoiding delving into complex treatises by notable Muslim scholars. Another stratum of the French linguistic strategy in Morocco was the type of instruction provided at schools. This strategy was permissive and limiting in two different senses. The French curriculum essentially provided practical training to Moroccan elite and non-elite students, allowing them to engage in economic activities and limiting their political aspirations (Miller, 2013). Henceforth, Moroccan students only received linguistic training on the mundane skills of the French language (Singaravélou, 2008). The French undertook other measures to ensure Arabic had an insignificant role in the Moroccan educational sphere. For instance, Segalla (2009) states that Hardy had continued the French policy of restricting the importation of teachers from other North African countries and Egypt. Content-wise, the French instruction directed to Moroccan students focused on presenting a simplistic worldview that considered colonization inherently positive (Segalla, 2009). In 1923, the DIP started creating les écoles berbères to attract Berber students. In these schools, neither Arabic nor the Quran was taught, following the colonialists' attempt to protect Berber communities from what they labelled "la contamination Arabe," or Arab contamination (Vermeren, 2022). A prime example of this was Le collège d'Azrou (Benhlal, 2005). This institution was an important instrument in implementing the Berber Dahir. This proposed legal system aimed to create a chasm between Berber communities and their Arab counterparts by forcing centuries-old local laws to govern Berber tribes instead of Islamic laws (Hoisington, 1978). Despite the French language's colonial legacy in Morocco, it played a significant role in post-colonial Morocco.

2.2 Arabization

After 1956, the new Moroccan government announced Arabic as the official language. However, the French language still played a dominant role in Morocco (Ennaji, 2014). The Arabization process starting post-1956 was a 'reaffirmation' of a national identity obscured by 44 years of French colonization (Ennaji, 1988). Two aspects characterized this shift: it was unabrupt and indefinite. Arabization did not replace French entirely; it was only to ensure "enough" inclusion of Arabic as a carrier of national identity. This process was established both in administration and education. Arabization had a relatively more significant impact on education than on administration (Errihani, 2023). This section focuses on Arabization in education.

Until 1965, education was in French. Morocco began gradually introducing Arabic as a language of instruction, starting with primary education, while secondary education was Arabized in subsequent years. By 1980, primary education was entirely in Arabic, while about 25% to 50% of secondary education students studied in Arabic. Since 1990, Arabic has been the language of instruction in secondary and primary education. However, French was still the dominant language in higher education, especially in science, economics, and engineering.

Many challenges marked the process of Arabization. By the late 1960s, only 40% of the teachers received training to teach in Arabic (El Biad, 1985; Sadiqi, 1997). The issue persisted despite attempts to retrain teachers to teach in Arabic (Sadiqi, 1997). Another challenge was the lack of Arabic-language materials. There was a shortage of materials written in Arabic, especially in technical fields; only 30% of the materials were translated into Arabic, which posed a significant hurdle in shifting to Arabic (Grandguillaume, 1983). Additionally, Francophone elites resisted this shift, as they were still loyal to the French language and culture. French was still perceived as the language of prestige in business and administrative settings (Ennaji, 2005; Errihani, 2023; Hoffman, 2008).

2.3 1999 Reform

1999 saw the introduction of a new educational policy in Morocco aimed at reforming education. Pillar 9 of the reform emphasized the importance of "enhancing the teaching and use of the Arabic language, mastering foreign languages, and embracing Tamazight" (Ministry of Education, n.d.). Some sections of the charter seem to directly aim at French schools (Mission laïque française) and schools that use English as a medium of instruction to give greater importance to teaching Arabic. Further policies sought to change the status quo of French dominance in higher education and science, which had been the case for the previous decades. The charter stresses the importance of making Arabic ubiquitous and mandatory in all civil, economic, and academic domains. The charter also announced the establishment of a new Arabic Language Academy (Académie Mohamed VI de la Langue Arabe) (Ministry of Higher Education, n.d.). This institution's primary mission was to ensure a systematic Arabization process by advancing scientific research and standardizing scientific and academic educational content in Standard Arabic.

