| RESEARCH ARTICLE

Attitudes towards Language(s) of Instruction in Higher Education Institutions of Science and Technology in Morocco

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| **ABSTRACT**

Nowadays, the language of instruction has become a bone of contention among educationalists, experts and language policy specialists in the Moroccan linguistic landscape. It is widely observed that French is the language of instruction in almost all higher education institutions of science and technology throughout Morocco. However, there have been calls to restore French by English since the latter is gaining grounds globally as a language of instruction in the fields of science and technology. This debate reflects controversy and diversity of views concerning the most appropriate and effective language of instruction. This study aims at contributing to this ongoing debate regarding this complex issue. Therefore, the focus is on exploring university professors and students' attitudes towards their preferred language of instruction and learning especially in higher education institutions of science and technology. The data was collected using two questionnaires administered to university professors and engineering students in the National School for Applied Sciences in Marrakech. The data was analyzed quantitatively to investigate the participants' preferences over the language of instruction in this educational context. The findings of the study show that both students and professors hold positive attitudes towards French and English with more preference for English as a language of instruction. The paper concludes by discussing some implications and recommendations especially for language planning and language policy as it will serve as a solid background and reference for educators and researchers.

1. Introduction

Recently, it is noted that there is a growing interest in bilingual and multilingual education worldwide, which leads to the advent of various bilingual programs. This trend has been introduced under different denominations. For instance, we can find content and language integrated learning in Europe (CLIL), French-immersion in Canada, content-based instruction (CBI) in North America and English-medium instruction (EMI) in other areas of the world. All these approaches in teaching and learning stress the importance of integrating language and content in non-linguistic school subjects through a foreign or second language. However, each approach has its inherent traits which differentiate it from other approaches. For example, CLIL is an educational approach that combines the teaching of subject matter with the teaching of a foreign language. Teachers are expected to teach both content and language. In contrast, in EMI and immersion learning, instructors focus mainly on content teaching. Another idiosyncratic

feature of the approaches to bilingual education is the target language. In CLIL, the target language can vary between a native language to a foreign or second language, contrary to EMI, for instance, where English is the definite medium of instruction (Ben Hammou & Kesbi, 2021b). In this view, Macaro (2018, p.19) defines EMI as: "The use of English language to teach academic subjects other than English itself in countries or jurisdictions where the first language of the majority of the population is not English". More importantly, while several forms of bilingual education are principally implemented in pre-tertiary education, as is the case for CLIL, content-based instruction and French-immersion, EMI is primarily practiced in tertiary education (Dearden, 2018; Picori, 2020).

In the Moroccan context, teaching through a foreign or second language has always been a natural process in Moroccan education system. Prior to the advent of French protectorate in 1912, the Arabic language, which is an acquired language, was the medium of instruction in Al-Qarawiyyin University and in the Quranic schools (Ennaji, 2005). Moroccan aborigines, called Amazigh, speak Tamazight as their mother tongue. Moroccan Arabic, known as "Darija", is the native language of the majority. Between 1912 and 1956, the French colonizers initiated the formal French education system and obliged French as the only language of instruction, whereas Arabic was considered a foreign language. After independence, the Moroccan state replaced French with Arabic in pre-tertiary education while French is kept in higher education. Presently, with the ongoing educational and language reforms (the strategic vision 2015-2030 and the framework law 51-17), French has been re-initiated in secondary education as a language of instruction for the teaching of technical and science subjects. Besides French, the reforms propose using other foreign languages, particularly English and Spanish, as media of instruction for the instruction of some science courses. While French-medium instruction has become the norm in most science universities and secondary schools, Spanish-medium instruction and EMI are limited to a few eclectic classes in some secondary schools. The major difficulty that graduates of these programs encounter is that both EMI and SMI are not expanded to tertiary education as French is still the crucial language of instruction for engineering, science and technology subjects, especially in public tertiary education institutions (Ben Hammou & Kesbi, 2021a, 2021b; R'boul, 2022). Thus, students are pushed to switch to French-medium instruction or alter their streams.

Previous research has tackled much about university students' attitudes towards the languages of instruction in higher education. However, little research was conducted about university professors' attitudes about the medium of instruction. This study will fill this void in the body of literature. The current study seeks to investigate engineering students and professors' attitudes towards French and English as languages of instruction in higher education institutions of science and technology.

