

PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA  
MINISTRY OF HIGER EDUCATION AND SCIENTIFIC RESEARCH  
AbdelhafidBoussouf University Centre - Mila



*Institute of Literature and Languages*  
*Department of Foreign Languages*  
*Section: English*

**Investigating Student Engagement in a Recently Implemented  
English as a Medium of Instruction (EMI) Setting**

Case of: First Year Computer Science Students at Abdelhafid  
Boussouf University Centre, Mila

A Dissertation Submitted in Partial Fulfillment for the Requirements of the Master Degree in  
**Didactics of Foreign Languages**

**Presented by:**

- 1) Bouzeraa Amal
- 2) Aziz Malak

**Supervisor:**

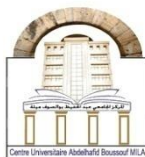
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Examiner : Abid Meriem

**2023/2024**

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## **Dedication**

*In the name of Allah, Most Merciful, Most Compassionate*

I dedicate this work to my parents for their endless love, prayers and sacrifices

and to my sisters, my brother and all my friends

**Bouzeraa Amal**

## **Dedication**

To my dear parents for their endless love, support, and encouragement.

**Aziz Malak**

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First and foremost, we are deeply grateful to **Allah** for granting us the strength, patience, and wisdom to complete this dissertation. His guidance has been our constant source of inspiration and resilience throughout this challenging journey.

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### **Abstract**

This study aims to investigate the effect of implementing English as a Medium of Instruction (EMI) on first-year computer science students' engagement at the Abdelhafid Boussouf University Center in Mila, Algeria. To gather comprehensive insights, this research employs two questionnaires designed for both computer science students and teachers at the University Centre of Mila. The collected data are analyzed using the mixed methods approach. The results show that both students and teachers recognize the importance of using EMI in higher education. However, the findings also highlight the significant challenge in implementing EMI, primarily due to insufficient language proficiency among both students and teachers which, in turn, impacts student engagement negatively. Furthermore, the data analysis reveals that student low engagement is also caused by unsatisfactory support provided by teachers and a lack of enjoyment and interest. The study also suggests methods for enhancing the implementation of English as a medium of instruction, underscoring the need for careful planning and preparation prior to implementation.

**Keywords:** Challenge , computer science education, English as a Medium of Instruction (EMI), language proficiency , student engagement .

## **List of Abbreviations**

**CS** : Computer Science

**EFL** : English as a Foreign Language

**ELT**: English Language Teaching

**EMI** : English as a Medium of Instruction

**Q** : Question

**SE** : Students' Engagement

**SLA** : Second Language Acquisition

**TC** : Target Culture

**TL** : Target Language

**UK** : United Kingdom

**USA** : United States of America

**%** : Percent

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## **General Introduction**

### **Introduction**

In today's increasingly interconnected and globalized world, the need for immediate and effective communication is more important than ever. With the rise of globalization, English has become the predominant language for international communication. It serves as the common language for commerce, trade, diplomacy, mass entertainment, telecommunications, and scientific publications worldwide. Effective communication is more important than ever because it facilitates understanding and collaboration among diverse cultures, ensures the smooth operation of global markets, and helps address global issues swiftly and efficiently. Misunderstandings can lead to conflicts, economic losses, and missed opportunities, making clear and effective communication vital in navigating the complexities of our interconnected world.

As the first global lingua franca, English plays a crucial role in connecting people from different regions and it is widely used in international business interactions. Its widespread usage has firmly established it as the dominant global language across diverse fields, including science, engineering, medicine, trade, education, and entertainment, making its influence comparable to an unstoppable force.

Given its pervasive influence, it is no surprise that English has also become a key language in the realm of education. In recent years, English as a Medium of Instruction (EMI) has become increasingly prevalent in higher education in Algeria. This trend is driven by the need to internationalize education, improve English proficiency, attract international students, and enhance global competitiveness (Turhan & Kirkgöz, 2018). The adoption of EMI in Algerian universities reflects the recognition of English as the global language of science, technology, and international communication.



## **1. Statement of the Problem**

While significant research has been conducted on EMI in various regions, such as East Asia and Europe, there is a noticeable gap in studies focusing on non-Anglophone African countries, including Algeria. The debates on EMI in Algeria surfaced notably in 2019, following declarations by the Algerian Minister of Higher Education that the status of English should be improved (Jacob, 2020). A national survey indicated that the promotion of English in Algerian higher education was perceived positively because it is regarded as a “de-colonial option” (Jacob, 2020, p. 5). Benrabah (2013, P. 8) justified the Algerians’ preference for English by stating, “French is imperialist and colonialist for Algerians, whereas English is at large a language of scientific knowledge in the world.”

In light of these developments, it is crucial to explore the effectiveness and impact of EMI on student engagement and learning outcomes, particularly in disciplines like computer science where English plays a pivotal role in accessing global scientific knowledge. This study focuses on first-year computer science students at the Abdelhafid Boussouf University Center in Mila, aiming to investigate their engagement in an EMI setting. Understanding student perspectives and experiences can provide valuable insights into the strengths and challenges of EMI implementation in Algeria, ultimately contributing to the development of policies and practices that enhance educational quality and student success in an EMI context.

## **2. Significance of the Study**

This research is important because it fills a gap in the study of English as a Medium of Instruction (EMI) in non-English speaking African countries, particularly Algeria. By examining how EMI affects student engagement and learning outcomes, the study offers valuable insights that can influence educational policies and practices. This, in turn, can help improve the quality of education and student success in Algeria and similar contexts.

Additionally, by identifying challenges and proposing effective strategies for integrating EMI, the study can contribute to improving English proficiency and international competitiveness among students.

Moreover, this study is of significant importance as it addresses a critical gap in the literature and provides valuable guidance for future educators. It supports curriculum development, informs teacher training programs, and encourages student-centred learning approaches. The findings contribute to the decolonization of education by promoting English over French and proposing long-term EMI reforms that ensure sustainable improvements in education quality and student performance. In summary, the insights from this study are positioned to benefit students, educators, policymakers, and the broader educational community.

### **3. Aims of the Study**

This study aims to explore the impact of English as a Medium of Instruction on computer science students' engagement. It also seeks to investigate the obstacles and difficulties that students face due to this policy. Another aim is to suggest effective strategies to enhance the integration of EMI, ultimately to improve student engagement and academic performance in scientific disciplines.

### **4. Research Questions**

Based on what precedes, our endeavours are devoted to answer the following questions:

1. How does the implementation of English as a Medium of Instruction affect computer science students' engagement?
2. What are the obstacles and difficulties that students encounter after the implementation of English as the medium of instruction at the Algerian higher education level?

3. What are the changes that could be implemented to overcome these problems?

## **5. Research Methodology**

In order to obtain the information required for the completion of this work, two questionnaires have been adopted: one for teachers and another for students. The teachers' questionnaire is administered to first year computer science teachers in the Department of Computer Science Mila University Centre. The students' questionnaire is distributed to first year computer science students, enrolled in the academic year 2023/2024, at the same department. These questionnaires are designed with the purpose of investigating students' engagement in a recently implemented English as a medium of instruction setting. The yielded data are analyzed quantitatively and qualitatively following the mixed approach.

## **6. Structure of the Study**

This thesis is divided into two chapters. The first chapter includes the literature review, which deals with previous studies and research on student engagement and English as a medium of instruction. It is divided into two sections. The first section is entitled "English as a Medium of Instruction." The second section is entitled "Students' Engagement." The second chapter represents the research methodology. It includes the procedures of data collection, the population and sample, the analysis and interpretation of the data obtained from the students' and teachers' questionnaires, along with a discussion of the obtained results. In the general conclusion of this dissertation, the main findings are highlighted and the conclusions are drawn. Finally, multiple suggestions and recommendations are offered for learners, teachers, and stakeholders for a better EMI implementation that can increase student engagement.

## **Chapter One: English as a Medium of Instruction and Students' Engagement**

### **Introduction**

English currently enjoys widespread recognition across the globe, giving it a world-wide stature. This global position evolved into a valuable asset that, if attained by individuals, might lead to a plethora of global prospects for both financial and professional success. Consequently, acquiring proficiency in this language is now considered essential rather than optional. As a result, English language instruction is now required at Algerian universities for both basic and higher education, according to a pedagogical policy adopted by the government. Given the Algerian historical linguistic heritage and its devotion to the French language, the adoption of this strategy is certain to have certain social and pedagogical outcomes. Thus, the present chapter highlights the policy of integrating the English language in Algerian universities as an official means of instruction that replaces the French language and its impact on computer science students' engagement. The present chapter presents a body of literature that tackles the major Algerian educational reforms, the status of both English and French as foreign languages, and more importantly, it explores the major challenges and difficulties that hinder the successful implementation of ELT policy in higher education in Algeria. In addition, it also highlights the importance of English as a medium of instruction and the impact of this policy on students' engagement and their involvement in the learning process in the (CS) classroom.

### **Section One: English as a Medium of Instruction**

English as a Medium of Instruction (EMI) stands at the forefront of global educational reform, reflecting the dynamic landscape of language in academia. Its emergence as a dominant force resonates with broader societal shifts, technological advancements, and professional demands. In this section, we delve into the multifaceted dimensions of EMI, exploring its status as a global language, its pivotal role in educational and professional domains, and its

unfolding narrative within the context of Algerian higher education. Through an in-depth examination of its significance, historical context, and developmental path, we uncover the complexities, challenges, and transformative potential of EMI in shaping the educational landscape of Algeria.

### *1.1.1. Status of English as a Global Language*

The position of English as a global language is a revolutionary phenomenon that dominated the international scene and turned the language into a prominent aspect of technological advancement, professional requirements and social development. The use of this language is integrated into every life domain, including education, media platforms, public health sector, law, business and others. Moreover, Crystal (2006) confirmed the global recognition of English as an international language used in every country. He argued that in order for a language to achieve a global status, it has to meet three main criteria. These include the fact that it should be accepted as an official language in countries, it should be spoken by the majority of people in various nations as their first language, and it should be prioritized in language instruction globally (as cited in Michaud & Colpitis, 2015). In other words, it has to be taught officially on an international level.

Therefore, it could be safely declared that English has achieved a dominant global position that enabled it to be the leading language of the international communication between nations. According to statistics presented by Freeman, et al. (2015), it is listed that there are more than 15 million official teachers of English language around the world yet 80% of them are non-native English speakers (as cited in Floris & Renandya, 2020). Thus, a large amount of teachers of English around the world are from non-native English countries and they teach English as a second or a foreign language in their own countries. The increase of learners of English has also increased the demands of teachers. These statistical evidence supports Crystal's argument, as the demand has showed that English language is of priority in the world.

More importantly, Brooker (2018) argued that this language is currently viewed as a valid indicator for technological development and economic advancement. It is argued that the use of this language as a means of obtaining competitive economic leverage has turned into a distinguishing feature of the 21<sup>st</sup> century that is idealized for globalization and common global economy. In other words, English has turned into an effective tool that enables its speakers and users to enjoy a wide range of professional opportunities that enables them to achieve economic development. Brooker (2018) has also listed some of the key advantages that characterize English language users nowadays; they include being a tool for socio-economic development, and providing opportunities for mobility and employability. Consequently, it is also considered as a key requirement for the individual's set of skills in the 21<sup>st</sup> century.

Therefore, English is not only used in different global and social contexts, but it is also a key factor in developing and enhancing one's professional and economic status. This great importance of English as a global language puts more emphasis on its teaching pedagogy and instructional methods in the field of EFL learning and teaching process. It also sheds light on the necessity of educating young pupils and students to equip them with valuable means of communication which enable them to succeed in both their academic careers and professional development.

**1.1.1.1. Importance of English Language Instruction.** Considering the notable significance of English language in today's global world, its acquisition has turned into a necessity rather than an additional qualification. It is now regarded as the language of science, media, tourism and aviation (Ilyosovna, 2020). It is commonly observed that English is the characterizing language used in most social media platforms and websites. Thus, if an individual needed to browse the web, English mastery is an essential requirement. It is also the language of science and education since current syllabus and curricula are mostly presented in English,

in addition to the availability of the related research articles and papers in this language. In terms of aviation, it could be also observed that pilots, cabin crews and airports staff use of English language in this workplace environment regardless of their native tongue (Ilyosovna, 2020). Thus, English language is nowadays a requirement skill for graduate students since it plays a major role and occupies a large proportion of the workplace environment.

As a result, English language instruction is now holding a significant value in the global educational sector because it bears the responsibility of providing students from diverse social and national backgrounds with the most widely used language in the world. Furthermore, this language instruction is not only demanded in their academic journey, but it is required in their professional careers as well. Shrishthy (2023) argued that English is selected as a representative language for the majority of international organizations spread in different countries around the globe. Therefore, it is vital for students to equip themselves with this means if their aim was to succeed in their professional domains after university.

Moreover, due of the effects of globalization, which are evident in the rise in English-medium programs at higher education institutions, English-medium supremacy is ingrained in social, economic, and technological advancement as well as in international communication (Tang, 2020). In other words, the global position of English as a leading means of international communication between nations has enabled this language to penetrate the social, academic and professional atmosphere of different societies and communities around the world. However, this massive spread is regarded by Phillipson (2009) as a linguistic imperialism, used by European legacies enacted through economy and education.

More importantly, Tang (2020) made it plain that EMI has three main purposes. It aims to enhance students' English language proficiency for professional purposes, broaden their understanding of many academic fields, and equip them to engage with the global community. Thus, using English as a means of instruction in universities based on the purposes of

EMI listed by Tang (2020), aims at preparing students for professional workplace environments in which they are required to execute particular tasks using English language such as writing formal emails, reports, preparing presentations and others. It also aims to expand their knowledge and comprehension of different life domains since English is nowadays considered as the language of science and technology, as it also seeks to involve them in global communication by equipping them with the international common means of communication and interaction between people from different countries and nationalities. All these factors contribute to producing effective and efficient members of society who can function in the national and international professional domain once they graduate from college.

**1.1.1.2. Overview of Major Language Acquisition and Learning Theories.** Over the years, there has been a number of prevailing learning theories that dominated the field of Second Language Acquisition (SLA) and distinguished the methods of language teaching and pedagogy. According to Schunk (2012), the study of language acquisition is a psychological perspective that dates back to the nineteenth century when systematic studies in psychology started to emerge. These theories serve as a set of rules that are accepted by science and they are proposed to explain a phenomenon, offer frameworks for analyzing data from the environment, and act as links between research and teaching pedagogy (Suppes, 1974, as cited in Schunk, 2012). Therefore, they are regarded as an essential framework that organizes the relationship between learning, teaching and academic outcomes.

One of the earliest theories that emerged in the field of SLA is the Universal Grammar Theory by Noam Chomsky in late 1960`s. Chomsky had a number of revolutionary concepts and language learning theories, and Universal Grammar (UG) is one of them. This theory dictates that children are born with an innate language learning system that enables them to acquire the target language without the need for extensive exposure to the language (Hoque, 2021). Chomsky also believed that all human beings have an encoding language learning sys-



tem that bears the principles and rules of a language (grammar rules and principles). It is true that this theory mostly emphasizes the learners' ability to acquire a language at an early age, but it also implies that all human beings have an innate language acquisition system that enables them to learn a Target Language (TL) with little exposure to it regardless of their age.