This reform was not fully received with open arms, nor did it bring about the positive changes it intended to achieve. Several researchers have made an interesting remark (Marley, 2005; Sadiqi, 2003; Hoffman, 2008; Ennaji, 2005) that the charter did not explicitly include the term "Arabization," as it denotes a negative connotation. Critics of this charter note its 'obsession' with spreading Arabic while ignoring the Berber language and culture. Ahmed Assid, a prominent Moroccan Berber activist, accused the charter of propagating narrow nationalist views, advocating for Pan-Arabist and Islamist ideas. He claims that Arabization comes at the cost of marginalizing Berber languages, hence obscuring the identity of a large section of Moroccan society (Assid, as cited in Ennaji 2014). Languages as a medium of instruction posed significant challenges hindering Moroccan students' learning (High Commission of Education, 2008). Scientific subjects were taught in Arabic in high school, while French was the medium of instruction for scientific majors at the university level. Consequently, this dual system resulted in high dropout rates among first-year university students in science streams. Additionally, university science professors expressed dissatisfaction regarding students' French language proficiency (Translated from l'INE report, 2008)

2.4. Current Status of MOI: French Dominance

Despite the French dominance over Morocco's education, students are increasingly interested in English as a language of instruction. The Ministry of Education has implemented a few pilot studies targeting some institutions, primarily focused on teaching science subjects, such as mathematics and physics (Anaam & Kerouad, 2022). Despite positive attitudes among Moroccans towards implementing EMI, teachers highlight challenges such as low language proficiency and inadequate teacher training. In higher Education, English is increasingly becoming important, especially in postgraduate programs, as students are encouraged to publish academic research in English (Ben Haman & Kesbi, 2023). As Morocco opens to the world, there is an ever-growing consensus among stakeholders for a more structured integration of EMI across all levels of education. Several Moroccan universities have started incorporating EMI wholly or partly. Al Akhawayn University, situated in Ifrane City in the Middle Atlas, is the first independent, public, and non-profit university in Morocco to offer American education in Morocco fully in English (Al Akhawayn University, 2024). Having a good command of English is a requirement at the graduate level; candidates are required to provide a TOEFL score of (iBT:79) with (iBT:20) in writing (Ibid). University of Rabat (UIR) (Université Internationale de Rabat) incorporates EMI partially. For instance, the university offers a program in international management that is wholly or partly in English (UIR, 2024). Other programs include hybrid modules in French and English as mediums of instruction (Ibid).

2.5. The Status of EMI in Morocco

Despite the French dominance over Morocco's education, students are increasingly interested in English as a language of instruction. The Ministry of Education has implemented a few pilot studies targeting some institutions, primarily focused on teaching science subjects, such as mathematics and physics (Anaam & Kerouad, 2022). Despite positive attitudes among Moroccans towards implementing EMI, teachers highlight challenges such as low language proficiency and inadequate teacher training. In higher Education, English is increasingly becoming important, especially in postgraduate programs, as students are encouraged to publish academic research in English (Ben Haman & Kesbi, 2023). As Morocco opens to the world, there is an ever-growing consensus among stakeholders for a more structured integration of EMI across all levels of education. Several Moroccan universities have started incorporating EMI wholly or partly. Al Akhawayn University, situated in Ifrane City in the Middle Atlas, is the first independent, public, and non-profit university in Morocco to offer American education in Morocco fully in English (Al Akhawayn University, 2024). Having a good command of English is a requirement at the graduate level; candidates are required to provide a TOEFL score of (iBT:79) with (iBT:20) in writing (Ibid). University of Rabat (UIR) (Université Internationale de Rabat) incorporates EMI partially. For instance, the university offers an international management program that is entirely in English (UIR, 2024). Other programs include hybrid modules in French and English as mediums of instruction (Ibid).

3. Methodology

Introduction

This study uses a student survey to explore Ibn Tofail University faculty of science students' attitudes and self-assessed English proficiency.

Research Hypothesis

Hypothesis One:

Ibn Tofail Faculty of Science students have positive attitudes towards adopting English as a medium of instruction.

Hypothesis Two:

Students at Ibn Tofail Faculty of Science exhibit a low self-assessed English proficiency.

Hypothesis Three:

Students who attended private schools before obtaining their baccalaureate exhibit higher self-assessed language proficiency than those from the public sector.

Research Questions:

Q1: What are Ibn Tofail Faculty of Science students' perceptions and attitudes towards implementing English as a medium of instruction?

Q2: How do Ibn Tofail Faculty of Science students rate their language proficiency on a scale of 1 to 5?