2. Literature Review
Attitudes can direct our conduct and behaviour in the way that they may bring about positive or negative outcomes vis-à-vis an object (Baker, 1992). Recently, attitudes received special attention among researchers in language learning and teaching. Gardner (1985) developed the socio-educational model which places "a heavy emphasis on the ways in which attitudes influence second language learners" (Al-Masheikhi, Al-Mahrooqi, Denman, 2014, p. 100). According to Smith, M. C., Walker, D. A., & Hamidova, N., (2012), "attitude" referred to feelings and sensations related to past experiences. Hence, it is believed that language learners' beliefs towards their milieu shape their attitudes towards target language learning.

Based on the literature review examined, it is generally admitted among researchers and scholars that both students and teachers hold positive attitudes towards EMI in pre-tertiary and tertiary education (Ben Hammou & Kesbi, 2022; Bouziane, 2020; Dearden & Macaro, 2016; Nadri & Haoucha 2020). To illustrate this, Dearden and Macaro (2016) reported on the attitudes of university teachers involved in teaching their subject matters through the medium of English. They concluded that their findings are aligned with previous literature on the implementation of EMI in Europe and worldwide. The respondents were supportive of the introduction of EMI at university and that EMI would develop the students' English because it is an international language and a language of academia. According to Nadri and Haoucha (2020), their findings showed that the informants have positive attitudes vis-à-vis the EMI policy; however, they acknowledge different obstacles that may hinder successful implementation. The study also argued for the utility of supplying EMI professors with support at multiple levels of the educational process, but specifically at the pedagogical and educational level. Similarly, Bouziane (2020) examined the Moroccan students' perceptions vis-à-vis the languages they employ in their everyday interactions and those that are commonly used in the Moroccan education system. His Findings indicated that Moroccan students hold positive attitudes towards all languages and are eager to use languages for instrumental ends. The results suggest that attitudes towards languages in Morocco are entrenched in factors beyond the official policy directions. Ben Hammou and Kesbi (2022) investigated graduate students' perceptions vis-à-vis the use of English as a medium of instruction in Moroccan science colleges. The findings showed that though graduate students have positive attitudes towards the future implementation of EMI in tertiary education, they believe students are not ready for this switch in the medium of instruction considering that they have studied through either Arabic or French in lower grades. Thus, they suggest incremental implementation of EMI in lower levels and introduction of English as a foreign language in the place of French at primary level. R'boul (2022) conducted a study concerned with the spread of English in Morocco, in which the researcher examined university students and professors' ontologies and commitments with the English language. Findings revealed that there has been a sense of discontentment with Moroccan cultures and their intrinsic ontological characteristics in participants' discourses culminating in

an intentional acculturation process. It was brought to an end that the cultural framework of the English language is a key factor in the spread of English in Morocco.

Belhiah and Abilkassem (2016) investigated science and technology PhD students' attitudes towards the usage of English as a medium of instruction in 3 Moroccan colleges. The findings indicated that students highly advocate and support English as a means of instruction. This preference is attributed to some reasons like the need to read and cite materials in indexed journals in their dissertations, their willingness to follow postgraduate studies abroad and their eagerness to be successful in the job market. English is incrementally deemed by Moroccan students as a vital language in higher education. French sounds less significant for these students though it is the first foreign language in Morocco and the medium of instruction in colleges of science and technology. Likewise, Tsui and Ngo (2017), examining students' attitudes of EMI in a Hong Kong college, delineated positive perceptions towards the efficacy of EMI. The involved students acknowledged the magnitude of English for gaining cultural awareness, globalization, institutional prestige and employability.