Moreover, there is another language learning theory that is related to the aforementioned one which is the acculturation theory proposed by John Berry in (1974, 1980). Schumann (1986) defined acculturation as the social and psychological assimilation of the learner into the target language group (as cited in Zaker, 2016). This theory emphasizes the role of culture in effective language acquisition. Thus, if a learner aimed at learning a TL, he should be immersed in the target culture through immigration, or simply expose himself to the Target Culture (TC) through media and instruction. In the case of university students, exposure can be easily provided through classroom official instruction that increases learners' familiarity with the language and enables them to use the language with their teachers and peers in social-like environment. They can exchange their thoughts and ideas and interact with each other to create a sense of social interaction that takes place in the classroom and improve their language skills and proficiency. More importantly, Brown (1980) argued that the interaction of language and culture creates a syndrome that leads to a stage in which language learning reaches its peak (as cited in Gürsoy, 2011). It means that through language interaction with the TC, learners can reach a certain level of familiarity with the language that enables them to acquire the TL in an effective and fluent manner.

In correspondence with the same point of view, Sundar (2012) has also discussed the concept of interaction and its role in language acquisition. He argued that interactionists view language as a cultural activity defined by rules that are acquired through contact with others. This hypothesis supports the language acquisition process that occurs during discourse through which learners could develop their own comprehensible input by speaking with their

teacher and classmates. Therefore, interaction is vital in the language learning instruction that should be taken into EFL teachers' consideration when teaching English. This also implies to the benefit of teaching students English language while they are still in college and have the opportunity to interact with their classmates in class, rather than learning the language alone when finishing their higher education. These factors are also what pushed the Algerian government to integrate English language as an EMI in higher education. According to Messeded (2023), the Algerian authorities have made a number of moves to encourage the use of English in academia, particularly with regard to its adoption as a medium of instruction beginning with the academic year 2023–2024, mainly to increase the Algerian university's prominence on the global scene and provide students with the tools they need to succeed in the twenty-first century.

**1.1.1.3. Historical Context of English Language Instruction in Algeria.** The linguistic background of Algeria could be described as a complex and multifaceted phenomenon. French is the dominant language in the country, influencing its culture significantly. Given the historical background of this colonized country and the legacy that was left by the French colonialism, considering also the social discourse and the language used by the citizens in different social and professional domains, it becomes apparent that French is the dominating linguistic scene used in the country. Added to this, Rezig (2011) admitted that the complex situation in Algeria arises from the country's location at the meeting point of the colonial language, French, and the new national language, Arabic. Thus, it could be stated that there is a conflict between French and Arabic in the Algerian linguistic arena that defies the position of Algeria as a post-colonial country and its ethnicity as an Arabic and Muslim country. What should be also taken into observation is the absence of English language from this linguistic contest for many years compared to the other countries around the globe Rezig (2011).

In fact, Benrabah (2007) has illustrated in his article the conflicting position of the Algerian people towards the French language that signified the colonialism era. He demonstrated that after the independence of Algeria, French was expected to dissolve and disappear and that Algerians will return to the sole use of Arabic as their native tongue and voice of communication. This claim was confirmed through the words of a famous poet and writer who forecasted that French will be replaced by Arabic language due to the tragic memories that this language bear to the Algerian people (Gordon, 1966, as cited in Benrabah, 2007).

Nevertheless, the widespread prediction that French would be removed from the country did not materialize. On the contrary, French was taught as a subject and as the first required foreign language beginning in the fourth grade of the primary grade until higher education where the language was used as a medium of instruction between the end of the 1970s and the beginning of the 1990s (Benrabah, 2007). English, however, was classified as a foreign language that was only taught in middle school until the third year of high-school. After graduating high-school, students are once again taught in French as a medium of instruction in the majority of college fields and majors (Benrabah, 2007). This policy demonstrates the core role that French language plays as an official language in the old Algerian educational policy and teaching pedagogy.

This situation could be incomprehensible and misleading for a number of reasons, one of which is the fact that English is the language of science and technology. Thus, it is irrational to keep using a language that does not accommodate the globalization of the world and which could also exclude Algeria from the global advancement of research and education. As a reaction to this stream of thought, there were some protests from the Algerian ministry of education that tried to implement the English language as a competitor to French between 1993 and 1997 (Benrabah, 2007). However, this language policy failed and French kept its dominant position for the following years.

However, by the 2000`s and forward, the issue of the westernization of Algerians and equipping them with English language as a necessary requirement for social, educational and professional success turned into an extensive debate in Algeria that aims for radical language reforms in the country. According to Benrabah (2007), English language instruction in Algerian higher education was supposed to be officially issued on 2001; however, this reform was suspended by the ministry of the interior education on September 2001 due to the opposition arose in the ministry of education.

In addition, the public started to grow more interested in the use of English language and to the prospect of teaching this language to their children to keep up with the world`s development and advancement. According to Messeded (2023), the Algerian Organization of Pupils' Parents initiated an online campaign in 2015 to demand that English be taught as a second language in elementary schools rather than French, which sparked the beginning of this trend of integrating this language as an EMI in both primary and higher education. The movement evolved into an internet petition that drew prominent political figures and high statues officials from the Algerian authorities. The success of this public movement was evidenced through the Algerian policy that was issued in later 2021 which states that English language is officially integrated in primary education starting from third grade. The following year witnessed the integration of this language as a second language for fourth grade pupils and the recruitment of more teachers of English to cover the demands of this policy in different primary schools across the country (Messeded, 2023).

### ***1.1.2. English as a Medium of Instruction in Higher Education***

English as a medium of instruction has turned into an extensively researched topic in the last few years in Algeria due to the pedagogical implementation of this language in higher education, replacing French as a medium of instruction. Therefore, the following titles elaborate the concept of EMI and its implementation in Algerian universities.

**1.1.2.1. Definition of English as a Medium of Instruction.** The definition of English Medium Instruction (EMI) has been provided by Macaro (2018) stating that it is the use of the English language for educating courses of study (other than English itself) in countries or territories where the majority of the population does not speak English as their first language (L1) (as cited in Heath, et al. 2021). Stated differently, EMI is the use of English as the official language of teaching and providing course in a country where English is not a native tongue. It could be a second (Like in Australia, Denmark, Finland, Germany and others), or a foreign language (African countries such as Algeria, Tunisia and others) (Macaro, 2018, as cited in Heath, et al. 2021).

Smit (2023) noted that EMI is deeper than that. He argued that it is not simply the use of English language as a means of education in foreign countries, rather it involves different aspects of the use of this language in different contexts. For instance, it could include the situation in Ghana which was marked with the British colonialism legacy where English was forcefully integrated in primary school education as post-colonial policy. Smit (2023) further remarked that the concept of EMI has turned into an extensively adopted policy in a large number of countries. This could be attributed to the global status that this language occupies as the language of academic research, professional advancement and self-development. Therefore, most countries plan to accommodate the linguistic orientation of the world by equipping students with this powerful means of academic recognition and professional success. Algeria is no exception.

**1.1.2.2. English as a Medium of Instruction around the World.** As it has been pointed, EMI is a multifaceted policy that differs in terms of application and implementation. Sometimes, it is considered as a colonial legacy that is forced to be integrated in the educational system starting from primary education to higher education, or it could simply be adopted for equipping higher education students with the necessary communication skills in

English that are required in the 21<sup>st</sup> century. Pakistan, for instance, is an illustrative example of the first case in which it is forced to adopt EMI as a means of delivering knowledge and instruction in different levels and educational phases (Bukhari & Awan, 2018). Bukhari and Awan (2018) examined the use of EMI and students' perceptions of it in middle school. The study highlighted that EMI is not a newly adopted policy, rather it is a practice that has distinguished the most prominent educational systems in Europe through which 60% of the courses across Europe are reported to be taught using EMI.

Furthermore, Bukhari and Awan (2018) listed some of the significant benefits that EMI provides for EFL learners across the world. It is illustrated that EMI first and foremost, contributes to accommodate the development of the world's technology and advancement. Given the fact that English is considered as the international leading means of communication between nations nowadays and the language of science and technology, using EMI is admitted to prepare learners for using English in global professional contexts and academic encounters. This also helps to equip them with professional skills that promote their academic performance and professional qualifications.

In the Republic of Macedonia on the other hand, EMI showed to be of parallel importance and significance. Lochi (2015) demonstrated that the use of EMI in this country came as an effective solution for solving the conflict of language over the minority groups in Macedonia. Thus, English was used as a unifying language that is both beneficial for enhancing students' linguistic competency at the university level and solve the conflict of language use at the same time. Universities in this country also adopted an interesting policy which is to establish a Language Center for all freshmen students who enroll in college in their first year, to attend language learning classes that improve their language proficiency so that they would not face major difficulties with EMI in their other classes in college.

Furthermore, research shows that EMI is a global language learning policy that is growing in practice to include more countries every day. According to a report conducted by the British council, there are currently 55 non-Anglophone nations with EMI policies in place, including China, South Africa, Turkey, Spain, Portugal, Japan, and South Africa (Jebali, 2020). Thus, it could be stated that this policy has been adopted for a number of years now by the developed countries, and it is a recently adopted policy in the developing ones which can no longer ignore the dominance of English language on the global linguistic scene in favor of their allegiance to French language. Tunisia, like the case of Algeria, is another country who started to take action to make major linguistic reforms in its national education system by integrating EMI in its curricula (Jebali, 2020). As predicted, this decision is a challenging one, but it is a necessary step to accommodate the world's orientation and development.

**1.1.2.3. Development of English as a Medium of Instruction in the Algerian Educational System.** In terms of the pedagogical shift in the Algerian higher education, the Algerian academic community was asked to participate in an online survey in July 2019 led by the Algerian Ministry of Higher Education and Scientific Research to determine the level of support for the advancement of English in higher education and using it as an EMI. 94.3% of the 94741 respondents agreed that there should be more English used in scientific research and higher education in the Algerian context (Echoroukonline, 2019, as cited in Messeded, 2023). As a result, English seem to have the support and recognition of most of the Algerian academic society. Consequently, the minister of higher education Abdelhakim Belabed issued an order on July 21, 2019, encouraging the Algerian universities to use English more often by including Arabic and English titles in all official papers and articles (Messeded, 2023). Furthermore, there is a number of linguistic policies that have been issued starting from 2019 to integrate EMI in Algerian universities in a gradual manner. These linguistic reforms and policies are listed by Messeded (2023) as follows:

- ❖ In August 2019, the ministry requested the establishment of a "brain trust", a group of six specialist linguists who are required to develop a plan for advancing the use of English in Algerian higher education. Thus, the job of these linguists is to draw a roadmap that policy makers and teachers could use to shift higher education instruction from French-based instruction to English-based instruction.
- ❖ In October 2021, the ministry declared that the recently founded schools of mathematics and artificial intelligence would use the language as their medium of teaching and produce international instructors to conduct courses in English. In other words, students are taught in these two fields using English as their medium of instruction. This step is designed to produce proficient language users and instructors who would be able to teach in English language in the future and deliver their knowledge in these fields using English.
- ❖ In their first year of study, all doctorate students are required to complete what is called a supplemental training, which was designed by Kamel Baddari, the current Minister of Higher Education and Scientific Research. The English language, philosophy, the didactics of scientific research and education, and information and communication technologies are all covered in this course to prepare and train as many academics as possible in different fields and domains to use English language in their own fields of study. This step helps them prepare for their thesis defense once they graduate and also enables them to promote their language use in their field of study so that they can deliver instruction using this language in the future.
- ❖ One notable governmental decision aimed at advancing the use of English in academia is to ensure that all professors receive sufficient English language training to enable them to conduct lectures in this language. This decision witnessed a large number of teachers from different higher education specialties, who enrolled in professional language training programs to be able to present their usual lectures using English language.



- ❖ Additionally, on January 2<sup>nd</sup> , 2022, the ministry launched an online platform to provide online language courses that aim at enhancing students' English proficiency and ensure their basic knowledge of the language to be able to receive their educational content in English once they start their school year. The ministry also established the national committee for the supervision and control of the training of lecturers and doctorate students in response to all of these activities.

Evidently, all these decisions and linguistic reforms have one major goal, which is to provide Algerian students with an adequate academic instruction that could be acknowledged on a global scale. Given that English is an international standard and a requirement for international recognition, this goal cannot be achieved without incorporating this language into Algerian universities. Therefore, the ministry of higher education in the country attempted to provide the maximum support and appropriate conditions for both teachers and students to facilitate the integration of this language in Algerian universities.

#### **1.1.2.4. Significance of English as a Medium of Instruction in Higher Education.**

It could be comprehended so far that EMI is related to the global status of English as an international language of communication that is recognized worldwide. Therefore, it could be also stated that integrating EMI as an education policy in higher education systems, including the Algerian one, has two major benefits for students in terms of both their academic excellence and professional perspectives.

**1.1.2.4.1. For Academic Purposes.** In terms of academic purposes, EMI is found to have several benefits for students. According to Guo, Yuanyue and Wang (2022), the EMI policy aims primarily at the aspect of internalizing education and making it accessible to learners from different regions and countries of the world. Thus, using a unified language, considered as the global means of communication, facilitates knowledge transfer from one context to another and promotes the academic field of research in different domains. This

way, students, teachers and scholars could have access to different valuable data and information published in English and use it in their learning and instruction process. As for students, EMI could facilitate their access to knowledge and support their autonomous learning to develop their skills and competence. It also prepares them for the use of this language in their future careers and occupations.

**1.1.2.4.2. For Professional Purposes.** In fact, it is claimed that the increasing popularity and extensive use of English in higher education is a result of broader social, economic, and political shifts as well as linguistic ones that could have a long lasting impact on students after their graduation (McKinley & Galloway, 2021). Stated differently, This implies that EMI has a greater impact on learners` professional qualifications and job perspectives after they finish their education at university. Coleman Citation (2006) and Pecorari et al, (2011) alike confirmed that using EMI in college increases student employment chances and opportunities (Guo, et al., 2022). This could be explained through the fact that students who received their higher education in English manifest a high level of English language proficiency that enables them to adequately and successfully function in the workplace environment (Guo, et al., 2022). This proficiency ensures that they have effective communication skills that enable them to hold business conversations and negotiate terms and conditions, good writing skills that enable them to perform desktop tasks (writing emails, contracts), in addition to listening, reading and speaking skills which all impact employees` skills and competencies in the workplace environment. Vu and Burns (2014) agreed that EMI is essential for improving employability, facilitating international mobility (migration, travel, study abroad), opening doors for self-development, and gaining access to vital information. Thus, EMI is not only essential for improving national job perspectives, but it also increases one`s chances to travel and find a job abroad for better life and work conditions.

### **1.1.2.5. Challenges to English as a Medium of Instruction in Higher Education.**

As it has been discussed earlier, EMI is a sudden pedagogical policy in the Algerian higher education system which both students and teachers were not prepared for. Therefore, it is only predicted that the implementation of this policy in Algerian universities would encounter challenges and problems in the field. A number of studies were recently conducted to highlight and explore these challenges, one of which is that of Ouarniki (2023). This study examined the integration of EMI policy in the university of Djelfa; it adopted an exploratory research design to explore both students and teachers' perceptions of this new experience and the challenges they faced. The findings revealed that the main challenges include inadequate language proficiency of both teachers and students, limited resources and support, and lack of training and professional development opportunities. Thus, it could be stated that lack of language proficiency is the first major challenge that teachers and students faced in the adopting the EMI. Considering the fact that teachers are used to provide their lectures in French language and neglect the use of English was a problematic factor for teachers who were not equipped with the necessary language knowledge that enables them to present their lectures in English. The same can be claimed for the students who were used to use French in their studies and paid little attention to developing their English proficiency thinking that they would not need it in their French-based instruction. Therefore, the sudden implementation of EMI did not leave them time to enhance their language skills. Hence, the study of Ouarniki (2023) recommended that EMI implementation should be a gradual process with flexibility that allows both teachers and students to develop their language proficiency, in addition to supporting this process with language courses at the university to facilitate and accelerate this process.