Q2: Do students who attend private schools before going to the university exhibit higher English self-assessment scores than those who attended public schools?

Sample Population

The target population is 10,297 B.A and master's students at Ibn Tofail Faculty of Science. Using a representative sampling, 268 students answered the survey, of which 85% are public school graduates and 15% come from private schools. A random sampling method was employed throughout this phase, and the data was analyzed using SPSS.

Types of Sampling

I have followed random sampling, asking as many students as possible to answer the survey questions.

 Rationale

I have specifically chosen Ibn Tofail Faculty of Science students and Faculty members for three main reasons. First, as explained in the literature review, English is the dominant language globally as a medium of instruction and publication in natural sciences. Therefore, this potential transition concerns this group[s]. Second, the choice of Ibn Tofail Faculty of Students allows us to obtain data from a representative population. Third, I have chosen to conduct research within my university for practical considerations.

Research Instruments

This section describes the instrument used to collect data on a possible shift from French to English as a medium of instruction at Ibn Tofail Faculty of Sciences.

Students' Survey

Objective*:* This survey aims to measure Ibn Tofail Faculty of Science students' attitudes and perceptions toward implementing English as a medium of instruction. The survey includes the following information:

Demographic information: The survey aims to capture Essential information about students, including age, gender, specific field of study, educational level, and previous education history**.**

Self-assessed proficiency: Students rated their language proficiency on a scale of 1 (very low) to 5 (very high). Midpoint 3 is considered moderate proficiency, while 1 and 2 refer to low language proficiency, while 4 and 5 describe high language proficiency. The 1 to 5 Likert scale is cited as an appropriate measurement in EFL self-assessment (Fan, 2016).

Attitudes towards language transition: To assess the students' attitudes towards a possible transition to English as a medium of instruction, a 5-point Likert scale (5 = strongly agree; 1 = strongly disagree) was used.

4. Results

4.1 Data Description

268 respondents participated in this research study, 70% (n = 228) of which were females, while the remainder, 30% (n = 83), were male students. The majority of the participants were aged between 18-24, 85.07% (n = 228), followed by students between 25-34, 12.69% (n = 34), and only 2.24% (n=2.24) fell within the 35-44 age group. As for students' current level of study, 77.91 (n=209) were studying for a bachelor's degree, while 22.02% (n=59) were Master's students. Concerning students' departments, an equal number of students were enrolled in Computer Science and Biology (each 32.08%, n=86), followed by physics 26% (n = 70), followed by Mathematics 5.2% (n = 14), Chemistry 3.7% (n=10) and Geology 0.7% (n=2). An essential aspect of data collection was to capture students' previous educational history up to the university level. The data revealed that 85% (n = 228) graduated from public high schools, while 15% (n = 40) graduated from private high schools. 60% (n = 162) never attended private schools, while 40% (n = 102) attended private schools in one or more levels, including primary, secondary, and high school education.

Table 1: Respondents' Demographics

variable	category	n	percentage
Gender	male	83	30%
	female	185	70%
	total	268	100%
Age Group	18 -24	228	85.07
	25 - 34	34	12.69
	35 - 44	6	2.24
	total	268	100%
Level of Study	Bachelor's	209	77.91%
	Master's	59	22.02%
	total	268	100%

variable	category	n	percentage
Department	Computer Sciences	86	32.08%
	Biology	86	32.08
	Physics	70	26.12
	Maths	14	5.2
	Geology	2	.7
	Chemistry	10	3.7%
	total	268	100%
Type of High School	Public	228	85%
	Private	40	15%
	total	268	100%
Private Vs Public	Public	162	60%
	Private	106	40%

4.2 Instrument Validation
4.3 Data normality

The first step in data analysis in this research is to check whether the data is normally distributed in each questionnaire section. SPSS 23 was used to analyse the data. After checking the first section of the questionnaire, the results indicate a significant departure from the 0.05 threshold (table 2). Therefore, we reject the null hypothesis that the data is normally distributed

Table 1: English Proficiency Questions

Question Number	Survey Question	Response Scale
Question 1	How do you rate your proficiency in English?	1 (Very Low) 5 (Very High)
Question 2	I can confidently listen, watch, and read content about my field of study in English.	1 (Very Low) 5 (Very High)
Question 3	I can confidently listen, watch, and read content about my field of study in English	1 (Very Low) 5 (Very High)
Question 4	I can confidently listen, watch, and read content about my field of study in English.	1 (Very Low) 5 (Very High)
Question 5	I can confidently write about my field of study in English	1 (Very Low) 5 (Very High)

Note.