Introducing EMI to pre-tertiary and tertiary education, however, might yield undesirable outcomes. For example, though students in Tsui and Ngo's (2017) survey do not regard English as an obstacle to their content knowledge, some of them believe their academic achievement, results, inspiration and in-class discussions can be negatively influenced. In the same vein, Almahrooqi and Denman (2014) conducted an exploratory study revolving around science students' attitudes vis-à-vis using English as a medium of instruction (EMI) at a public university. Findings showed that most of participants were conscious of the fact that English is the global language of science and technology. Yet, more than half revealed that they would opt for using Arabic as a code of instruction in their studies. Overall, informants concur that it is difficult to learn science through the medium of English language. However, despite these issues, these learners showed high levels of instrumental and integrative motivation towards English language learning. Belhiah and Elhami (2015) working on the efficacy of English as a medium of instruction (EMI) in the United Arab Emirates tertiary education, investigated teachers and students' perceptions vis-à-vis the use of English to teach content knowledge. Results demonstrated that the students are still grappling with learning the content knowledge due to their low mastery of English. This finding has been advocated by Rogier (2012). In Kurdistan, Borg (2016) realizes that while professors are contented with their capacity to instruct through English, they suppose their students face problems comprehending and speaking their minds. Thus, they confessed to frequently having recourse to Arabic or Kurd. In South Korea, Kim (2017) stated the negative effect of English-mediated classes by claiming limited academic outcomes resulting from lack of English competence of both instructors and students. A great deal of students needs parallel language support to cope with the challenges in the EMI issues.

3. Methodology
The present study is mainly descriptive and adopts a quantitative design to investigate engineering students and professors' attitudes towards the language of instruction in higher education institutions of sciences and technology in Morocco. The data was gleaned from a sample of 72 engineering students and 17 professors teaching in the National School for Applied Sciences (ENSA), Cadi Ayyad University, Marrakech, Morocco.

After deciding on the topic and the target population to investigate, the researchers designed two questionnaires to gather data from Moroccan university students and professors. To examine the participants' attitudes towards the language of instruction in higher education institutions of sciences and technology, the researchers developed two questionnaires, one for the investigation of students' attitudes and the other one for the investigation of professors' attitudes towards the language of instruction.

3.1 Research Questions
Based on this theoretical background, the present study aimed to tackle the following primary and two secondary research questions:

1. What attitudes do engineering students and professors hold towards the language of instruction in higher education institutions of sciences and technology?
   a- What attitudes do these students and professors hold towards French- medium instruction?
   b- What attitudes do they have towards the possibility to switch into English-medium instruction in the future?

3.2 Instrument
Two questionnaires were employed. The first questionnaire elicited data from engineering students and the other questionnaire is directed to professors teaching different scientific subjects and disciplines in the National School for Applied Sciences (ENSA). The first part in both questionnaires is concerned with the participants' demographic information such as (gender, age, level, major and teaching experience). The second part in the students' questionnaire incorporated items reflecting the essential themes emphasized in the study background. This part in the students' questionnaire featured items related to students' language proficiency, language used in writing and speaking, language preference, the language appropriate for explaining lessons in

science classes, language of instruction, The language important for children to increase their success in learning science at university, language preferred in academic research, language preferences in E-mails, writing, reading and speaking, the language used in writing scientific reports, the language used in delivering class presentations, The language preferred in evaluating students' performance in science classes, The relationship between language of instruction and academic achievement, and finally students' opinions about the language people need to learn in 10 years. As for the second part in the professors' questionnaire, it comprised 16 questions revolving around the professors' attitudes towards the language of instruction in higher education. Among the questions posed to the surveyed professors, we can mention: What language of instruction are you more comfortable with in class? Which language is more appropriate to explain scientific courses? Which language is more appropriate to explain scientific courses?

The selection of the questionnaire as a research instrument is justified by the fact that it is theoretically grounded as "surveys help identify important beliefs and attitudes of individuals" (Creswell, 2012, p. 06). To this end, the questionnaire fits the purposes of the current study, that aims to explore students and teachers' attitudes towards the language of instruction.

3.3 Participants
72 engineering students (44 males and 28 females) and 17 university professors (15 males and 2 females) participated in this study. The students follow their higher education in the first and second year in engineering classes at the National School for Applied Sciences. Of the 72 student participants, 3 were first year engineering students, and 69 second year. The professors teach different science subjects at the same institution. A questionnaire was administered to both students and professors to elicit data about their attitudes towards the language of instruction in this institution of sciences and technology. Students were asked to rate their level of language proficiency at Standard Arabic, French and English. 29 student participants said they are proficient in French, 23 in Standard Arabic, while 20 said they are proficient in English. As for students' mother tongue, 81.9% stated that they speak Moroccan Arabic and 18.1% speak Tamazight.

3.4 Data Collection and Analysis
The questionnaire was checked out by a professor of linguistics at the research site prior to being piloted with a small cohort of the National School of Applied Sciences students who were not involved in the main study. After the comments of the professor, a range of items were added and modified in the body of the questionnaire before administering it for validity and reliability reasons. Eventually, 72 copies were filled out by the students and 15 copies by the professors. The questionnaires were filled in and returned in a two-week time span data collection period.