In another study conducted by Maraf and Zekri (2023) in Biskra and Telemcen universities, a number of similar challenges were listed. The study followed a qualitative research

design with the use of interviews with teachers as the main data collection tools (semi-structured and structured). The findings showed that both teachers and students have negative attitudes towards EMI due to their lack of proficiency in English language and their familiarity with or proficiency in French language. Moreover, the study discussed the problem of teachers' lack of proficiency and its great influence on their ability to carry out their teaching process. As a solution, the study also recommended the ministry of higher education to provide language training programs and courses to increase both teachers and students' language proficiency and facilitate the successful implementation of EMI in Algerian universities.

To sum up everything that has been presented in this section, it could be stated that EMI is a necessary step that has to be integrated in the Algerian educational system to promote the educational sector in the country. EMI proved to be both effective in providing learners with unlimited opportunities to access worldwide knowledge and information, and provide employees with a professional set of skills that enables them to improve their job perspectives and occupations. The implementation of this policy, however, showed to encounter some major challenges that include poor linguistic proficiency of students and teachers, lack of resources and materials and the absence of language teaching programs in universities. The next section of the chapter proceeds to highlight the impact of EMI on students' engagement in the learning process.

### **Section two: Student's Engagement**

For learning to be truly effective, students must be fully engaged in the process. In fact, student engagement has long been recognized as a crucial factor in achieving success within a university setting. By actively participating in their learning environment, students can bridge the gap between themselves and the course material, leading to a deeper understanding and greater achievement. This section discusses the concept of student engagement in the context of learning.

### ***1.2.1. Definition of Learning Engagement***

Over the past few years, there has been a growing interest in the concept of student engagement in the education field. Historically, student engagement was seen as a tool to promote positive behavior, improve academic performance, and create a sense of community among students to encourage them to remain in school (Willms, Friesen, & Milton, 2009, as cited in Taylor & Parsons, 2011). However, the definition of student engagement has developed over time, and it is now recognized as a way to manage classroom behavior, since the more engaged students are in the learning process, the more likely their behavior will be controlled.

A more recent definition defines student engagement as the extent to which students are interested and enthusiastic about school, which can have a significant impact on their academic performance and behavior (Gallup, 2013, as cited in Olson & Peterson, 2015). According to Reeve et al. (2004), engagement refers to a person's active involvement during a task, including their behavioral intensity and emotional quality. It involves students' efforts, attention, enthusiasm, and interest, and depends on the quality of interactions between students and teachers (Harper, 2009).

Smith (2013) provided a more detailed definition of student engagement. In education, student engagement is a critical aspect that determines the success of a student's academic journey. It includes the level of attentiveness, passion, optimism, curiosity, and interest that students have toward their learning. This directly impacts the motivation of students to progress in their educational pursuits. In other words, the idea of student engagement is based on the belief that when students are curious, interested, or inspired, learning improves. On the other hand, when students are bored, indifferent, uninterested, uninspired, or otherwise disconnected from the learning process, the quality of learning is compromised. In general, student engagement refers to students' willingness and ambitions to participate during learning

classes (Bomia et al., 1997). As a result, educators often strive to improve student engagement as a key instructional goal. Therefore, students are engaged when they are attracted to their work and when they feel that their teacher cares for them as well (Olson & Peterson, 2015).

Student engagement can also be defined as students' physical and psychological involvement in the classroom. According to Astin (1984), student engagement (SE) refers to the amount of physical and psychological energy that students invest in their academic experience. Students differ in their level of engagement, as some may commit more time and effort to activities that aim to achieve their learning goals. Kuh (2009) argued that the value of student engagement (SE) lies in the correlation between the activities students undertake and the desired outcomes of college. He further suggested that colleges should take measures to encourage students to participate in these activities.

### ***1.2.2. Types of Engagement***

**1.2.2.1 Cognitive Engagement.** According to Marks (2000), cognitive engagement refers to the mental involvement and energy that students put into the process of learning. In other words, it involves the investment of psychological resources and efforts. Furthermore, Newmann et al. (1992) provided a clear definition that explains the purpose of acquiring knowledge, skills, or crafts. According to their definition, the reason behind mastering academic work is the student's psychological commitment and effort directed toward learning, comprehending, and mastering the knowledge, skills, or crafts that academic work aims to promote. Cognitive engagement involves being strategic, thoughtful, and focused. Engaged students use strategies to understand complex ideas, find solutions to problems, master difficult skills, and enjoy challenging tasks (Corno & Mandinach, 1983; Fredricks et al., 2004).

In the same vein, Helme and Clark (2001) have identified certain measures of cognitive engagement in group work. These measures involve questioning, completing peer utter-

ances, exchanging ideas, explaining, justifying arguments, and making facial gestures and expressions. These actions can help individuals participate more actively in group discussions, leading to better engagement with the content and with each other (Helme & Clark, 2001; cited in Philp & Duchesne, 2016). In this type of engagement, learners reveal their capacities in critical thinking activities that teachers can rate through the learners' final feedback.

**1.2.2.2. Behavioural Engagement.** The term “behavioural engagement” refers to the vital aspect of being actively involved and participating in academic, social, and extracurricular activities. It is widely recognized as a crucial factor in determining a student's academic achievement as well as their academic dropout (Finn, 1989; Connell & Wellborn, 1991). Similarly, Dunleavy (2008) stated that involvement in school-related activities, both academic and extracurricular, impacts the behavioural aspects of educational achievements.

Further research was conducted to investigate the relationship between behavioural engagement and positive conduct among students. Positive conduct in this context refers to following classroom rules, expressing respect for rules, and avoidance of disruptive behaviors like getting into trouble and skipping school (Finn et al., 1997).

Besides engaging in classroom activities, the active involvement and attentive approach of students, including their curiosity to ask questions, can significantly contribute to their academic success (Fredrick, Blumenfeld & Paris, 2003). In general, behavioural engagement is about how learners behave during learning.

**1.1.2.3. Emotional Engagement.** Emotional engagement refers to how students respond, either positively or negatively, to their teachers, classmates, academics, and their school environment. It can also be seen as the formation of a positive or negative connection with the school, including feelings of interest, enjoyment, and belonging (Finn, 1989; Voelkl, 1997). Establishing a positive emotional connection has been shown to create strong bonds

between students and their institution and to influence their preparedness for work (Finn, 1989; Connell & Wellborn, 1991). Moreover, Tyler and Boelter (2008) suggested that emotional engagement enhances the recognition and effectiveness of tasks. They defined emotional involvement as including the perceived significance, usefulness, and effort required to complete the task. Therefore, it can be inferred that emotional involvement focuses on the psychological aspects of the student.

### ***1.2.3. Strategies to Improve Students' Engagement***

Encouraging engagement is crucial for effectively conveying knowledge. Therefore, deliberate efforts should be made to create an environment conducive to fostering active participation and interaction among learners. Fenollar ,Roman & Cuesta (2007) proposed several methods to involve students in the learning process. According to their research, receiving assistance from educators in their school, being given stimulating and thought-provoking assignments, having a structured learning environment, being encouraged to be independent in their learning, having opportunities to collaborate with peers, and engaging in active learning are all essential factors that can enhance student engagement (Fenollar ,Roman & Cuesta (2007).

**1.2.3.1. Interaction.** The widespread availability of various communication channels has made the world more accessible to people today. Consequently, individuals need to collaborate with others to meet their needs. Similarly, within a classroom setting, students should interact with their classmates or school personnel to attain their learning objectives (Taylor & Parsons, 2011). This social interaction can take place either in person or through social media. Present-day students are highly interactive and social learners (Taylor & Parsons, 2011).

the classroom environment should foster communication and interaction among both teachers and students, as well as among the students themselves. This should become a habit-



ual practice to promote learning within the classroom. Furthermore, interacting with faculty researchers beyond the classroom setting can be beneficial for learners (Windham, 2005; as cited in Taylor & Parsons, 2011). According to Windham (2005) , such interactions can enhance students' engagement and interest in the subject matter and facilitate the development of meaningful relationships with faculty researchers. This interaction is also essential for improving learners' enthusiasm and attention towards activities that necessitate social and psychological involvement (Taylor & Parsons, 2011). Therefore, utilizing interaction strategies can not only enhance academic engagement, but also improve communication skills.

**1.2.3.2. Exploration through Learning.** The most effective way for learners to learn is through hands-on experiences. When learning is practical and tangible, learners become more involved and interested (Taylor & Parsons, 2011). According to Brown (2000), promoting a sense of exploration requires learning to be more concrete and tangible (ascited in Taylor & Parson, 2011). In other words, tangible learning experiences can help individuals better understand and retain new information, leading to a deeper comprehension of the subject matter. Programs that incorporate curiosity and problem-solving situations aim t o enhance the exploratory nature of learners, which could lead to greater engagement in problem-solving and finding answers to questions. The authors suggest that modern learners seek opportunities to explore and discover answers for themselves (Taylor & Parsons, 2011). Learning must occur within genuine contexts to enable learners to apply their knowledge in practical situations. Otherwise, learners will not get a chance to put into practice what they have learned in a real-world setting (Taylor & Parsons, 2011). Therefore, for some individuals, the process of learning can seem impractical and ineffective. According to Taylor and Parsons (2011) experiencing something in real life is often more captivating than simply reading about it in a classroom setting. This highlights the fact that learners are often motivated to explore and analyze how

concepts apply to the situations and contexts in which they find themselves. Engaging in such explorations may potentially enhance curiosity and increase engagement in learning.

**1.2.3.3. Task Relevancy.** One effective method of learning is through contextual and practical situations that reflect real-life scenarios. This approach can lead to increased learner motivation and engagement in the learning process. As for Willms, Friesen, and Milton (2009), it is ideal for students' work to be relevant, meaningful, and authentic. This implies that the given tasks should be valuable and deserving of their time and attention (as cited in Taylor & Parsons, 2011). In other words, theoretical concepts may not necessarily be engaging or captivating for students, as their main objective is to acquire skills and knowledge that can be practically applied. Therefore, the inclusion of authentic materials and environments can effectively engage and motivate learners in their educational pursuits.

**1.2.3.4. Multimedia and Technology.** The terms "Modern Technology" and "media" are widely used across societies worldwide. Educational systems have given significant attention to learning development through technology. This has made it easier for learners to interact and build social relationships with other researchers. Technology also allows them to explore a variety of subject matters that meet their needs and address relevant field topics in which they are interested (Taylor & Parsons, 2011). Accordingly, the integration of technology in various educational methods has been found to enhance student engagement. By incorporating technology, learners can actively participate in the learning process, which in turn can lead to improved learning outcomes.

**1.2.3.5. Engaging and Challenging Instruction.** Taylor and Parsons (2011) stated that teachers should keep in mind that fostering a challenging classroom environment for students can greatly benefit the learning process. Moreover, teachers need to establish a welcoming atmosphere that encourages students to even question their instructors. This type of ques-

tioning is a fundamental part of the overall educational process, as it motivates learners to get involved and enhance their critical reasoning skills, ultimately leading to better learning outcomes. Additionally, according to Taylor and Parsons (2011), there is a preference among educators and learners for instruction that is not only of exceptional quality but also intellectually, socially, and emotionally engaging. This approach has been shown to encourage active participation and cultivate a favorable learning environment that is advantageous to all parties involved.

**1.2.3.6. Assessment.** Regular feedback on their learning progress is essential for learners, as stated by Taylor and Parsons (2011). This helps them become more engaged as they gain clarity on what they need to improve, modify, or remove altogether. In addition to this, receiving feedback also helps learners gain insights into their learning approach and participate in meaningful interactions with other learners. Furthermore, to enhance the learning outcomes of students, teachers should regularly incorporate formative assessments into their teaching practices. According to the findings of Taylor and Parsons (2011), this type of assessment is also known as “learning for further development” and can lead to increased learner engagement by creating opportunities for assessment-based learning.

#### ***1.2.4. Factors which could Increase Students’ Engagement***

To maintain a higher level of engagement among learners in the classroom, a variety of factors can be incorporated. These factors include avoiding the simplistic use of outdated disciplinary methods and implementing new teaching strategies and techniques that can effectively enhance students’ motivation and engagement while facilitating their understanding of the content. Some of the factors that can be explored in this regard are motivation, accountability, collaborative teaching, the use of technology, students’ self-determination, the deployment of real materials, and the roles of educators.

**1.2.4.1. Motivation.** Motivation is a vital aspect in any field as it helps in driving engagement. This is supported by various definitions, including Pinder's definition. According to Pinder (1998), motivation is a group of energetic forces that originate from within and outside an individual, which are responsible for initiating work-related behavior, determining its form, direction, intensity, and duration. Motivation can be classified into two categories, intrinsic and extrinsic, as per Coffman (2009). Intrinsic motivation is defined by Coffman (2009) as an internal drive that arises because we are interested in the subject matter and desire to do well. It is the innate desire that motivates individuals to achieve a particular goal without any influence from external factors. On the other hand, extrinsic motivation is caused by external factors, such as good grades or receiving praise for completing an assignment. It primarily involves any external aspect that can impact one's decision to participate in a specific activity, such as getting rewarded for completing a task or studying to attain high scores and grades (Coffman, 2009).

Motivation refers to the inner desire and willingness to participate in a specific performance. It is a theoretical concept that describes the reason why individuals engage in a particular event. It is the mental state of being attracted to a specific action or behavior (Barkley, 2010). For instance, if a student chooses to study a specific subject, it shows their willingness to learn and their attitude towards investing effort in their education. Therefore, they are expected to develop an interest in learning (Yamamori et al., 2003). As a result, the student is likely to learn more easily, perceive, retain, and recall information with ease, and enjoy the learning process, leading to an increased level of engagement.

**1.2.4.2. Responsibility.** Students are responsible for developing a sense of control over their learning process and taking charge of it (Holec 1981). This means they should be able to manage the operation of their learning process. West (1994) suggested that responsibility is developed in students when they are able to recognize, comprehend, and take owner-

ship of their learning through self-assessment, demonstration, and evaluation of behaviors that facilitate the learning situation. A responsible individual is someone who can act independently and take personal control over their own learning. They evaluate themselves and direct their efforts conscientiously towards their goals. In a teaching-learning context, responsibility requires individuals to exert control over learning situations.

Corno suggested that if a learner is responsible for their own learning, they will actively manage all the consequences that could influence their educational practices and performance (As cited in Allen, 2006). Lutz (1997) claimed that learners have a responsibility to manage their own learning process. This means that they should understand that their academic success or failure is a result of their own efforts, and not the efforts of the faculty. Furthermore, Lutz (1997) argued that learners should not react defensively to any negative outcomes or consequences of their effort ( as cited in Allen, 2006). Taking responsibility for one's academic performance is essential for achieving success. When students take greater responsibility for their own learning, it positively influences their motivation, satisfaction, and commitment to the content being taught, resulting in increased learning engagement (Nation & Macalister, 2010). According to Russell and Russell (2010) , true engagement happens when the organization and individual employees form a partnership, where employees take full responsibility for their success. This means that a high level of engagement can be achieved when employees are given autonomy at work and take charge of their responsibilities, attributing their failure and success to their own efforts. This leads to better results and scores as learners become more involved in their learning process.

**1.2.4.3. Teachers' Collaboration.** According to Cohen (1981), collaboration can be defined as the process in which teachers establish a working relationship and share decision-making responsibilities while regularly communicating about classroom matters. This represents a significant change in the structure of teaching (as cited in Creese, 2005).

Collaboration among teachers is crucial for promoting effective instruction and maintaining leadership, which can ultimately lead to improved learning outcomes. According to Mislan, Kosnin, and Yeo (2009), collaboration involves multiple parties working together cooperatively towards a common goal. Similarly, Adams, Harris, and Jones (2016) noted that successful collaboration requires all parties to work towards a shared goal.

Savoie et al. (2012) have argued that collaboration between teachers can facilitate the achievement of academic goals, improve collaboration among faculty members, influence both their behavior and attitude, and foster a greater sense of belonging to the school. They suggest that collaboration among teachers is highly advisable and can lead to enhanced skills and competencies among learners.