Table 2: normality test

Variable	Kolmogorov-Smirnov			Shapiro-Wilk		
	statistic	dif	Sig.	Statistic	dif	Sig
Variable 1	.247	268	<.001	.885	268	<.001
Variable 2	.187	268	<.001	.910	268	<.001
Variable 3	.177	268	<.001	.913	268	<.001
Variable 4	.160	268	<.001	.908	268	<.001
Variable 5	.171	268	<.001	.912	268	<.001

Note.

4.4 Test of Reliability.

I employed Cronbach's alpha test to ensure the internal consistency of the questionnaire. This test aims to capture if multiple items reliably capture the same construct. The results show an excellent internal consistency between the five items included in the section of the survey, with a score of .9. Such a high score indicates a strong internal validity of this research instrument, which suggests that the items in the scale correlate strongly and that they adequately measure the underlying construct, i.e., the participants self-assessment of their language proficiency as an indicator for their readiness to adopt EMI.

Table 3: Reliability Statistics

Cronbach's Alpha	N of Items
.930	5

4.5 Test of Validity: Factor Analysis

To ensure the survey's validity in each section, I subject each to a factor analysis. First, since the data is not normally distributed, I have used KMO & Bartlett's Test of Sphericity. A significant result of < 0.001 means there are significant relationships among variables, which renders the data suitable for factor analysis (table 4).

Table 4: KMO and Bartlett's Test

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.873
Bartlett's Test of Sphericity	
Approx. Chi-Square	1104.527
df	10
Sig.	< .001

Note.

The factor analysis supports the instrument's validity to measure students' self-assessment language proficiency. The analysis produced clear two factors, aligning with the two primary theoretical constructs in the first section of the research instrument: general English proficiency and students' confidence to adopt EMI. The scree plot (table 5) confirmed that two factors accounted for most of the variance in the dataset, with items clustering onto each factor. Factor 1 is students' general English proficiency, while Factor 2 represents students' confidence in their ability to study in English. The determinant of the correlation matrix

(0.015) indicates low multicollinearity (table 6), which ensures that the items are indeed distinct. These findings prove the validity of this instrument, i.e., that it effectively measures the intended dimensions of students' language proficiency. The factor analysis outcomes invigorate the instrument's content validity.
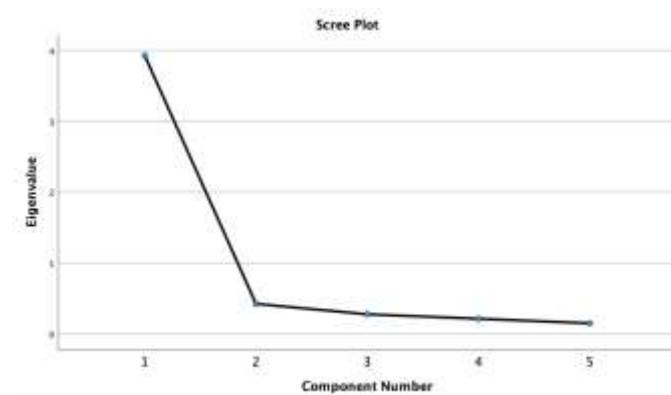
Table 5: Scree Plot

Table 6: Correlation Matrix

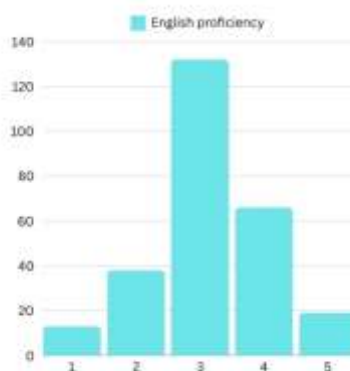| variable	variable 1	variable 2	variable 3	variable 4	variable 5
variable 1	1.000	.728	.760	.594	.676
variable 2	.728	1.000	.769	.737	.744
variable 3	.760	.769	1.000	.708	.827
variable 4	594	.737	.708	1.000	.764
variable 5	.676	.744	827	.764	1.000

Note. Note. All correlations are significant at the $p < .001$ level. Determinant = 0.015

5 Reported self-assessed Language Proficiency
5.1 Overall participants

Students were asked to rate their language proficiency on a scale of 5, 1 being very low and 5 being very high. Most of the results, 49.3% (n = 132), clustered around 3, indicating that the respondents rate themselves moderately. About 20% (n =51) of the participants reported their English proficiency in 1 or 2, indicating lower confidence in their language proficiency. 32% (n = 85) showed greater confidence in their proficiency

Table 7: overall students' self-assessed proficiency.