The quantitative data gleaned from the two questionnaires was analyzed using descriptive statistics with a special emphasis on items, frequency counts and percentages. As for statistical analysis, the present study uses Statistical Package for Social Sciences (SPSS, version 20).

4. Findings
4.1 Students' findings
The main objective of this study is to explore university students and professors' attitudes towards French and English as media of instruction in the National School for Applied Sciences (ENSA), Marrakech. To achieve this, two questionnaires were delivered to both engineering students and professors, depicting their demographics as Table 1 shows:

Table 1 Students' Demographic Information

Demographic Characteristics		Frequency	Percentage
Gender	Male	44	61,1
	Female	28	38,9
Age	Less than 20 years	3	4,2
	Between 21 and 23 years	67	93,1
	More than 23 years	2	2,8
Level	First year engineering	3	4,2
	Second year engineering	69	95,8
Major	**EE** (Electrical Engineering)	7	9,7
	TNE (Telecommunications & Networks Engineering)	11	15,3
	CI (Computer Engineering)	13	18,1
	ILE (Industry & Logistics Engineering)	25	34,7
	NSPS (Networks, Systems & Programmable Services)	5	6,9
	CSE (Cybersecurity Engineering)	11	15,3
What is your mother tongue?	Moroccan Arabic	59	81,9
	Tamazight	13	18,1
Total		72	100,0

Table 1 indicates that the majority of students surveyed in this study are males (61.1%), while female students constitute only (39.9%). The participants' age range between less than 20 years and more than 23 years old. They all follow their studies in the National School of Applied Sciences, Cadi Ayyad University, Marrakech. Concerning the students' educational level, the overwhelming majority of these students (95.8%) belong to second year engineering level, while 4.2% of students are first year engineering students. 81.9% of the students speak Moroccan Arabic as their mother tongue, while 18.1% speak Tamazight as their mother tongue.

Table 2 Students' Language Proficiency

What language are you more proficient at?	Frequency	Percentage
English	20	27,8
French	29	40,3
Standard Arabic	23	31,9

As for the engineering students' language proficiency, table 2 shows that 40.3% of them are proficient in French, 31.9% in Arabic and 27.8% in English. One explanation for the students' high level of proficiency in French may be due to their major as the institution's program is delivered mainly in French. This implies that French is required and prevalent in higher education as a medium of instruction for these students and as a means to study other content knowledge.

Table 3 Students' linguistic ability in writing and speaking

	English		French		Standard Arabic	
	Count	%	Count	%	Count	%
What language are you capable of using while writing?	26	36,1%	31	43,1%	15	20,8%
What language are you capable of using while speaking?	25	34,7%	23	31,9%	24	33,3%

Table 3 illustrates that the language students are capable of using while writing is French (43.1%). As for speaking, the language students are capable of using is English (34.7%). One explanation for this may be that students are capable of using French while writing in French is that the latter is the main medium of instruction, whereas, the students are capable of using English while speaking because it is the language that is cherished by young generations and the one usually heard in TV shows, movies, broadcasts and songs.

Table 4 Students' Language Preferences

Which language do you prefer to be used in science classes?	Frequency	Percentage
French	24	33,3
Standard Arabic	3	4,2
English	45	62,5

Table 4 reveals that the languages preferred by engineering students to be used in science classes are: English (62.5%), French (33.3%) and Arabic (4.2%), respectively. This shows that these students learn through a language that not only runs against their linguistic choice but it is also imposed on them by policy-makers, the government and by the curriculum.

Table 5 The language appropriate for explaining lessons in science classes

In your opinion, which language is more appropriate for explaining lessons in science classes?	Frequency	Percentage
English	40	55,6
French	18	25,0
Standard Arabic	2	2,8
Moroccan Arabic	11	15,3
Tamazight	1	1,4

Table 5 shows that the languages that are more appropriate for explaining lessons in science classes are: English (55.6%), French (25%), Moroccan Arabic (15.3%), standard Arabic (2.8%) and Tamazight (1.4%). This language choice is apparent since English becomes a lingua franca and a language of science worldwide and it is used by an overwhelming majority of students and in different universities.