In other words, collaboration and teamwork are crucial for enhancing learners' skills and competencies. When people work together towards a shared objective, it strengthens their relationships and creates a sense of community. This positive collaboration also has a significant impact on attitudes and enhances the feeling of belonging within the community.

#### ***1.2.5. Engagement and Related Terms***

**1.2.5.1. Involvement.** According to Prebensen et al., (2014). involvement can be defined as a motivational factor that demonstrates the extent to which an individual's basic goals, values, and self-concept are personally relevant to a decision. Therefore, it reflects the students' relevant decisions regarding learning objectives and self-perception. In simpler terms, involvement refers to the degree to which a person is psychologically connected to their work and is heavily influenced by their level of performance (Cohen, 2003).

Additionally, involvement is a consequence of an established connection between a particular activity and an individual over a certain period in which pleasure, amusement, and self-expression are maintained throughout the activity (Prebensen et al., 2014). Various fac-

tors arise to increase student engagement, including having well-defined expectations of what will interest students, their eagerness to participate in the learning process, and the ongoing provision of feedback and evaluation.

Austin (1999) suggested that a learning environment can be excellent if it meets three conditions: student involvement, high expectations, assessment, and feedback. According to him, setting high expectations and providing timely feedback are the means for enhancing student involvement (as cited in Brown, 1989). According to Austin (1999), a highly involved student devotes a lot of energy to studying, spends ample time on campus, actively participates in student organizations, and frequently interacts with both faculty and peers (as cited in Mangai, 2016). That is to say, involvement in learning requires dividing energy, time, attention, and concentration toward interaction with other students or faculty activities. Those who are truly involved in learning possess these factors frequently.

**1.2.5.2. Active Participation.** Active engagement is one of the primary factors that contribute to the success and effectiveness of the learning process, along with motivation and participation. Greeno (1996) stated that all psychological perspectives on learning school subjects agree that students need to be actively involved in the learning process, which can be achieved through extrinsic motivation, intrinsic motivation, or engaged participation (as cited in Reid et al., 2008).

Students begin by observing, then become more involved and highly interested, eventually leading to active participation in a task. Frey (2011) argued that learners who undergo a thoughtful and meaningful learning process can eventually become active participants in the classroom. As a result of this process, learners are believed to smoothly transition from being mere theoretical observers to effective participants (Frey, 2011).

Capelle (2002) believed that active participation involves sustained presence with intention. “Presence” in this context means complete involvement that goes beyond physical presence, and “intention” means directing understanding towards a specific goal (as cited in Lamb & Levering, 2017). Active involvement in learning increases understanding and engagement with the material being taught, allowing students to acquire knowledge effectively. It permits students to interact and respond to the information presented, keeping them engaged and enhancing their capacity to learn, retain, and process the information imparted (Price & Nelson, 2010).

For effective participation in class, teachers must establish a common definition of participation with their students, determine the preferred mode of participation, and anticipate how students may respond. These factors are crucial for a seamless and productive participation process (Humphreys & Boaler, 2005).

**1.2.5.3. Interest.** The term interest is rarely defined in details; it is mostly associated with terms such as motivation, curiosity, challenge, and fun (Tin, 2016. p15). However, Rath and Merrill (1996) explained that “interest is what can enhance an individual’s passion and lead to the enjoyment of his time, energy, and wealth for an object”. Renninger et al. declared that interest interferes with learning, in which it leads to students questioning and challenge setting (1992). In this respect, learning is defined by Chapman (2003) as the process that occurs in active interaction between the environment and subject which aims to useful and relative change at the level of comprehension, skills, and attitudes towards knowledge. It also can generate a desire of investigating and being engaged, encourage cooperative work in sustaining knowledge and share new experiences with those who are interested and highly motivated (Isard, 1977, as cited in Tin, 2016).

**1.2.5.4. Commitment.** Becker (1971) provided a definition of commitment, characterizing it as a spectrum of continuing with a specific course of action due to the accumulation of



costs associated with changing direction (as cited in Gupta, 1982). Therefore, commitment refers to an individual's internal psychological state that causes them to persist in a particular set of behaviors.

There is a force that binds a person to a certain target, whether social or not, and directs them towards relevant behaviors to achieve that target (Klein, Becker, & Meyer, 2009). Meyer and Herscovitch (2001) emphasized the common concept of commitment, which is the stabilizing or obliging force that provides specific direction, limits individuals' freedom, and leads them to behave appropriately, based on the previous definition. This indicates that commitment is the act of dedicating oneself to a cause or activity with loyalty and devotion, which entails limiting one's freedom of action. It involves being fully engaged and invested in a particular matter.

#### ***1.2.6. The Importance of Students' Engagement in Learning***

Empowering learners to take charge of their own learning can lead to numerous benefits, according to Walker (2008). First, learning engagement goes beyond developing shared understandings. It also involves creating empathetic learning environments that value diversity and multiple perspectives. Moreover, it entails exploring strategies that can utilize the strengths of all members (Fletcher, 2005). Engagement creates an inclusive learning environment that considers diverse perspectives and addresses student needs to foster understanding. Christenson et al. (2012) highlighted that engagement plays a crucial role in enabling students to excel in a challenging learning environment by investing high levels of energy on a daily basis.

Learners' involvement extends beyond being a significant contributor to academic development. It promotes understanding among learners and encourages empathy and collaboration among all members, valuing each participant's differences and perspectives. Moreover,

according to Walker (2008), engagement increases learners' sense of responsibility, motivation, self-esteem, achievement, and partnerships with educators.

Active participation in the classroom is beneficial in ensuring that every student has an equal opportunity to learn, regardless of their individual challenges. This approach helps to promote academic success and boosts students' confidence, which in turn enhances their relationship with their teachers. According to Strydom et al. (2017), by encouraging student engagement, educators can adopt more effective teaching practices that increase the chances of success for all students and contribute to reducing societal inequalities. Moreover, research has shown that there is a significant correlation between engagement and performance across different groups of people (Marks, 2000).

Christenson et al. (2012) stated that students who have a low degree of engagement may feel marginalized, ineffective, and in denial, which could result in poor performance quality. This means that if students are not engaged effectively, they will be less interested in learning and will not perform adequately, leading to lower academic scores. Lack of engagement negatively affects both achievement and performance.

### ***1.2.7. The impact of English as a Medium of Instruction (EMI) on students' engagement***

The widespread use of English as the dominant language in higher education globally has led many university teachers to instruct their courses in English rather than their mother tongue. This shift poses significant challenges for teachers accustomed to teaching in their native language and for students who might perform better academically if taught in their first language. Unfortunately, minimal support is provided to teachers or students transitioning to English Medium Instruction (EMI) due to the assumption that proficiency in English equates to the ability to teach and learn content subjects in English.

A significant issue in EMI settings is the difference between what students comprehend and what they can express. According to Richards and Pun (2022), comprehension relies on strong listening and reading abilities in relation to the spoken and written formats and types of texts in their fields, as well as mastery of subject-specific vocabulary and styles. Similarly, expressing oneself requires acquiring the discourse skills needed to communicate with classmates and instructors in EMI courses and the ability to write according to the conventions and practices of specific subject areas.

Students learning through EMI have a dual responsibility: understanding new concepts and processes in their fields and developing the skills to access and communicate these ideas in English. Mohan (1986) argues that a language-focused approach that neglects subject matter and prioritizes language acquisition is inadequate for these learners. Instead, a comprehensive approach that integrates language and content acquisition, views language as a tool for learning, and acknowledges the importance of context in communication is recommended.

EMI instructors need to cultivate a "consciousness of language requirements, genuine integration of content and language, high standards and robust support, and the creation of explicit and visible teaching methods" (Lin, 2016, p. 78). This heightened awareness and integration are essential for fostering student engagement in EMI settings. When teaching content in the first language (L1), EMI teachers' abilities depend on how effectively they utilize English resources and communication tactics to present new ideas and information, convey objectives and expectations for assignments, monitor students' comprehension and learning, adjust teaching as needed, and provide feedback on students' comprehension and performance (Richards & Pun, 2022). The specific characteristics of the educational environment also impact the challenges encountered by EMI instructors. These factors include students' familiarity with the subject matter, English proficiency level, prior exposure

to EMI, linguistic diversity or uniformity, and willingness to adopt EMI instruction, all of which influence the nature of EMI lessons and, consequently, student engagement.

The impact of EMI on student engagement is significantly influenced by the abilities and approaches of EMI instructors. They must develop expertise in their field and the ability to understand and use the language specific to that field, defined by Airey (2011) as "the ability to appropriately participate in the communicative practices of a discipline" (p. 13). Teaching EMI courses involves simultaneously addressing both content and language, placing additional pedagogical demands on subject matter teachers. Consequently, these teachers must expand their roles to include language instruction, integrating language learning objectives into their lesson plans, creating materials that facilitate both content and language learning, and providing feedback on students' language use. Additionally, subject matter teachers must foster an interactive classroom environment that encourages students to use English for academic purposes. This includes promoting collaborative learning activities, providing opportunities for authentic language practice, and offering feedback on students' language use. This shift requires an understanding of the relationship between content and language learning when teaching academic material and the ability to incorporate language learning objectives into their lessons. Such comprehensive instructional approaches are essential for enhancing student engagement in EMI contexts.

## **Conclusion**

To sum up, English as a medium of instruction holds significant advantages in facilitating global communication and access to resources. Its widespread use in academia and professional settings enhances students' language proficiency and prepares them for international opportunities. However, the implementation of English instruction can also present challenges, particularly for students whose first language is not English. These challenges may affect their comprehension and confidence in participating actively in classroom discussions and

activities. Thus, educators must adopt inclusive teaching strategies that accommodate diverse linguistic backgrounds, ensuring all students feel empowered to engage meaningfully in the learning process regardless of their language proficiency. By nurturing an inclusive and supportive learning environment, educators can maximize student engagement and foster a culture of participation that transcends linguistic barriers. The multifaceted nature of the EMI issue, encompassing pedagogical approaches, institutional support systems, and student motivation. In response, students advocate for targeted interventions such as language workshops, collaborative learning initiatives, and enhanced teacher training to bridge the gap between aspiration and achievement. Ultimately, effective EMI implementation requires a concerted effort to address systemic shortcomings, promote linguistic inclusivity, and create a supportive learning environment conducive to student success in an increasingly interconnected world.

## **Chapter Two : Research Methodology**

### **Introduction**

Data analysis and interpretation is the final chapter of the dissertation that interprets the information collected from participants through the research tools. It also describes the procedures for analyzing the data collected from two questionnaires: one distributed to teachers of computer science and the other to students of computer science at the Department of Computer Science at Abd Elhafid Boussouf Mila University. Finally, some recommendations and implications are raised for further future studies.

### **Section One : Teachers' Questionnaire**

#### ***2.1.1 Population and Sample***

In this research, a sample of teachers who teach first-year computer science students in the Department of Science and Technology at Abdelhafid Boussouf University Center, Mila, for the academic year 2023/2024 was selected. This sample consists of 15 university teachers actively involved in the recently implemented English as a Medium of Instruction (EMI) setting. Teachers are chosen for this study because they can provide detailed insights into student engagement levels in the new EMI context. They are directly involved with the students and can observe the challenges and successes experienced by learners as they adapt to instruction in English. This makes the sample particularly appropriate for the research, as the focus is on understanding how the transition to EMI impacts student engagement among first-year computer science students.

#### ***2.1.2 Description of Teachers' Questionnaire***

The teachers' questionnaire comprises a total of twenty-four questions, featuring a mixture of both close-ended, multiple-choice questions and open-ended questions. These questions are thoughtfully arranged across four distinct sections, designed to effectively capture a broad range of relevant information.

➤ **Section One : Background Information (Questions 1-5 )**

This section aims at exploring some personal information about the teachers, such as academic qualifications, teaching experience, and English language proficiency.

➤ **Section Two : English as a medium of instruction (Questions 6 -14)**

This section focus on exploring the use of English in the classroom, including the language currently used for instruction, training received for using English as an instructional language, and teachers' perceptions of the benefits and challenges of EMI.

➤ **Section Three : Student's Engagement (Questions 15 -23)**

This section focuses on the teachers' perceptions of their students' English proficiency, engagement levels, and the impact of EMI on student engagement. It also identifies the challenges faced by students and strategies employed by teachers to enhance engagement.

➤ **Section Four: Further Suggestions ( Question 24 )**

This section solicits teachers' recommendations for enhancing the integration of English as a Medium of Instruction (EMI) in scientific disciplines.

**2.1.3. The Administration of the Teachers' Questionnaire**

The teacher questionnaire was administered to computer science teachers at Mila University Centre in hard copy format during their normal lecture and TD sessions. The process of collecting data took about two weeks, between the 5th and the 18th of May, to ensure maximum participation and to gather accurate and reliable data. Before administration, the questionnaire was translated, and teachers were asked about their preference for Arabic or English versions. To provide teachers with sufficient time to contemplate and respond to the questions, most of them were given the option to take the questionnaire home with them. This approach was adopted to ensure that the data collected from the questionnaires was more reliable, as it gave the teachers ample time to reflect on their responses.

#### 2.1.4. *The Analysis Procedure*

The responses are analyzed using the mixed method, which involves the combination of both quantitative and qualitative analysis of data. The quantitative method is used to analyze the answers gathered from the questionnaires in terms of numbers, percentages, and statistics. The qualitative method is used mainly to describe, interpret, and understand the answers to open-ended questions and the reasons behind the chosen answers, often in the light of previously reviewed theories.

#### 2.1.5. *Data Analysis and Interpretation*

##### 2.1.5.1. Section One: Background Information (Q1-Q5).

**Q1.** What is your academic degree?

**Table 1**

*Teachers' Academic Degree*

		Frequency	Percentage
	Master	3	20.0%
	Magister	4	26.7%
	Doctorate	8	53.3%
	<b>Total</b>	15	100.0%

It appears through table (1) which illustrates Teachers' academic qualification, that the majority of them have a Doctorate degree with a percentage of (53.3%). They are followed by teachers who indicated that they have a Magister as their academic degree with a percentage of (26.7%). Moreover, few teachers demonstrated that they have a Masters degree with a percentage of (20%). It could be observed that the majority of teachers have a PhD in their



studies which could imply a high academic qualification and expertise in their field and their experience in teaching at the university. It could also contribute to making this sample a valuable source of information concerning the topic under investigation.

**Q2.** How long have you been teaching at university?

**Table 2**

*Teachers' Years of Teaching at University*

		Frequency	Percentage
	1-4 years	4	26.7%
	5-9 years	3	20.0%
	More than 9 years	8	53.3%
	<b>Total</b>	15	100.0%

It is demonstrated through table (2) that a large number of teachers have been teaching English at University for “More than 9 years” with a percentage of (53.3%). They are followed by teachers who indicated that they have been teaching it for “1-4 years” with a percentage of (26.7%). Moreover, only few teachers showed that their teaching experience at university is “5-9 years” with a percentage of (20%). These results indicate that the majority of the teachers have a considerable teaching experience that surpasses at least five years in teaching at university. This factor could dictate that these teachers could provide valuable insights about the integration of EMI and its impact on students' engagement based on their teaching experience.

**Q3.** For how many years have you been learning English?

**Table 3***Teachers' Years of Learning English*

		Frequency	Percentage
	1-4 years	7	46.7%
	5-9 years	3	20.0%
	More than 9 years	5	33.3%
	<b>Total</b>	15	100.0%

It is clear from table (3) which represents Teachers' years of learning English, that most of them have been learning this language from "1 to 4 years" with a percentage of (46.7%). There are other teachers who showed that they have been learning it for "More than 9 years" with a percentage of (33.3%). Moreover, few teachers selected "5-9 years" to indicate the number of years they have been learning English with a percentage of (20%).