5.2 Public High School graduates English Proficiency.

When analysing the data for students who have graduated from public high schools, we can observe the following trends. Unsurprisingly, the data clusters around mid-point, with 53% (n = 121) of the students reporting their English proficiency at 3. About 20% (n = 37) of the respondents fall within the lower end of the self-rating spectrum, reporting their English proficiency at 1 and 2 (Table 8)

5.3 Private High School Graduates self-assessed English Proficiency.

Private school graduates' data is relatively skewed on the right side of the spectrum, with 63% (n = 25) of the respondents reporting their English proficiency at 4 and 5. About 25% (n = 10) chose 3 to represent their proficiency, while 10% (n = 4) considered their language proficiency low, opting for 1 and 2 (table 9).

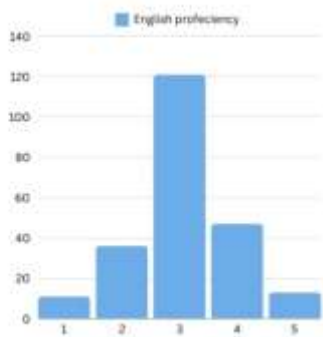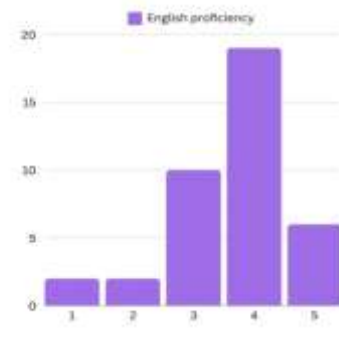Table 8: Public High School graduates self-assessed proficiency

Table 9: private high school graduates' self-assessed proficiency

5.4 Students who have been to private schools.

An alternative predictor to students' self-assessment of their English proficiency is their previous educational background, i.e., whether they have been to a private school in one or more levels, from primary until high school. Students who have been to private schools exhibit a similar tendency to students who have been to private higher schools, leaning slightly to the right of the spectrum. 47% (n = 44) of the respondents in this category opted for 4 and 5, showing higher confidence in their language skills. 40% (n = 42) of the participants recorded 3 as their language proficiency, while about 15% (n = 16) reported lower language proficiency at 1 and 2.

5.5 Students who have never been to private schools

The students who have never been to a private show a tendency to cluster highly around the mid-point, with 54% (n = 89) of the participants reporting their language at a moderate level, i.e., 3. Around 21% (n = 25) of the participants scored lower at 1 or 2 regarding their language proficiency. The remaining 23% (n = 38) showed significantly greater confidence in their English proficiency, i.e., scoring 4 and 5.

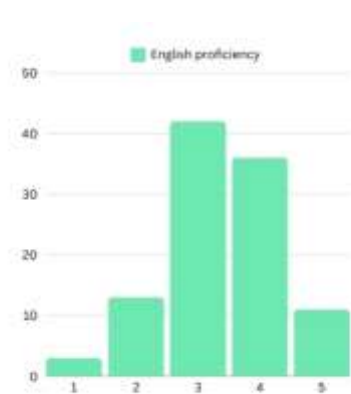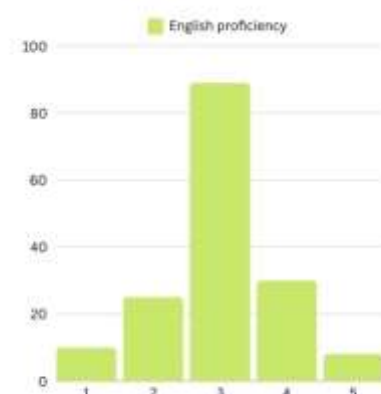Table 10: Private school students' English proficiency

Table 11: students with no private school education

6   Comparison between Groups
6.1 General Proficiency

Students were asked to assess their language proficiency on a scale of 1 to 5 (1 = very low; 5 = very high). Since the data is not normally distributed, it is appropriate to use the median to measure students' self-assessed language proficiency. The median rating (Mdn = 3.0Mdn) falls at the central point of the Likert scale.). However, based on the data set, we can cautiously posit that students rate their proficiency at moderate to low.