Table 6 Language of Instruction

Which language of instruction do you consider more appropriate to adopt in higher education?	Frequency	Percentage
English	60	83,3
French	8	11,1
Standard Arabic	1	1,4
Moroccan Arabic	3	4,2

As for the language of instruction considered more appropriate to be adopted in higher education, table 6 delineates that the students rank languages as follows: English (83.3%), French (8%), Moroccan Arabic (4.2%) and standard Arabic (1.4%). Here, we infer that English is gaining ground over French as an appropriate language to adopt in higher education.

Table 7 The language important for children to increase their success in learning science at university

What language do you think is more important for children to learn to increase their chances of success in learning science at university?	Frequency	Percentage
English	61	84,7
French	10	13,9
Standard Arabic	1	1,4

Table 7 clearly shows that the languages important for children to increase their success in learning science at university is English (84.7%), French (13.9%) and standard Arabic (1.4%), respectively. One reading for this reality is that English is an international language of both communication and academic research for the future generations.

Table 8 The language used in academic research

Which language do you use in academic research?	Frequency	Percentage
English	31	43,1
French	40	55,6
Moroccan Arabic	1	1,4

As for the language students use in academic research, table 8 indicates that French (55.6%) is more used in academic research than English (43.1%) and Moroccan Arabic (1.4%). This predominance of French in academic research can be attributed to the students' major as all subjects and content knowledge are delivered in French.

Table 9 Language preferred in academic research

Which language do you prefer to use to do your academic research?	Frequency	Percentage
English	47	65,3
French	23	31,9
Standard Arabic	2	2,8

As for the language students prefer to use to do their academic research, table 9 clearly shows that English (65.3%) is more preferred to use in academic research than French (31.9%) and standard Arabic (2.8%).

Table 10 Language preferences in E-mails, writing, reading and speaking

	Standard Arabic		English		French	
	Count	%	Count	%	Count	%
What language do you prefer to use for learning purposes in emails?	3	4,2%	35	48,6%	34	47,2%
What language do you prefer to use for learning purposes in writing?	8	11,1%	38	52,8%	26	36,1%
What language do you prefer to use for learning purposes in reading?	6	8,3%	47	65,3%	19	26,4%
What language do you prefer to use for learning purposes in speaking?	10	13,9%	41	56,9%	21	29,2%

As for the language students prefer to use in emails, 48.6% of the students prefer English, 47.2% French and 4.2% Standard Arabic. Concerning the language students prefer to use in writing, 52.8% prefer English, 36.1% French and 11.1% opt for Standard Arabic. As for students' reading preferences, 65.3% prefer to read in English, 26.4% in French and 8.3% in Standard Arabic. Finally, 56.9% of the students prefer to use English in speaking, 29.2% of them prefer to use French and 13.9% opt for Standard Arabic.

Table 11 The language used in writing scientific reports

What language do you use to write scientific reports?	Frequency	Percentage
English	15	20,8
Standard Arabic	57	79,2

When it comes to the language used in writing scientific reports, table 11 reveals that 79.2% of the students use standard Arabic, whereas 20.8% use English.

Table 12 The language used by the students in delivering class presentations

What language do you use to deliver presentations in class?	Frequency	Percentage
English	7	9,7
French	65	90,3

Concerning the language used to deliver class presentations, 90.3% of the students use French while 9.7% opt for English as table 12 indicates.

Table 13 The language preferred in evaluating students' performance in science classes

What language do you prefer to be used in evaluating students' performance in science classes?	Frequency	Percentage
English	43	59,7
French	22	30,6
Standard Arabic	2	2,8
Moroccan Arabic	5	6,9

As for the language preferred in evaluating students' performance in science classes, 59.7% of the students prefer English, 30.6% prefer French, 6.9% prefer Moroccan Arabic and 2.8% prefer standard Arabic as indicated in table 13.

Table 14 The relationship between language of instruction and academic achievement

Do you think that the language of instruction affects your academic achievement?	Frequency	Percentage
Yes	50	69,4
No	13	18,1
I do not know	9	12,5

As for the relationship between the language of instruction and academic achievement, the majority of the students (69.4%) think that the language of instruction affects their academic achievement as shown in table 14.