It could be observed, through the data presented, that teachers in the department of computer science have not been sufficiently exposed to English language instruction that enables them to adequately embrace the EMI policy and present their lectures using this language. It can be argued that lack of language proficiency is listed in research as one of the major challenges of successful implementation of EMI in Algerian universities. Ouarniki (2023) revealed in his study that teachers are used to provide their lectures in French and that the use of English was a problematic factor for teachers who were not equipped with the necessary language knowledge that enables them to present their lectures. Moreover, the sudden implementation of EMI did not leave them time to enhance their language skills. Therefore, it is challenging to provide lectures in a language that teachers has been only exposed to its instruction for less than four years.

**Q4.** Where did you learn English?

**Table 4***Teachers' Place of Learning English*

		Frequency	Percentage
	In Algeria	15	100.0%
	Abroad	0	0.00%
	<b>Total</b>	15	100.0%

It is illustrated through table (4) that all teachers have received their English language education or instruction in Algeria with a full percentage of (100%). It could be, thus, claimed that all teachers had a traditional language instruction experience locally. This could minimize the quality of the instruction and reveal some information about the outcomes of their experience in learning English because receiving English language instruction abroad would have much more successful results.

**Q5.** How would you describe your level of English language proficiency?

**Table 5***Teachers' Level of English Language Proficiency*

		Frequency	Percentage
	Poor	1	6.7%
	Average	2	13.3%
	Above average	7	46.7%
	Good	3	20.0%
	Excellent	2	13.3%
	<b>Total</b>	15	100.0%

It appears through table (5) which represents teachers' level of English language proficiency, that most teachers have an "Above average" level in English with a percentage of (46.7%). They are followed by teachers who chose "Good" with a percentage of (20%) to represent their level. Moreover, some teachers chose "Average" and "Excellent" with an equal percentage of (13.3%) to describe their level in English. Furthermore, only one teacher selected "Poor" to express their language proficiency with a percentage of (6.7%).

The data presented through this table confirm the results obtained through the previous question. Considering the fact that all teachers received their language instruction in Algeria, their language proficiency was expected to be, at best, moderate. The statistics presented in table (5) confirm that most teachers have an above-average level in English proficiency which cannot be a sufficient level that enables them to present their lectures using EMI. Therefore, it is evidenced further that teachers' lack of linguistic proficiency puts a major challenge in the successful implementation of EMI in Algerian. Ouarniki (2023) has suggested to turn the EMI into a gradual procedure instead of a fully implemented one in order to allow teachers the time to improve their language proficiency and enroll in extensive language courses to achieve that aim.

#### **2.1.5.2. Section Two: English as a medium of instruction (Q6-Q14).**

**Q6.** What language of instruction did you usually use in presenting your lectures in class

**Table 6***Teachers' Previous Language of Instruction in Class*

		<b>Frequency</b>	<b>Percentage</b>
	English	1	6.7%
	French	10	66.7%
	English and French	3	20.0%
	French and Arabic	1	6.7%
	<b>Total</b>	15	100.0%

It is demonstrated through table (6) which represents the language that teachers used to use to present their lectures in class, that a large number of them used “French” with a percentage of (66.7%). They are followed by teachers who used to use “English and French” with a percentage of (20%). On the other hand, few teachers showed that they used both “English” and “French and Arabic” with a percentage of (6.7%).

The findings elicited by this question indicate that most teachers used to use French as their official language of instruction at university. This confirms the dominating position of French language on the linguistic scene in Algeria before the recent implementation of EMI. It has been revealed in the literature that French language was left as a post-colonial legacy that was impossible to detach from the Algerian society (Benrabah, 2007). French became a social norm in both Algerian social contexts and academic settings at the same time. Students were to receive French instruction starting from their primary education until they conclude their academic journey in higher education. Teachers as well, were to use French as a medium of instruction in their lectures. Therefore, the results of this question confirm that teachers at the department of computer science used to use French at their main medium of instruction.

**Q7.** What is the language of instruction you are currently using in presenting your lectures in class?

**Table 7**

*Teachers' Present Language of Instruction in Class*

		<b>Frequency</b>	<b>Percentage</b>
	English	5	33.3%
	French	6	40.0%
	English and French	4	26.7%
	<b>Total</b>	15	100.0%

It is indicated through table (7) that most teachers use “French” as their current language of instruction in class with a percentage of (40%). They are followed by teachers who use “English” with a percentage of (33.3%) and “English and French” with a percentage of (26.7%). The data presented in this question reveal that most teachers still use French as their medium of instruction at university even after the implementation of EMI in higher education. This can reflect their inability to follow this linguistic policy due to their poor language proficiency in English. It was also found that some teachers are mixing English and French in class to present their lectures, which could be considered as their coping mechanism with the sudden implementation of EMI and their strategy to deal with the problem of their lack of proficiency in English. Thus, they resort to using French as a supporting strategy. However, using French entirely could be seen as a detrimental factor for the students' language skills development and their poor academic achievements.

**Q8.** Have you received training lessons to use English as a language of instruction?

**Table 8***Teachers' Training in English as a Medium of Instruction*

		<b>Frequency</b>	<b>Percentage</b>
	No	15	100.0%
	Yes	0	0.00%
	<b>Total</b>	15	100.0%

Table (8) shows that all teachers indicated that they did not receive any training lessons to use English as a language of instruction with a full percentage of (100%). These findings confirm the previously listed results in terms of teachers' low language proficiency and their inability to present their full lectures in English.. The necessity for this type of courses or professional training has been a pressing need that many researchers called for and emphasized in their studies. Maraf and Zekri (2023) for instance, showed that the lack of preparation led students and teachers alike to develop negative attitudes towards the EMI policy in Algerian university. Therefore, they highlighted the need for policy makers and the ministry of higher education to pay attention to this major problem and to provide language training programs and courses to increase both teachers and students' language proficiency and facilitate the successful implementation of EMI in Algerian universities.

**Q9.** If yes, do these lessons meet your needs?

**Table 9**

*Teachers' Perceptions of the Effectiveness of these Lessons in Meeting their Needs*

		Frequency	Percentage
	No	15	100.0%
	Yes	0	0.00%
	<b>Total</b>	15	100.0%

Considering the fact that they did not receive any type of professional training at university before the implementation of EMI, it is only logical that the teachers' academic needs and professional requirements are not met, as shown in table 9.

**Q10.** Do you agree that English instruction helps prepare students at the university level to advance their academic education and promote their professional qualification?

**Table 10**

*Role of English Instruction in Advancing Students' Academic Education and Professional Qualification*

		Frequency	Percentage
	Yes	14	93.3%
	Neutral	1	6.7%
	No	0	0.00%
	<b>Total</b>	15	100.0%

Table (10) demonstrates the teachers' perceptions of the effective role of English instruction in students' academic and professional advancement with a percentage of (93.3%).



There is only one teacher who chose to be “Neutral” towards the statement with a percentage of (6.7%).

The results obtained confirm the global acknowledgement of EMI as a powerful means to add value to students’ academic excellence and professional qualification. Similarly, Bukhari and Awan (2018) asserted that using EMI is admitted to prepare learners for using English in global professional contexts and academic encounters.

**Q11.** Do you think that the use of English language instead of French is beneficial for computer science learners?

**Table 11**

*Benefits of English Instruction for Computer Science Learners*

		Frequency	Percentage
	Yes	15	100.0
	No	0	0.00
	<b>Total</b>	15	100.0

It appears through table (11) that all teachers agreed that the use of English language is beneficial for computer science learners with a full percentage of (100%).

The data presented in this section reveal teachers’ acknowledgement of the value of English language in today’s global world and the usefulness of English as a medium of instruction nowadays. Ilyosovna (2020) confirmed that English is the language of science and education since current syllabi and curricula are mostly presented in English, in addition to the availability of the related research articles and papers in this language. English has undoubtedly dominated over academic and scientific fields.

**Q12.** If yes, please say why.

**Table 12**

*Teachers' Justifications of the Importance of English Instruction for Technology and Science Learners*

	Frequency	Percentage
It helps them to find different information and authentic sources related to their studies	4	26.7%
It increases the quality of their learning	2	13.3%
It increases their knowledge	3	20.0%
It facilitates the learning process	1	6.7%
All of the above	5	33.3%
<b>Total</b>	15	100.0%

Table (12) reveals teachers' Justification of the importance and benefits of using English as a medium of instruction for technology and science learners. It is clear from the data presented that the majority of participants believe that it "facilitates the learning process, increases their knowledge, and helps them to find different information and authentic sources related to their studies" with a percentage of (33.3%). There are other teachers who chose each of these benefits separately. For instance, (26.7%) of participants agreed that EMI helps them to find different information and authentic sources related to their studies. They are followed by (20%) of teachers who selected "It increases their knowledge" as their main answer. Moreover, there are few teachers who chose "It increases the quality of their learning" and "It facilitates the learning process" with successive percentages of (13.3%) and (6.7%).

The findings of this question suggest that the role of EMI is undebatable and cannot be

neglected or overshadowed. The simple fact of English being the first language of the world which leads global communication between nations makes it a necessary requirement in the academic repertoire of today's students. Thus, using English as a means of instruction in universities aims at preparing students for professional workplace. It also aims to expand their knowledge and comprehension of different life domains since English is nowadays considered as the language of science and technology, as it also seeks to involve them in global communication by equipping them with the international common means of communication and interaction.

**Q13.** From your point of view, what are the potential challenges of having English as a medium of instruction in the Algerian higher education context?

**Table 13**

*The potential challenges of EMI in Higher Education in Algeria*

	Frequency	Percentage
Lack of teachers' proficiency in English language	4	26.7%
Lack of learners' proficiency in the English language	6	40.0%
It needs a big change in the curricula and ways of teaching	1	6.7%
All of the above	3	20.0%
Others	1	6.7%
<b>Total</b>	15	100.0%

It is illustrated through table (13) which represents teachers' perceptions of the challenges of implementing EMI in Algerian universities, that most teachers chose "Lack of learners' proficiency in the English language" as the main challenge with a percentage of

(40%). They are followed by teachers who indicated that “Lack of teachers’ proficiency in English language” is the main obstacle for implementing EMI in Algerian higher education with a percentage of (26.7%). Moreover, there are some teachers who chose “All of the above” options with a percentage of (20%). Furthermore, an equal number of participants selected “It needs a big change in the curricula and ways of teaching” and “Others” with an equal percentage of (6.7%).

The data presented through this question confirm previously mentioned findings of research which list similar challenges for implementing EMI in Algerian universities in different Wilayas . The findings revealed that the main challenges include inadequate language proficiency of both teachers and students, limited resources and support, and lack of training and professional development opportunities. These findings put a great emphasis on the need of the government to find solutions since these challenges are reoccurring in different teaching contexts in Algeria and they need to be treated carefully and effectively in order to promote the quality of EMI policy and help it achieve its designated aims and objectives.

**Q14.**How do you perceive the implementation of English as a Medium of Instruction (EMI) in scientific field?

**Table 14**

*Teachers’ Perceptions of Implementing EMI in Scientific Fields*

		<b>Frequency</b>	<b>Percentage</b>
	Highly effective	3	20.0%
	Somehow Effective	12	80.0%
	<b>Total</b>	15	100.0%

It is demonstrated through table (14) that most teachers consider the implementation of EMI in scientific fields as “somehow effective” with a percentage of (80%). They are followed by teachers who view this linguistic policy as “Highly effective” with a percentage of (20%). The yielded data reveal that teachers do not have positive perceptions towards the implementation of EMI in Algerian universities and its effectiveness. Their perceptions could be related to the challenges they face as teachers to adopt this policy. They may, as well, reflect their poor linguistic proficiency and their straggling with EMI in presenting their own lectures in class.

### 2.1.5.3. Section three : student’s engagement (Q15 -Q23).

**Q15.** Generally, how do you rate your students’ level in English?

**Table 15**

*Teachers’ Perceptions of their Students` Level in English*

		Frequency	Percentage
	Low	6	40.0%
	Average	9	60.0%
	Total	15	100.0%

It is highlighted through the data presented in table (15), that the majority of teachers described their students' level in English as “Average” with a percentage of (60%). On the other hand, the remaining (40%) of teachers showed that the students have a “Low” language proficiency in English. These findings show that students have similar language proficiency to that of their teachers. They are not exactly qualified to be able to receive their normal instruction using English, and they would not be able to fully comprehend the content of the lesson. This aspect may lead students to develop negative attitudes towards the

implementation of EMI in their university and could also affect their academic performance and engagement in class.

**Q16.** How do you regard your students' engagement in the classroom?

**Table 16**

*Teachers' Perceptions of their Students' Engagement in Class*

		Frequency	Percentage
	Highly important	3	20.0%
	Important	9	60.0%
	Not that important	3	20.0%
	<b>Total</b>	15	100.0%

It is indicated through table (16) that a large number of teachers regard their students' engagement in class to be "Important" with a percentage of (60%). The remaining teachers chose equally to select "Not that important" and "Highly important" to demonstrate their opinion about the importance of student engagement with an equal percentage of (20%). These results show that teachers are aware of the importance of students' engagement in class. student engagement of all types, as mentioned in the theoretical part, plays a vital role in determining their success or failure in their learning process.

**Q17.** Do you believe that your students have the sufficient language proficiency that enables them to receive instruction in English language?

**Table 17**

*Role of Students' Language Proficiency in Receiving Instruction in English*

		Frequency	Percentage
	Yes	5	33.3%
	No	10	66.7%
	<b>Total</b>	15	100.0%

It is shown through table (17), that most teachers do not believe that their students have the sufficient language proficiency that enables them to receive instruction in English language with a percentage of (66.7%). On the other hand, the remaining (33.3%) of teachers believed the opposite, indicating that their students have the sufficient language proficiency that enables them to receive instruction in English.

These findings confirm the previously obtained results in the second section of this questionnaire. Students' low language proficiency cannot qualify them to receive instruction in their courses using English. In fact, it poses a challenge to their learning process since they cannot understand the content of the lesson if it was presented to them in English. As it has been discussed earlier, this could also lead them to developing negative attitudes towards the integration of EMI in their learning curricula.

**Q18.** Do you believe that this policy (EMI) could affect their classroom engagement?

**Table 18**

*Teachers' Beliefs about the Effect of EMI on Students' Classroom Engagement*

		<b>Frequency</b>	<b>Percentage</b>
	Yes	5	33.3%
	No	10	66.7%
	<b>Total</b>	15	100.0%

Table (18) shows teachers' perceptions of the effects of EMI on students' classroom engagement. It is clear from the data presented that the majority of teachers claimed that this policy of integrating EMI in higher education instruction could not affect their classroom engagement with a percentage of (66.7%). However, the remaining teachers indicated the opposite, demonstrating that this policy could affect their students' engagement with a percentage of (33.3%).

The results pose a slight contradiction to previously established findings in research. For instance, Khenioui and Boulkroun (2023) demonstrated that students' poor communication skills and limited command of the English language may prevent them from participating and engaging in the classroom, which contributes to their poor academic performance. Moreover, this point could be also explained with the concept of engagement itself and students' negative attitudes towards EMI that are also linked to their low language proficiency. It has been discussed earlier that students develop negative attitudes towards EMI if their proficiency in English was not sufficient enough to enable them to receive instruction in English and understand the content of their lessons. On the other hand, the term engagement as it has been defined in part one of this dissertation, refers to one's excitement and enthusiasm to participate in something. Thus, students should have positive attitudes



towards EMI in order to be able to maintain a high level of engagement in their classroom.

**Q19.**In your opinion, how does teaching in English affect student engagement compared to teaching in the native language?