Table 12: General Proficiency

Statistic	value
Median	3.0
Interquartile Range (IQR)	1.0
Mode	1.0
Mode Frequency	132.0

Note. n=268

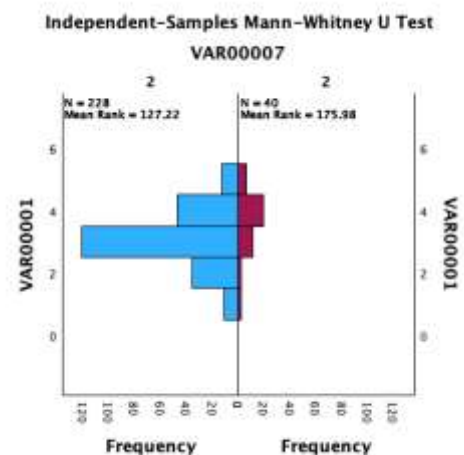## 6.2 Public High School graduates vs Private High School graduates

Since the data is not normally distributed, I have opted for Mann Whitney test to see if there is a significant difference between group 1, public high school graduates, and group 2, private high school graduates. The null hypothesis suggests that there is no significant difference between the two groups. The results of the Mann-Whitney U test indicate a significant difference between the language proficiency self-assessment of public and private school graduates. With a total sample size of 268, the Mann-Whitney U statistic was 6219.000, and the standardized test statistic was 3.951. The asymptotic significance (2-sided test) was less than 0.001, which is well below the conventional threshold of 0.05. This signifies a low p-value, suggesting that the observed difference in self-assessment scores is statistically significant and unlikely coincidental. Therefore, we reject the null hypothesis and conclude that the distribution of self-assessment scores differs significantly between the two groups, indicating that the type of school (private vs. public) has a meaningful impact on students' self-assessment of their language proficiency.

Table 13: Independent-Samples Mann-Whitney U Test.

Table 14: Mann-Whitney U test histogram

statistic	value
Total N	268
Mann-Whitney U	6219.000
Wilcoxon W	7039.000
Test Statistic	6219.000
Standard Error	419.860
Standardized Test Statistic	3.951
Asymptotic Significance (2-tailed)	< .001
Mean Rank (Group 1, N = 228)	127.22
Mean Rank (Group 2, N = 40)	175.98

Note. Group 1 = public high school graduates; Group 2 = private high school graduates

To further analyse the difference between attendees of private schools and public schools, the questionnaire included questions to capture students' previous educational experience from primary school until high school. The results corroborate the same tendency shown in the previous section, i.e., students who have been to private schools exhibit better proficiency than those who have been to public schools. Previous experience at private schools was coded [2], and no experience in the private sector was coded [2]. The results reveal a statistically significant difference between the two groups (U=6704.0,p=0.0011). The mean rank for students who have been to private schools (m = 3.36) is higher than students who have exclusively been to public schools (m = 3.00). Therefore, we can safely reject the null hypothesis that there is no significant difference in self-assessed language proficiency between students who have been to private schools and students who have been to public schools.

Table 15: Mann-Whitney U Test Results: private vs public schools

Statistic	Value
Total N	268
Mann-Whitney U	6704.0
Mean Rank (Public Schools)	3.006
Mean Rank (Private Schools)	3.368
Asymptotic Sig. (2-tailed)	0.001

Note.

6.3 Students' Attitudes towards EMI

The results indicated in this study indicate strongly positive attitudes towards EMI across the board. The participants responded on a scale of 1 (strongly disagree) to 5 (strongly agree) about the following statements.