Table 15 Students' opinions about the language people need to learn in 10 years

What language do you think people need to learn in 10 years?	Frequency	Percentage
English	49	68,1
Standard Arabic	4	5,6
French	5	6,9
German	8	11,1
Chinese	2	2,8
Spanish	4	5,6

Concerning students' opinions about the language people need to learn in 10 years, the languages were ranked as follows: English (68.1%), German (11.1%), French (6.9%), Standard Arabic and Spanish (5.6%) and Chinese (2.8%).

4.2 Professors' Findings

Table 16 Teachers' demographic information

Demographic Characteristics		Frequency	Percentage
Gender	Male	15	88,2
	Female	2	11,8
Teaching experience	Between 5 and 10 yrs	4	23,5
	More than 10 yrs	13	76,5
Total		17	100,0

Table 16 shows professors' background information. These professors teach different science content subjects at the National School for Applied Sciences (ENSA), Marrakech. As for gender, 88.2% of professors are males, whereas 11.8 % are females. Concerning teaching experience, 76.5% of the professors have been teaching for more than 10 years, whereas 23.5% of the them have been teaching a period ranging between 5 and 10 years.

Table 17 Teachers' attitudes towards languages of instruction

	English		French		Standard Arabic	
	Frequency	%	Frequency	%	Frequency	%
1. What language of instruction are you more comfortable with in class?	5	29,4%	12	70,6%	0	0,0%
2. In your opinion, which language is more appropriate to use to teach science courses?	12	70,6%	3	17,6%	2	11,8%
3. Which language is more appropriate to explain scientific courses?	15	88,2%	1	5,9%	1	5,9%
4. What language do you prefer to use to conduct academic research?	15	88,2%	1	5,9%	1	5,9%
5. What language is more required for publishing?	16	94,1%	0	0,0%	1	5,9%

6.	What language do you prefer to use for publications?	15	88,2%	1	5,9%	1	5,9%
7.	What language is widely adopted in conferences about science and technology?	15	88,2%	1	5,9%	1	5,9%
8.	What language do you prefer to use while participating in a conference about science and technology?	14	82,4%	2	11,8%	1	5,9%
9.	What language do your students prefer to be used in class?	8	50,0%	6	37,5%	2	12,5%
10.	What language do you believe your students are more capable of using in class?	6	37,5%	6	37,5%	4	25,0%
11.	What language do you require your students to use in writing reports?	11	64,7%	5	29,4%	1	5,9%

12. What language do you require your students to use in delivering presentations?	10	58,8%	6	35,3%	1	5,9%
13. What language do you encourage your learners to learn more for professional success?	16	94,1%	0	0,0%	1	5,9%
14. What language do you think your students need to learn in the future?	16	94,1%	0	0,0%	1	5,9%
15. What language would be of an added value for your students in their academic success?	15	88,2%	0	0,0%	2	11,8%
16. What language is more required in the professional context in Morocco?	8	47,1%	6	35,3%	3	17,6%

Table 17 clearly shows that the overwhelming majority of professors hold positive attitudes towards English -medium instruction. As for question 1, responses show that the majority of professors (70.6%) are more comfortable with French as a language of instruction in class than English (29.4%) and standard Arabic (0.0%). As for the remaining questions, all the responses illustrate that English is the most favored language of instruction among teachers of science with the exception of question 10 whose responses show that teachers believe that their students are capable of using English and French on an equal footing (37.5%).

5. Discussion

This study has unveiled very interesting insights related to students and professors' attitudes towards the languages of instruction in higher education institutions of science and technology. The results attained clearly show that engineering students and professors generally hold positive attitudes towards English and French as important languages of instruction with English receiving the highest level of preference. Students believe that the language preferred to be used in science classes is English, a finding supported by (Almahrooqi & Denman, 2014; Dearden & Macaro, 2016; Nadri & Haoucha, 2020; Bouziane, 2020; Ben Hammou & Kesbi, 2022). As reported above, the overall findings provide an answer to the research questions that direct the current study.

Another crucial insight this study uncovered is the fact that an overwhelming majority of engineering students want to be taught through English medium of instruction. The participants asserted that the language of instruction considered more appropriate to be adopted in higher education is English. we deduce that English-medium instruction is competitively gaining ground over French as an appropriate language to adopt in higher education and it is highly supported by the students as it meets their academic purposes.