**Table 19**

*The Way EMI Affects Students` Engagement*

	Frequency	Percentage
Decreases Engagement	2	13.3%
Slightly decreases engagement	8	53.3%
No difference	1	6.7%
Increases engagement	3	20.0%
Significantly increases engagement	1	6.7%
<b>Total</b>	15	100.0%

It is demonstrated through table (19), that a large number of teachers believed that teaching in English “Slightly decreases engagement” with a percentage of (53.3%). There are other teachers who agreed that it “Increases engagement” with a percentage of (20%). Moreover, another group of participants indicated that it “Decreases Engagement” with a percentage of (13.3%). The remaining teachers chose “No difference” and “Significantly increases engagement” with an equal percentage of (6.7%) to express their opinion of the effect of EMI on students` engagement.

As it has been discussed earlier in the previous question, students` engagement could be deeply impacted with the implementation of EMI in their field of study in light of their low language proficiency. Their poor linguistic proficiency hinders them from engaging in the learning process and expressing their thoughts in a language that they do not fully or adequately master. Therefore, these results show that most teachers acknowledge this fact and

admit that EMI could contribute to decreasing students' engagement in class.

**Q20.** What are the difficulties that students face when using English as a medium of instruction?

**Table 20**

*Teachers' Difficulties When Using English as a Medium of Instruction*

	Frequency	Percentage
Limited vocabulary and grammar knowledge	2	13.3%
Difficulty understanding academic content in English	5	33.3%
Lack of confidence in speaking or writing English	7	46.7%
Feeling overwhelmed or stressed by language barriers	1	6.7%
<b>Total</b>	15	100.0%

Table (20) represents the difficulties that students face when using English as a medium of instruction. It is illustrated through these data that the majority of teachers selected "Lack of confidence in speaking or writing English" as the main difficulty with a percentage of (46.7%). They are followed by teachers who chose "Difficulty understanding academic content in English" with a percentage of (33.3%). Moreover, some teachers chose "Limited vocabulary and grammar knowledge" and "Feeling overwhelmed or stressed by language barriers" as their main difficulties with EMI with percentages of (13.3%) and (6.7%) respectively.

These findings suggest that students face several challenges after the implementation of EMI in higher education curricula. The low language proficiency of learners reflects their limited vocabulary, mispronunciation, poor grammatical knowledge of language form and

structure and their low communication skills in terms of language use in communication. Therefore, these difficulties prevent them from expressing their thoughts in class, exchanging ideas with classmates and teachers, and engaging in the learning process in general. These challenges explain the role of EMI in decreasing students' engagement in computer science classrooms.

**Q21.** Do you think that all the students are engaged in classroom learning? If no, why?

**Table 21**

*Teachers' Engagement in Language Learning Classroom*

		Frequency	Percentage
	Yes	2	13.3%
	No	13	86.7%
	<b>Total</b>	15	100.0%

It is demonstrated through table (21) that the majority of teachers did not think that all students are engaged in classroom learning with a percentage of (86.7%). On the other hand, only two teachers indicated the opposite (13.3%). Some teachers attributed their students' lack of engagement to their poor language proficiency and their pronunciation difficulties that make them afraid of making mistakes and speaking in English in front of their classmates. Some of them also added that the lack in practicing this language is what makes students unable to receive EMI which, in turn, results in their lack of engagement. Additionally, some participants explained that some students do not even understand the content of the lesson that is presented in English due to their low language proficiency, therefore, they cannot participate or engage in the lesson. The results obtained through this question and its follow up, thus, confirm the previously obtained findings in terms of decreasing classroom engagement due to participants' low language proficiency.

**Q22.** To what extent do you feel the majority of your students possess the following characteristics in learning when using English as a medium of instruction?

**Table 22**

*Students` Characteristics in Learning when Using EMI*

	High		Average		Low	
Attention	0	0%	12	80%	3	20%
Interest	2	13.3%	11	73.3%	2	13.3%
Motivation	0	0%	7	46.6%	8	53.3%
Curiosity	3	20%	2	13.3%	10	66.6%
Responsibility	0	0%	8	50%	7	46.6%

Table (22) demonstrates students` characteristics in learning when implementing EMI. The data presented show that their attention is described as “Average” with a percentage of (80%), as well as their interest which is also average with a percentage of (73.3%%). However, their motivation is described to be “Low” with a percentage of (53.3%%), as well as their curiosity (66.6%). Moreover, their responsibility is also indicated to be average with a percentage of (50%), or low (46.6%).

The data obtained through this question indicate that students have low levels of attention, motivation and interest in the learning process, which are all considered as characteristics of engagement. Students` low motivation after the implementation of EMI could be attributed to their negative attitudes towards this policy and the challenges they face due to its implementation. Similarly, their sense of responsibility is also affected due to the implementation of this policy because the challenges they face prevent them from taking charge of their learning process leading to a low sense of responsibility. Their attention on the other hand, could be explained with their lack of comprehension. It has been illustrated earlier

that students often do not understand the content of their lesson when it is presented in English due to their low language proficiency. Therefore, if students cannot understand the lesson, they cannot keep or sustain a high level of concentration during the lecture.

**Q23.** What are the strategies you employ to improve learners' engagement after the Implementation of EMI?

**Table 23**

*Teachers` Strategies in Improving Students` Engagement after the Implementation of EMI*

Strategies	Yes		No	
	Count	Percentage	Count	Percentage
Encouraging interaction among students and teachers to foster communication and collaboration.	10	66.6%	5	33.3%
Providing hands-on learning experiences to promote exploration and discovery.	11	73.3%	4	26.6%
Ensuring task relevancy by incorporating contextual and practical situations reflective of real-life scenarios.	5	33.3%	10	66.6%
Integrating multimedia and technology to enhance active participation and exploration of subject matters.	9	34.6%	6	37.5%
Offering engaging and challenging instruction to stimulate critical thinking and active learning.	7	46.6%	8	53.3%
Providing regular feedback and incorporating formative assessments to enhance learning outcomes and increase engagement.	5	33.3%	10	66.6%

Table (23) shows teachers` strategies for improving their students` engagement in class after the implementation of EMI in university. It appears through the data presented that teachers use “Encouraging interaction among students and teachers to foster communication and collaboration”, “Providing hands-on learning experiences to promote exploration and discovery” and “Offering engaging and challenging instruction to stimulate critical thinking

and active learning” as their main strategies to achieve this aim with successive percentage of (66.6%), (73.3%) and (46.6%) respectively. There are some participants who chose “Ensuring task relevancy by incorporating contextual and practical situations reflective of real-life scenarios”, “Integrating multimedia and technology to enhance active participation and exploration of subject matters” and “Providing regular feedback and incorporating formative assessments to enhance learning outcomes and increase engagement” with approximate percentages of (33.3%), (34.6%) and (33.3%).

The findings reveal that the strategies teachers use in promoting their students` engagement in class are similar to previously established strategies in research. Taylor and Parsons (2011) demonstrated that fostering an interactive classroom environment helps students actualize their learning process through real life exploration and examination which contributes to increasing their engagement in class. Moreover, tasks relevance is a similar strategy through which teachers related the theoretical knowledge that students receive to their real life context and scenarios. Willms, Friesen, and Milton (2009) acknowledged that this strategy turns students` learning process into more a meaningful and authentic experience in which they feel that they are doing something worthy of their time and feel interested to engage in it. The use multimedia and technology to enhance active participation and exploration of subject matters has been also portrayed in research as an effective strategy for increasing students` engagement in class. Taylor and Parsons (2011) explained that technology helps students learn in their own preference and use materials that accommodate their needs which develops their classroom engagement. Similarly, they also asserted that fostering a challenging classroom environment for students can greatly benefit the learning process by encouraging students to think, question and investigate the information they receive in class. Thus, this strategy is also admitted to increase students` engagement in class. The last strategy that has been suggested in research and confirmed through this question is

teachers' corrective feedback. Taylor and Parsons (2011) explained that feedback on their learning progress helps them become more engaged as they gain clarity on what they need to improve, modify, or remove altogether.

#### **2.1.5.4 Section Four: Further Suggestions (Q 24).**

**Q24.** Would you please offer some suggestions for better integration of EMI in scientific fields?

In terms of further suggestions and comments, participants recommended that students of computer science should support their EMI at university with extra resources to improve their different language skills and increase their language proficiency (through reading, listening, writing and speaking). This would help them minimize the difficulties they face at university with the implementation of EMI and increase their knowledge of the target language to enhance their academic progress and professional perspectives as well. Some of them also advised that students should enroll in private English learning courses to receive a professional language instruction and improve their language proficiency. Teachers should also enroll in these classes to receive professional training in English and to be able to overcome their teaching challenges using EMI. Additionally, there is a suggestion from one of the participants who advised that online platforms should be used to provide English courses for students and teachers to develop their language skills and enhance their vocabulary.

#### ***2.1.6. Discussion of the Questionnaire's Findings***

The main findings of the questionnaire reveal that EMI implementation in the department of Computer Science at Abdelhafid Boussouf Center in Mila is met with a number of challenges that hinder its successful implementation. As it has been illustrated in the first chapter, English language instruction is now holding a significant value in the global educational sector because it bares the responsibility of providing students from diverse social and national backgrounds with the most widely used language in the world. Consequently, the

implementation of EMI in Algerian higher education aims at preparing students for professional workplace environments, to expand their knowledge and comprehension of different life domains since English is the language of science and technology, and to involve them in global communication by equipping them with the international common means of communication and interaction.

However, the implementation of this policy at Abdelhafid Boussouf Center in Mila is met with several problems. It could be stated that this policy is not effective due to the several challenges that it imposed on learners and teachers alike. The low language proficiency of learners reflects their limited vocabulary, mispronunciation, poor grammatical knowledge of language form and structure and their low communication skills in terms of language use in communication. Therefore, these difficulties prevent them from expressing their thoughts in class, exchanging ideas with their classmates and teachers and engaging in the learning process in general.

Therefore, it could be stated that EMI plays a major role in decreasing students' engagement in computer science classes, this result answers the first research question which aims at exploring the effects of EMI on students' engagement. Students' lack of engagement is attributed to their poor language proficiency and their pronunciation difficulties, some of these students do not even understand the content of the lesson that is presented in English due to their low language proficiency. Therefore, they cannot engage in the lesson. Thus, these challenges answer the second research question which aims at highlighting the difficulties that students face after the implementation of EMI.

The third research question is answered through the following data that demonstrates teachers' strategies in overcoming these challenges. Teachers indicated that they follow some teaching strategies in class that aim at resolving this problem. These strategies include encouraging interaction among students and teachers to foster communication and



collaboration, providing hands-on learning experiences to promote exploration and discovery, offering engaging and challenging instruction to stimulate critical thinking and active learning, ensuring task relevancy by incorporating contextual and practical situations reflective of real-life scenarios, integrating multimedia and technology to enhance active participation and exploration of subject matters and providing regular feedback and incorporating formative assessments to enhance learning outcomes and increase engagement.

## **Section Two : Students' Questionnaire**

### ***2.2.1. Population and sample***

In this research, a sample of first-year computer science students attending the Department of Computer Science at Abdelhafid Boussouf University Center, Mila, for the academic year 2024 was selected. This sample consists of 60 students who are directly experiencing the newly implemented English as a Medium of Instruction (EMI) setting. The chosen students are crucial for this study as they can provide valuable insights into their engagement levels, learning experiences, and any challenges faced in the new EMI context. By focusing on these first-year students, the research aims to understand the immediate impacts of EMI on student engagement and academic performance in the computer science curriculum. This sample is particularly appropriate as it directly represents the target population affected by the EMI transition, providing a comprehensive overview of its effects on student engagement.

### ***2.2.2 Description of Teachers' Questionnaire***

The Student's Questionnaire, designed to investigate the effects of using EMI on computer science students' engagement at Abd Elhafid Boussouf Mila University, comprises a comprehensive set of twenty questions, organized into four distinct sections.

#### **➤ Section One: Background Information (Questions Q1-Q3)**

This section includes close-ended, multiple-choice questions aimed at collecting

personal information about the students, such as the duration of their English language study, proficiency level, and familiarity with different types of English.

➤ **Section Two: English as a Medium of Instruction (Questions Q4-Q12)**

This section focuses on exploring students' comfort levels, challenges, and perceived benefits of English as the medium of instruction. It incorporates Likert scale question to assess the impact of English language instruction on the learning experience. Additionally, it includes open-ended questions that allow students to provide qualitative insights and elaborate on their experiences.

➤ **Section Three: Student Engagement (Questions Q13-Q19)**

This section encompasses a combination of close-ended, multiple-choice questions and Likert scale questions to examine students' participation in English-mediated discussions, motivators for active engagement, enjoyment of group assignments, perception of the teacher's role in enhancing engagement, and the level of support provided by professors. Open-ended questions are also included to encourage students to provide detailed explanations and suggestions.

➤ **Section Four: Further Suggestions (Question 20)**

The final section consists of an open-ended question that solicits students' recommendations for better integration of English as a Medium of Instruction (EMI) in scientific fields. This section provides an opportunity for constructive feedback and suggestions for improvement.

### ***2.2.3. The administration of students' questionnaire***

The questionnaire was administered to first-year computer science students at Mila University Centre during their normal lecture and TD sessions. Prior to administration, the questionnaire was translated, and students were given the option to choose between Arabic and English versions based on their preference. The process of collecting data took about a

week, from the 5th to the 12th of May, covering a sample of 60 students.

#### ***2.2.4. The Analysis Procedure***

The answers to the students' questionnaire are analyzed quantitatively and qualitatively. The quantitative method allows analyzing the answers gathered from the questionnaire in terms of numbers, percentages, and statistics. The qualitative method is used mainly to describe, interpret, and understand the answers to open-ended questions and the reasons behind the chosen answers, often in the light of previously reviewed theories and research questions.

#### ***2.2.5. Data Analysis and Interpretation***

##### **2.2.5.1 Section One: Background Information (Q1-Q3).**

**Q1.** How long have you been studying English?

**Table 24**

*Students' Experience in Studying English*

	Frequency	Percent
<b>8 years</b>	<b>49</b>	<b>81.7%</b>
<b>9 years</b>	<b>8</b>	<b>13.3%</b>
<b>10 years</b>	<b>3</b>	<b>5%</b>

In response to the first question, the majority of the respondents (81.7%) have been studying English for 9 years. However, (13.3%) claimed that they have been studying English for 10 years, and only 5% have been studying English for 11 years. The results confirm that the majority of the students have succeeded in their studies, while just a few of them may have repeated at least one year. This also implies that all students have experience in studying English.

**Q2.** Describe your proficiency in English?

**Table 25***Students' Level in English*

Option	Frequency	Percentage
Excellent	9	15%
Good	17	28.3%
Fair	26	43.3%
Not sufficient	8	13.3%

The aim of this question is to investigate the connection between students' English proficiency and their engagement in EMI classes. Understanding this relationship will help researchers determine whether a student's English proficiency level affects their engagement during the learning process.

According to the data analysis, (43.3%) of students considered their English proficiency level to be fair, while (28.3%) regarded it as good. Only (15%) of students rated their proficiency level as excellent, while (13.3%) evaluated it as insufficient. These findings suggest that there may be room for improvement in students' language skills, especially for those who perceive their level as fair or insufficient.

**Q3.** What type of English are you familiar with?

**Table 26***Familiarity with Types of English Among Students*

Option	Frequency	Percentage
<b>General English</b>	<b>43</b>	<b>71.7%</b>
<b>Technical English</b>	<b>8</b>	<b>13.3</b>
<b>Academic English</b>	<b>9</b>	<b>15%</b>

The primary objective of this question is to collect crucial information about students' language backgrounds, which is essential for understanding their engagement levels and the potential need for tailored instructional approaches in scientific studies. The data reveal that a significant majority of participants (71.7%) have general English proficiency, suggesting familiarity with everyday language. However, they may lack the specialized vocabulary

needed for scientific fields, indicating a potential need for additional language support. Conversely, 15% of participants reported having academic English, indicating a higher proficiency in formal language which is beneficial for academic literature and scientific discussions. Additionally, (13.3%) claimed to have technical English proficiency, which may require less language support but could benefit from targeted instructional strategies. Overall, this analysis provides valuable insights into how language background influences engagement levels and instructional approaches in scientific education.