- I think English is important for my academic success
- I think English is important for Morocco's development
- I think English is an important language in the world
- I enjoy learning and using English
- I am confident I can study in my own field in English
- I think English should replace French at the university

By inspecting the data, we observe that the third statement, 'I think English is an important language in the world,' has the highest mean with a comparatively lower standard deviation (M = 4.65, SD = 0.89). The following highest mean was observed for statement two, 'I think English is important for Morocco's development' (M = 4.56, SD = 0.94), with a comparatively moderate range of variance. Statement one, 'I think English is important for my academic success,' also scored a high mean (M = 4.26M, SD = 1.08), showing the same tendency for the previous statements. Statements four to six are clustered around (M = 4.00), showing a lower level of agreement than the other statements but still indicating a high level of agreement. Statement six has the highest degree of variability (M = 4.9, SD = 1.37). For the research, statement six is cross-analysed.

Table 16: Students' Attitudes towards EMI

Statement	N	Minimum	Maximum	Mean	Std. Deviation
Statement One	268	1.00	5.00	4.2575	1.07966
Statement Two	268	1.00	5.00	4.5597	.93625
Statement Three	268	1.00	5.00	4.6530	.89260
Statement Four	268	1.00	5.00	4.0112	.91786
Statement Five	268	1.00	5.00	4.0112	1.16915
Statement Six	268	1.00	5.00	4.0970	1.37047

Note. This is a note about the table.

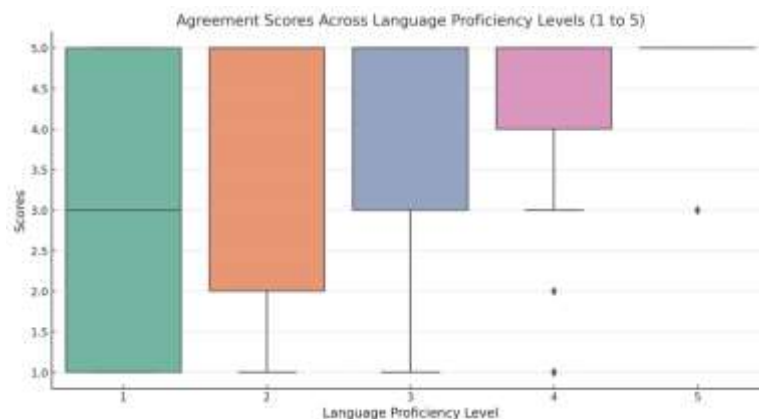## 6.4 Statement six: further statistical breakdown

To further analyse the factors leading to the high variance in the participants' responses to statement six, we compared its data to two variables. First, the statements' level of agreement (1 to 5) was compared to students' backgrounds (public schools vs private schools). I run the Mann-Whitney U Test to measure the significance of the difference between the two groups. The result indicates a p-value of 0.7962, which is greater than 0.05. Therefore, we conclude that there is no statistical difference between the two groups' level of agreement with the statement. Second, responses were compared to students' reported language proficiency. Again, the Whitney test was used to compare students' self-reported proficiency against their level of agreement with the statement. The results indicate a ($p = 1.05 \times 10^{-24}$), which effectively equals (p = 0) (table 17). We also compared the highest scores (4 and 5) against the lowest grades (1 and 2) and their equivalent statement scale scores, respectively. The results indicate a (p-value of 0.0028). Here again, students' proficiency can serve as a predictor of their level of agreement with the statement. Additionally, the boxplot (table 18) shows how the level of variance in the respondents' responses to the statements, depending on their level of proficiency, i.e., the higher the level of proficiency the lower the level of variance. Therefore, we can safely conclude that there is a positive relationship between students' reported proficiency and their level of agreement with the statement 'I think English should replace French at the University level.'

Table 17: 'Statement six' comparison: Public vs private & comparison across scores of proficiency.

Variable	U- Statistic	p-value	Significance
School Type (Public VS Private)	8643.5	0.7962	Not Significant
Language Proficiency (Overall)	53224.5	0.000	Significant

Note.

Table 18 : Boxplot

6. Discussion

This study provides a nuanced understanding of Ibn Tofail Faculty of Science students' attitudes toward adopting English as a medium of instruction in Moroccan Universities. The findings reveal a positive outlook toward EMI on the one hand and several challenges related to educational equity, students' linguistic readiness, and Morocco's language policy on the other hand. These insights are ever-relevant, especially within regional and global trends of shifts to EMI in non-English-speaking countries.