The findings have also shown that the engineering students are linguistically more proficient in French than in English and Arabic. One explanation for the students' high level of proficiency in French may be due to their major as the institution's program and content knowledge are delivered mainly in French. This shows that French is unwillingly imposed on these students by higher education system and it is not a choice on the part of the students.

As for the language preferred for explaining courses in science classes, the majority prefers English to French in science classes. This shows that the students learn through a language that is against their preferences. This also reveals that the language policy in Morocco is vague, ambiguous and irrational as El Kirat (2016) put it. It is dictated on them by policy-makers, the government and by the curriculum. The students also reported that English should be used as a language of instruction. And that English is primordial for children to learn to increase their success in learning science at university. Here we pinpoint the instrumental purposes of learning a foreign language.

As for the language students use in academic research, findings show that French is more used in academic research than English. This predominance of French in academic research can be attributed to the students' major as all subjects and content knowledge are delivered in French and English is relegated to a secondary status. As for the language students prefer to use to conduct their academic research, it is clearly revealed that English is more preferred to use in academic research than French. Here, we conclude that students are put in a paradoxical situation. This preference may be due to English being a language of science and technology also references and resources are more available in English than in French. Worthy of note is that the majority of students prefer to use English language for learning purposes over French in instances of writing emails, writing, reading and speaking activities.

When it comes to the language used in writing scientific reports, the majority of the students use Standard Arabic, whereas a less number use English, however, they do not mention French in this regard. As for the language used in delivering class presentations, a vast majority confirmed that they use French. For the language preferred in evaluating students' performance in science classes, the bulk of students stated they prefer English.

As for the language used in delivering class presentations and the language preferred in evaluating students' performance in science classes, a big number of the students stress the importance of employing English to fulfill these tasks.

Concerning the relationship between language of instruction and academic research, a vast majority of students say there is a relationship. Here, language policy-makers and language planners should choose the language adopted in higher education on solid grounds and scientifically justified. Besides, most of the students in this study go with the opinions that English is the language people need to learn in 10 years.

Findings also show that the overwhelming majority of professors hold positive attitudes towards English -medium instruction. The professors' responses clearly illustrate that English is the most favored language of instruction among professors of science and technology in higher education. A great number of the participants' responses show that they are ready to switch towards English-medium instruction as the latter meets their personal, academic and professional needs.

6. Conclusion and Recommendations

This study sought to investigate engineering university students and professors teaching in higher education institutions of science and technology in ENSA, Marrakech. Overall, the findings reveal that a vast majority of students and professors hold positive attitudes towards French and English as medium of instruction with more preference for English as a global language. These students prefer English to French for explaining courses in science classes. Findings also showed that most students use French rather than English in academic research. As for the language students prefer to use to conduct their academic research, it is clearly revealed that English is more preferred to use in academic research than French. this shows how useful, instrumental English is for the students' learning objectives.

Although the students learn through French, their attitudes towards English are more favorable than French. This gives a hint about the language policy and language planning and the state's ideology are at loggerheads with the students' desires and aspirations towards the language of instruction in Morocco.

In view of these findings, a plethora of implications are to be drawn:

Firstly, policy and decisions makers should initiate English-medium of instruction (EMI) in pre-tertiary and tertiary education because it is highly appreciated by students and professors. In all Moroccan higher education institutions of sciences and technology, we find that French is mainly used as a medium of instruction for all content subjects in these institutions. French is still monopolizing the linguistic arena in our higher education system and English is only given a lower position. Instead, given the

positive perceptions that most students hold towards English, it is about time we introduced English-medium instruction throughout higher education institutions of sciences and technology. By doing so, students are more presumable to broaden their knowledge, hone their English language skills and be in contact with resources and references in their areas of specialty. Secondly, what is the use of using French-medium of instruction while an overwhelming majority of engineering students and university professors prefer to adopt English as a means of instruction in higher education. Policy makers put these students and professors in a paradoxical situation; therefore, strict measures should be taken by stakeholders to find a solution to this linguistic issue. To compensate for this, there must be a gradual introduction of English as a medium of instruction in parallel with French. Bilingual education programs in the first stages of EMI are helpful for students so as to get them familiar with the target language of instruction.

Although these findings provide an image of the attitudes towards the language of instruction of college of sciences and technology students at a public institution in Morocco, the descriptive nature of the study and the fact that the sample was not sufficient in number, this implies that further research is required to more completely understand this field.

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