#### 2.2.5.2. Section Two: English as a medium of instruction (Q4 – Q12).

**Q4.** How comfortable are you with English as the medium of instruction in your computer science courses?

**Table 27**

*Student' Comfort Levels with English as the Medium of Instruction in Computer Science Courses*

Option	Frequency	Percentage
Very Uncomfortable	26	43.3%
Comfortable	11	18.3%
Neutral	12	20%
Uncomfortable	6	10%
Very Uncomfortable	5	8.3%

The present question seeks to assess students' preferences regarding English instruction and understand how these preferences influence their engagement. As shown in table 27, over half of the participants (43.3%) are very comfortable with the idea of using English as a medium of instruction. This suggests that these students are likely to have interest in learning English, which may positively affect their engagement and comprehension in computer science courses. Likewise, a smaller percentage of the participants (18.3%) still feel comfortable with English instruction. They may not have the same interest in English as the previous group, but they may still engage well with the material. Additionally, a lower

percentage (20%) indicates a portion of students who are neither comfortable nor uncomfortable with English instruction. They may adapt to the language medium but might not be fully engaged or confident. However, a smaller percentage of students (10%) feel uncomfortable with English instruction, while( 8.3%) of the students feel very uncomfortable. These students may face significant challenges with comprehension and engagement, potentially impacting their academic performance.

**Q5.** Do you feel that your proficiency in English affects your understanding of the course material?

**Table 28**

*Impact of English Proficiency on Understanding of Course Material*

Option	Frequency	Percentage
Yes, significantly	15	25%
Yes, somewhat	27	45%
No, not really	9	15%
No, not at all	9	15%

Data displayed in table 28 indicate that a quarter of the students (25%) believed that their English proficiency significantly affects their understanding of the course material, whereas (45%) of the students felt that their English proficiency only somewhat affects their understanding. This suggests that these students face substantial challenges due to language barriers which may hinder their comprehension and engagement with the course content. They may need additional language support or resources to help bridge this gap. Moreover, a smaller percentage of students (15%) felt that their English proficiency does not significantly impact their understanding of the course material. These students might have a good command of English and can manage the course content with minimal difficulty. They may require less additional support compared to their peers. Another equivalent percentage (15%)

did not feel that their English proficiency affects their understanding at all. These students are likely to be highly proficient in English and can engage fully with the course material without any language-related issues.

**Q6.** Have you experienced difficulties with technical vocabulary or terminology in English?

**Table 29**

*Experience of Difficulties with Technical Vocabulary or Terminology in English*

Option	Frequency	Percentage
Yes	45	75%
No	15	25%

The results in this table show that (30%) of respondents frequently faced difficulties, (50%) occasionally did, and 20% rarely did, with none reporting never experiencing difficulties. This indicates that a significant majority (80%) encounter challenges with technical vocabulary, possibly due to the complexity and specialized nature of scientific terminology, and to the non-native English background of the respondents. The findings, thus, suggest that English as a medium of instruction in scientific fields presents substantial language challenges, highlighting the need for enhanced language support and instructional strategies to improve comprehension and academic success.

**Q7.** What challenges have you encountered with English as the medium of instruction?

**Table 30***Challenges Encountered with English as the Medium of Instruction*

Option	Frequency	Percentage
Writing clearly and accurately	8	13.3%
Speaking fluently and Confidently	13	21.7%
Understanding spoken English in lectures	20	33.3%
Comprehending written academic texts	11	18.3%
Speaking fluently and Confidently, understanding spoken English in lectures	8	13.3%

(33.3% )of students encountered difficulties in understanding spoken English during lectures. This challenge is closely linked to the findings from Q.5, Q.7, and Q.8 in the teachers' questionnaire, which highlight issues with teachers' low language proficiency and their struggle to fully lecture in English, along with the lack of professional language training before transitioning from a French-based teaching environment. When teachers face difficulties in articulating concepts clearly or lack fluency, students may find it hard to comprehend the material being presented. The same can be claimed for students who were used to receive instruction in French in their courses and paid little attention to developing their English proficiency.

Additionally, the challenge of speaking fluently and confidently was chosen by (33%) of students, stemming from factors such as limited opportunities for practice in academic contexts, fear of making mistakes, and insufficient exposure to English outside the classroom. Furthermore, inadequate feedback from instructors also hinders students' ability to improve their speaking abilities effectively.

Moreover, (13.3%) of respondents reported challenges in writing clearly and accurately. This can be attributed to limited vocabulary, grammar and syntax issues, and a



lack of practice. This may lead to difficulties in finding the right words, navigating English grammar and sentence structure, and a scarcity of opportunities to enhance writing skills, all of which impact the clarity and accuracy of written work.

The analysis also reveals that (18.3%) of students encountered challenges in comprehending written academic texts, primarily due to complex sentence structures and advanced vocabulary used in scientific texts. These complexities can pose significant challenges for non-native speakers, making it difficult for them to follow the flow of ideas and grasp the content effectively. Additionally, (13.3%) had difficulties both in speaking fluently and confidently and comprehending spoken English in lectures.

**Q8.** What language do you use when you talk to your classmates during break time? And why do you use this language particularly when you talk to your classmates?

**Table 31**

*Language Usage During Break Time with Classmates*

Option	Frequency	Percentage
English	19	31.7%
Arabic	38	63.3%
French	3	5%

Data obtained from table 31 reveal that (63.3%) of the participants considered Arabic to be the most convenient language to use during break time, whereas (31.7%) preferred using English. Additionally, only one student (5%) used French as a medium of communication during breaks.

Based on the students' responses, the primary reason for using Arabic in the classroom to communicate with classmates is that their mother tongue allows them to express ideas that they cannot articulate in other languages. They also use Arabic to save time and avoid misunderstandings. Some students mentioned feeling more comfortable, secure, and confident

when speaking to their classmates in their native language. Furthermore, students find it easier to use Arabic for daily communication needs because they lack sufficient English vocabulary to express themselves effectively. This suggests that they may face challenges in using English for communication and lack confidence in their abilities. This may also be a good indication of the lack of practicing English.

On the other hand, the (31.7%) of participants who chose English to communicate with their classmates indicated that their primary goal was to improve their English skills, such as enriching their vocabulary, improving their spelling, and refining their pronunciation. These findings indicate that a significant number of students recognize the importance of practicing English to enhance their speaking abilities. However, it should be noted that 38 students, a substantial number, still switch to Arabic completely when they are not being observed by their teachers.

**Q9.** How do you cope with language barriers during lectures, assignments, and exams?

**Table 32**

*Strategies for Coping with Language Barriers During Lectures, Assignments, and Exams*

Option	Frequency	Percentage
Seek clarification from professors	4	6.7%
Collaboration with peers	9	15%
Use online resources	40	66.7%
Other	7	11.7%

The results indicate that a significant majority, (66.7%), relied on online resources to overcome language difficulties during lectures, assignments, and exams. This preference likely stems from the immediate availability and variety of explanations that online platforms offer; technology allows them to explore a variety of subject matters that meet their needs and addresses relevant field topics in which they are interested (Taylor & Parsons,

2011). Collaboration with peers, chosen by (15% )of respondents, also plays an essential role, as it allows for shared understanding and mutual support. Within a classroom setting, students should interact with their classmates or school staff to attain their learning objectives (Taylor & Parsons, 2011). However, only (15%) chose this option, possibly because not all students have access to a supportive peer network or because they may feel uncomfortable relying on peers for academic help.

Only (6.7%) of students claimed to seek clarification from professors, which might be due to the professors' own lack of proficiency in English, making students less confident in getting clear and comprehensible explanations from them. Additionally, as found in the analysis of question 8, students have problems speaking fluently, which may lead them to feel embarrassed to admit their difficulties. The remaining (11.7%) mentioned the use of dictionaries to help them, suggesting a diverse range of individual strategies.

**Q10.** Do you think that having English as the medium of instruction enhances your learning experience in computer science?

**Table 33**

*Perception of English as the Medium of Instruction in Computer Science Learning Experience*

Option	Frequency	Percentage
Yes, significantly	37	61.7%
, somewhat	20	33.3%
No, not really	3	5%
No, not at all	0	0%

These results show that a significant majority of students believed that EMI positively impacts their learning experience in computer science. Specifically, (61.7%) of respondents thought that English enhances their learning experience significantly, while an additional (33.3%) claimed it improves their learning somewhat. This combined total of (95%) indicates a strong preference for English, suggesting that students find it beneficial, probably due to the global prevalence of English in scientific research, technical documentation, and academic

resources. Only a small fraction, (5%), felt that English does not notably contribute to their learning, underscoring the overall effectiveness and acceptance of English as the instructional language in computer science education.

Considering the notable significance of the English language in today's global world, its acquisition has turned into a necessity rather than an additional qualification. It is now regarded as the language of science, media, tourism, and aviation (Ilyosovna, 2020).

**Q11.** Do you believe that additional support or resources should be provided to students for whom English is not their first language?

**Table 34**

*Perception of Additional Resources for Non-Native English Speakers*

Option	Frequency	Percentage
Yes	60	100%
No	0	0%

The intention behind the question appears to be twofold: firstly, to gauge the perception of respondents regarding the necessity of providing support or resources to students for whom English is not their first language in the context of scientific education delivered in English; and secondly, to assess the level of awareness and commitment to addressing potential language barriers in scientific fields.

The unanimous agreement (100%) in favour of providing additional support or resources reflects a recognition of the challenges faced by non-native English speakers in comprehending scientific content. It suggests an understanding of the importance of inclusivity and equity in education, as well as a commitment to ensuring that all students have equal opportunities to succeed in scientific fields, regardless of their linguistic background.

**Q12.** How do you think the university could better support students in adapting to English as

the medium of instruction in computer science courses?

**Table 35**

*Suggestions for University Support in Adapting to English as the Medium of Instruction in Computer Science Courses*

Option	Frequency	Percentage
Provide language workshops	15	25%
Offer tutoring services	14	23.3%
Integrate language support	31	51.7%

The results show that (51.7%) of students preferred integrating language support directly into coursework. This preference that students find it most effective when language instruction is contextually relevant. Additionally, (25%) of students favoured language workshops, reflecting a recognition of the need for dedicated language training sessions to build foundational skills. Meanwhile, (23.3% )of respondents preferred tutoring services, emphasizing the importance of personalized, one-on-one support to address individual challenges.

### 2.2.5.3. Section Three: Students' Engagement (Q13- Q19).

**Q13.** How often do you actively participate in English-mediated discussion during classes?

**Table 36**

*Frequency of Active Participation in English-Mediated Discussions During Classes*

Option	Frequency	Percentage
Always	10	16.7%
Often	19	31.7%
Rarely	31	51.7%

The obtained results revealed that only (16.7%) of students always participated, (31.7%) often participated, and a significant (51.6%) rarely participated. This indicates that while a small proportion of students are fully engaged, the majority are not actively involved.

The low rates of participation suggest that many students may lack motivating factors. Capelle's concept of "sustained presence with intention" (as cited in Lamb & Levering, 2017, p. 31) further implies that active participation requires deeper involvement and directed understanding, which may be lacking due to the challenges of engaging with technical vocabulary and terminology in English. Additionally, Price & Nelson (2010) emphasized that active involvement increases understanding and retention, which these students may not be achieving. Humphreys & Boaler (2005) stressed the importance of teachers defining and facilitating participation, suggesting that improvements in teaching strategies could help increase student engagement. Therefore, the results indicate a need for enhanced motivational strategies, clearer participation guidelines, and stronger support systems to help students overcome language barriers and become more actively engaged in their learning.

**Q14.** What motivates you to engage actively in English instruction?

**Table 37**

*Motivations for Active Engagement in English-Mediated Instruction*

Option	Frequency	Percentage
Interest in the subject matter	7	11.7%
Desire to achieve high grades or rewards	6	10%
Influence of educators and teaching methods	14	23.3%
Use of technology in learning	7	11.7%
All them	26	43.3%

The analysis of the results indicates that (11.7% )of students were primarily motivated by an intrinsic interest in the subject matter, showing a strong internal drive to engage in English instruction because they find the content inherently fascinating.

Conversely,(10%) were driven by extrinsic motivation, such as the desire to achieve high grades or rewards. This extrinsic factor reflects the influence of external incentives on

students' engagement, as highlighted by Coffman(2009). Additionally, the use of technology in learning is also a significant motivator (11.7%), which highlights the importance of integrating modern teaching tools to enhance engagement.

The influence of educators and teaching methods (23.3%) further emphasizes the need for innovative and interactive teaching strategies. Finally, 43.3% of students were motivated by a combination of all factors, emphasizing the multifaceted nature of motivation in English instruction. These findings suggest that while intrinsic interest, external rewards, educator influence, and technology are crucial motivators, the effective use of dynamic teaching methods plays a vital role in maintaining high levels of student engagement in English instruction.

**Q15.** Do you enjoy English-mediated group assignments within the classroom?

**Table 38**

*Enjoyment of English-Mediated Group Assignments within the Classroom*

Option	Frequency	Percentage
<b>Yes</b>	<b>60</b>	<b>100%</b>
<b>No</b>	<b>0</b>	<b>0%</b>

The full agreement that enjoyment is very important in English-mediated group assignments within the classroom suggests a clear understanding among students that engagement and enjoyment significantly impact their learning experiences. This indicates that students perceive enjoyment as crucial for their active participation and involvement in group assignments conducted in English. The aim behind this question pertains to assessing students' preferences and attitudes towards incorporating enjoyable elements into their learning process, with the ultimate goal of enhancing their engagement and overall academic performance in EMI contexts.

**Q16.** How crucial do you think it is to incorporate elements of enjoyment in English-mediated group assignments within the classroom?

**Table 39**

*Importance of Incorporating Enjoyment in English-Mediated Group Assignments*

Option	Frequency	Percentage
Very important	60	100%
Not important	0	0%

The unanimous agreement that enjoyment is very important in English-mediated group assignments within the classroom suggests a clear understanding among students that engagement and enjoyment significantly impact their learning experiences. This indicates that students perceive enjoyment as crucial for their active participation and involvement in group assignments conducted in English.

**Q17.** Does the teacher play a role in enhancing student engagement in computer science courses?

**Table 40**

*Role of Teachers in Enhancing Student Engagement in Computer Science Courses*

Option	Frequency	Percentage
Yes	49	81.7%
No	11	18.3%

The results of the question indicate that the majority of first-year computer science students, around (81.7%), believed that teachers do play a role in enhancing student engagement in computer science courses. This suggests that students perceive teachers as having a significant impact on their engagement levels. By understanding students' perceptions of the teacher's role in enhancing engagement, researchers can gain insights into the effectiveness of teaching practices and strategies in promoting student involvement and



participation, particularly in the context of EMI. Additionally, these results underscore the importance of teacher-student interactions and instructional approaches in fostering a supportive and engaging learning environment for first-year computer science students, which can ultimately influence their academic success and learning outcomes.