Ibn Tofail Faculty of Science students exhibit positive attitudes towards English as a medium of instruction, aligning with previous research conducted in Morocco (Bouziane, 2020; Laarej & El Allam, 2016). Students recognize the role of English as a global lingua franca of academia. Ben Hammou and Kesbi (2023) studied Moroccan students' attitudes towards EMI. They interviewed 17 master's and doctoral students. The study concluded that while students overwhelmingly favored EMI, they felt linguistically unprepared to make this shift, suggesting a phased approach to transition to EMI. Another study (Farmati, Yeou, & Benzehaf, 2022) revealed that Morocco ESP had positive attitudes towards English for instrumental and integrative reasons; the former refers to the desire to learn English for utilitarian reasons, while the latter concerns using English to integrate with the international Anglophone community. Belhiah (2016) studied Moroccan doctoral students' attitudes towards EMI, mainly because the respondents viewed English as the lingua franca of academia. Henceforth, the study's findings corroborate the existing EMI literature in Morocco about Moroccan students' positive attitudes towards EMI. Similarly, this is consistent with trends observed in neighbouring countries, mainly Algeria and Tunisia, where English has been gaining momentum, especially at the expense of French (Benkhettou, 2023). Across Asia, studies have shown strong support for EMI, e.g., in Malaysia and China (Ali, 2013; Hu & Lei, 2014).

Despite the strong support for shifting to EMI, the findings underscore a relatively moderate to low linguistic readiness amongst the research respondents, particularly students who graduated from public schools. Previous research indicates that low language proficiency may serve as a predictor of academic success. For instance, a study was conducted in Sweden to compare two groups, one enrolled in an EMI program and another in a Swedish Program. The researchers concluded that students performed significantly worse in the EMI program, mainly because of low language proficiency (Bälter, Kann, Mutimukwe, & Malmström, 2023). In Algeria, students and educators have expressed concerns about being inadequately prepared to adopt EMI due to their weak language proficiency (Benkhettou, 2023). In one study, students reported that limited language proficiency was the main hindrance to understanding their lessons (Boulkroun & Khenioui, 2024). Globally, research points out the intricate relationship between English proficiency and EMI. For instance, one study in South Korea revealed that Korean students with weak language proficiency struggle in EMI classes, which prompts lectures to use code-switching between Korean and English (Byun & Kim, 2011). Similar experiences have been observed in Turkey, Thailand, Japan, and China (Soruc & Griffiths, 2018; Vu & Burns, 2014; Galloway & Ruegg, 2020). Consequently, based on the research findings corroborated with previous studies in non-English speaking countries, any more significant shift to EMI must carefully consider Moroccan students' English proficiency.

The research results highlight a disparity in self-assessed proficiency between private and public school graduates, underscoring equity issues that merit addressing, especially when considering the type of school as socioeconomic status. A British Council Report (2021) highlights that the participants who report higher proficiency come from higher-income households. A different British Council report about the status of EMI in Vietnam and Thailand concluded that EMI programs tend to favour students from

privileged backgrounds (Galloway & Sahan, 2021). Research in non-English speaking countries has reported that private school students demonstrate better English proficiency (Zare-ee, 2010; Cadiz-Gabejan, 2022). Policymakers should avoid the risk of reproducing social hierarchies if EMI primarily privileges students from high socio-economic backgrounds**.**

7. Conclusion

As EMI expands globally and may be a serious possibility in Morocco, research should benefit from similar experiences worldwide. This study mirrors similar trends globally, emphasizing the urgent need for inclusive, equitable, and strategic planning before implementing EMI in Morocco. This research indicates that Moroccan universities are not ready to adopt EMI. While the research data shows a significant difference in language proficiency between private and public school graduates, further research is needed to investigate the differences. Future research needs to analyze this disparity further and provide practical remedies that can lead to an equitable adoption of EMI. This study suggests the following recommendations:

- More research is needed into Moroccan students' English proficiency, especially at the High School level.

- The difference between private and public school graduates' English proficiency needs further study.

- Should Morocco consider a transition to EMI, such a shift should be phased.

- Policymakers and researchers should turn their eyes to successful experiences that helped reduce the gap between learners from different socioeconomic backgrounds. For instance, The Community of Madrid's bilingual program (MBP) helped improve the language proficiency of students by incorporating Content and Language Integrated Learning methodology (CLIL) (Jiménez, 2022)

This research has found that a considerable chunk of students report higher English proficiency, which we need to capitalize on. In this vein, peer-assisted learning might help curb the linguistic gap between the students.

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