**Q18.** How would you rate the level of support provided by your professors regarding English instruction?

**Table 41**

*Rating the Level of Support Provided by Professors Regarding English Instruction*

Option	Frequency	Percentage
Very supportive	5	8.3%
Supportive	15	25%
Neutral	22	36.7%
Unsatisfactory	18	30%

The analysis of the question on the level of support provided by professors regarding English instruction reveals a diverse range of responses among students. A significant portion (36.7%) of students chose the neutral option, indicating a lack of strong opinion regarding the level of support received. This suggests a potential gap in communication or perceived support from professors. Additionally, 30% of students rated the support as unsatisfactory, indicating a notable portion of students feeling under supported in their English instruction. Conversely, 33.3% of students rated the support positively, either as very supportive (8.3%) or supportive (25%). These results underscore the importance of effective collaboration among teachers, as highlighted by Cohen (1981) and Savoie et al. (2012), to ensure cohesive and supportive instruction. Therefore, the results of the question not only shed light on the perceived level of support but also emphasize the significance of collaborative efforts among educators in enhancing students' learning outcomes and fostering a sense of community within the educational environment.

**Q19.** How often do you utilize the following methods to prepare for English-medium lectures and enhance your engagement?

- Take notes during lectures (always, Often , rarely ).
- Review lecture materials in advance (always, Often , rarely ).
- Demonstrate commitment by attending all lectures and completing assigned readings (always, Often , rarely ).
- Take responsibility for your learning by actively seeking clarification and additional resources when needed (always, Often , rarely ).

**Table 42**

*Utilization Frequency of Engagement-Enhancing Methods in English-Mediated Lectures*

Option	Frequency	Percentage
Always	12	20%
Often	16	53.3%
Rarely	32	26.7%

The results of the question on the frequency of utilizing preparation methods for English-medium lectures among first-year computer science students reflect varying levels responsibility and commitment towards their learning. A significant majority of students (53.3%) claimed to often employ these methods, indicating an active approach to preparing for lectures and enhancing their engagement with English-medium instruction. This suggests a strong sense of responsibility among these students, as they take ownership of their learning process and actively seek ways to facilitate their understanding.

Additionally, (20%) of students opted for always utilizing these methods, further highlighting a high level of commitment to their academic pursuits. However, it is noteworthy that a notable portion of students (26.7%) rarely utilized these strategies, indicating a potential area for improvement in fostering responsibility and commitment among students.

The intention behind this question is to assess students' study habits, level of engagement, and willingness to take responsibility for their learning process in the context of English as a medium of instruction. By understanding the frequency of utilization of these methods, educators can identify opportunities to support student engagement, promote responsibility, and encourage proactive learning behaviors, ultimately leading to improved learning outcomes in English-medium instruction, as emphasized by the literature on responsibility and commitment in educational contexts.

#### **2.2.5.4. Section Four: Further Suggestions (Q20).**

**20.** Would you please offer some suggestions for better integration of English as a Medium of Instruction (EMI) in scientific fields?

Based on the responses collected, (34%) of students provided suggestions for better integration of EMI while (66%) did not provide any answers. Specifically, 22 students offered valuable insights, highlighting the role of teachers and universities in enhancing the EMI experience. The majority of suggestions from the 22 students focused on the role of teachers. Teachers play a crucial role in enhancing the effectiveness of EMI in scientific fields. By making the subject matter interesting and relevant with English-language resources, encouraging hands-on learning through English-based projects, providing personalized language support, fostering collaborative environments for peer learning in English, and implementing engaging teaching techniques, teachers can significantly improve student engagement and comprehension. These strategies help students see the value of using English, boost their language skills, and foster a more inclusive and interactive learning atmosphere, ultimately leading to greater academic success.

Additionally, students suggested that universities should provide professional development for teachers to improve their English delivery skills and offer language support

services, such as courses and workshops focusing on scientific terminology and academic writing. These can enhance both teaching effectiveness and students' language proficiency and engagement.

### ***2.2.6. Discussion of the Questionnaire's Findings***

The analysis of the students' questionnaire provides insight into the effectiveness and challenges of using EMI in computer science education at the Abdelhafid Boussouf Center in Mila, Algeria. Despite the widespread use of English in academic and professional settings globally, its integration into the educational framework faces significant obstacles. The findings highlight prevalent issues arising from insufficient language proficiency among both students and teachers, which hinders effective communication and understanding. While EMI aims to enhance language skills, broaden academic horizons, and promote global connectivity, the reality indicates a gap between intention and implementation. The challenges that students face with technical vocabulary, spoken communication, and written comprehension indicate substantial barriers to meaningful engagement and learning outcomes. Furthermore, the preference for native language communication during breaks reflects a broader sense of discomfort and inadequacy in English proficiency, exacerbating linguistic challenges. Besides, despite acknowledging the potential of EMI to enrich learning experiences and prepare students for professional environments, a significant number of students feel that educators do not adequately support them in overcoming linguistic obstacles. The variations in student engagement levels highlight the multifaceted nature of the EMI, including pedagogical approaches, institutional support systems, and student motivation. In response, students advocate for targeted interventions such as language workshops, collaborative learning initiatives, and enhanced teacher training to bridge the gap between aspiration and achievement.

## **Conclusion**

In summary, this chapter focuses on the practical part of the study, which aims to investigate student engagement in a recently implemented English as a Medium of Instruction setting. The chapter involves the design and administration of questionnaires to first-year university computer science students and CS teachers, followed by data analysis, interpretation, and discussion.

It was determined that the implementation of English as a Medium of Instruction (EMI) at Abdelhafid Boussouf Center in Mila, has a significant affects on student engagement. Both teachers and students encounter difficulties due to low language proficiency, which hinders effective communication and comprehension , thereby reducing overall engagement and learning efficiency . EMI aims to improve English language skills for professional purposes, expand academic comprehension, and facilitate global communication. However, limited vocabulary, inadequate grammatical knowledge, mispronunciation, and poor communication skills among students create barriers to active participation in classroom activities.

Teachers are driven to tackle these issues by utilizing various strategies such as promoting interaction, providing practical learning experiences, delivering captivating instruction, ensuring task relevance, integrating multimedia and technology, and supplying regular feedback. Despite these endeavors, the disparity between the intended benefits of EMI and its current implementation remains substantial. Students advocate for targeted measures such as language workshops, collaborative learning initiatives, and enhanced teacher training to bridge this gap. Effective EMI implementation necessitates addressing systemic deficiencies, promoting linguistic inclusivity, and establishing a supportive learning environment for student success in an interconnected world.

## **Limitations**

The present work has some limitations. The most prominent of these is the difficulty encountered in collecting the necessary data for the practical part of the research. Many teachers were out of reach due to their busy schedules and frequent absences. Additionally, the study faced significant time constraints, which limited the scope of data collection and analysis. This restriction meant that only a teachers' questionnaire and a students' questionnaire were used as research tools. Other research methods could have been employed to gather more comprehensive and reliable data, such as observations, because this type of topic requires considerable effort to obtain reliable data and find solutions to the current problems in the implementation of EMI.

## **Recommendations and suggestions**

Based on the findings of the research, a few recommendations can be made:

**Teacher Training:** Computer science teachers need to be adequately prepared and trained by competent ESP teachers to deliver content in English effectively. The universities should provide training opportunities to help teachers develop their language proficiency and pedagogical skills.

**Development of English Language Skills:** Algerian universities should provide English language training to students and staff to develop their proficiency and communication skills in English. This will help to improve their ability to engage with English-medium instruction.

**Curriculum Development:** Algerian universities should review their curricula to ensure that they align with the principles of EMI. This may involve revising course objectives, materials, and assessment methods to support effective EMI implementation.

**Technological Support:** Universities should provide technical support to facilitate the use of digital tools and resources for EMI delivery. This may include access to online learning platforms, multimedia resources, and other digital tools.

**Research and Evaluation:** Universities should conduct research and evaluation of EMI implementation to assess its impact on teaching and learning outcomes. This will provide valuable feedback to guide future implementation efforts.

**Adapt Teaching Methods:** Implement diverse teaching strategies to accommodate students with varying English proficiency levels.

**Engagement Strategies:** Foster a conducive learning environment by encouraging interaction, providing hands-on experiences, and integrating multimedia for active engagement.

### **General Conclusion**

In recent years, the widespread use of English as the primary language for academic and scientific research has led to a significant increase in its use as the main language of instruction in higher education. This policy aims to globalize the education system by requiring that all universities worldwide use English as the sole language of instruction. The concept of English as a Medium of Instruction (EMI) first emerged in former British colonies where English was either the first or second language. Developing countries adopted English out of necessity, and this policy gained popularity as the USA emerged as a political and cultural superpower.

The English medium of instruction policy is implemented for various reasons, such as political and economic factors, and is considered the best language for development. This study focuses on the Algerian higher education context and it investigates the effects of implementing English as a medium of instruction on first-year computer science students' engagement. The study also aims to examine the possible obstacles encountered by this policy. The first chapter presents the theoretical framework of this study. The first section discusses the status of English as a global language and its significance in language

instruction. It also explores the historical context of English language instruction in Algeria. In the second section, the focus is on student engagement, including its types (cognitive, behavioural, and emotional), strategies to improve it, factors that enhance it, related terms, its importance in learning, and the impact of English as a Medium of Instruction on student engagement.. The second chapter is devoted to the fieldwork, focusing on the analysis and discussion of the data.

For data collection, two questionnaires were used: teachers' questionnaire and the students' questionnaire to elicit data about the effects of the implementation of English as the medium of instruction on first-year computer science students' engagement. The yielded data were analyzed using the mixed method, and the findings were interpreted, ultimately, to answer the research questions.

The study's findings show that the implementation of English as the medium of instruction for first-year computer science students has proven to be ineffective, resulting in decreased student engagement and a myriad of challenges. These challenges include both teachers and students having low proficiency in English, teachers lacking proper training in English instruction, students facing difficulties in writing accurately, speaking fluently, and understanding written texts in English. Additionally, students have expressed a lack of enjoyment and interest in English classes, exacerbated by the lack of support from teachers regarding English instruction. To address these issues, it is imperative for teachers to adapt their teaching methods to accommodate the diverse learning needs of the students. Moreover, students advocate for the university to provide tutoring sessions, workshops, and additional support to enhance their English language skills.

This conclusion highlights the necessity of reevaluating the implementation of English as the medium of instruction, particularly within computer science programs and across



Algerian universities. Effective strategies must be adopted to enhance student engagement and proficiency in English, ensuring a more conducive learning environment for all.

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## Appendices

### Appendix 1: Teachers` Questionnaire

Dear teachers,

This questionnaire is part of ongoing research that aims at investigating the effects of using English as a medium of instruction on computer science students` engagement. Your contribution is highly significant for the continuation of this study. Therefore, you are kindly requested to answer the following questions based on your experience. Thank you for your time.

#### Section One: Background Information

1. What is your academic degree?

Master       Magister       Doctorate

2. How long have you been teaching at university?

1-4 years

5-9 years

More than 9 years

3. How many years have you learned English ?

1-4 years

5-9 years

More than 9 years

4. Where did you learn English ?

In Algeria       abroad

5.How would you describe your level of English language proficiency?

Poor  Average  Above average  Good  Excellent

**Section Two : English as a medium of instruction**

6.What is the language of instruction did you normally use in presenting your lectures in class?

English  French  Arabic  Other

7.What is the language of instruction you are currently using in presenting your lectures in class?

English  French  Arabic  Other

8. Have you received training lessons to use English as a language of instruction?

Yes  No

9.If yes, do these lessons meet your needs?

Yes  No

10.Do you agree that English instruction helps prepare students at the university level to advance their academic education and promote their professional qualification?

Yes  No  Neutral

11.Do you think that the use of English language instead of French is beneficial for

Computer Science ?

Yes  No

12. If yes, please say why:

a. It helps them to find different information and authentic sources related to their studies

b. It increases the quality of their learning

c. It motivates them to learn

d. It increases their knowledge

e. It facilitates the learning process

f. All of the above

13. From your point of view, what are the potential challenges of having English as a medium of instruction in the Algerian higher education context?

a. Lack of teachers' proficiency in English language

b. Lack of learners' proficiency in the English language

c. Lack of support from the government

d. It needs a big change in the curriculums and ways of teaching

e. All of the above

f. Others .....

14. How do you perceive the implementation of English as a Medium of Instruction (EMI) in scientific field?

Highly effective

Somewhat effective

Neutral

Somewhat ineffective

Highly ineffective

### Section three : student's engagement

15. Generally, how do you rate your students' level in English?

Low       Average       High

16. How do you regard your students' engagement in the classroom?

Highly important       Important       Not that important

17. Do you believe that your students have the sufficient language proficiency that enables them to receive instruction in English language?

Yes       No

18. Do you believe that this policy could affect their classroom engagement?

Yes       No

19. In your opinion, how does teaching in English affect student engagement compared to teaching in the native language?

• Decreases engagement

• Slightly decreases engagement

• No difference

• Increases engagement

• Significantly increases engagement

20. What are the difficulties that face students when using English as a medium of instruction

a. Limited vocabulary and grammar knowledge

b. Difficulty understanding academic content in English

c. Lack of confidence in speaking or writing English

d. Feeling overwhelmed or stressed by language barriers

21. Do you think that all the students are engaged in classroom learning?

Yes

No

-If no, what are the causes of students' lack of engagement?

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22. To what extent do you feel the majority of your students possess the following characteristics in learning when using English as a medium of instruction ?

	High	Average	Low
Attention			
Interest			
Motivation			
Curiosity			
Responsibility			

23. What are the strategies do you employ to improve learners' engagement after the Implementation of EMI ?



Strategies	Yes	No
Encouraging interaction among students and teachers to foster communication and collaboration.		
Providing hands-on learning experiences to promote exploration and discovery.		
Ensuring task relevancy by incorporating contextual and practical situations reflective of real-life scenarios.		
Integrating multimedia and technology to enhance active participation and exploration of subject matters.		
Offering engaging and challenging instruction to stimulate critical thinking and active learning.		
Providing regular feedback and incorporating formative assessments to enhance learning outcomes and increase engagement.		

**Section Four: Further Suggestions**

24. Would you please offer some suggestions for better integration of EMI in scientific fields?

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## Appendix 2: Student's Questionnaire

Dear students,

This questionnaire is part of ongoing research that aims at investigating the effects of using English as a medium of instruction on computer science Student's engagement at Abd Elhafid Boussouf Mila University. Your contribution is highly significant for the continuation of this study. Therefore, you are kindly requested to answer the following questions based on your experience. Thank you for your time.

### Section One: Background Information

1. How long have you been studying English?

a) Less than 1 year

b) 1-2 years

c) 3-5 years

d) 6-10 years

e) More than 10 years

2. Describe your proficiency in English?

a) Excellent

b) Good

c) Fair

d) Not sufficient

3. What type of English are you familiar with?

a) General English

b) Technical English

c) Academic English

## **Section Two: English as a Medium of Instruction**

**4.** How comfortable are you with English as the medium of instruction in your computer science courses?

a) Very Comfortable

b) Comfortable

c) Neutral

d) Uncomfortable

e) Very Uncomfortable

**5.** Do you feel that your proficiency in English affects your understanding of the course material?

a) Yes, significantly

b) Yes, somewhat

c) No, not really

d) No, not at all

**6.** Have you experienced difficulties with technical vocabulary or terminology in English?

a) Yes, frequently

b) Yes, occasionally

c) No, rarely

d) No, never

**7.** What challenges have you encountered with English as the medium of instruction?

a) Writing clearly and accurately

b) Speaking fluently and confidently

c) Understanding spoken English in lectures

d) Comprehending written academic texts

**8.** What language do you use when you talk to your classmates during break time? And why do you use this language particularly when you talk to your classmates?

a) English

b) Arabic

c) French

**9.** How do you cope with language barriers during lectures, assignments, and exams?

a) Seek clarification from professors

b) Collaborate with peers

c) Use online resources

d) Other (please specify)

**10.** Do you think that having English as the medium of instruction enhances your learning experience in computer science?

a) Yes, significantly

b) Yes, somewhat

c) No, not really

d) No, not at all

**11.** Do you believe that additional support or resources should be provided to students for whom English is not their first language?

a) Yes

b) No

**12.** How do you think the university could better support students in adapting to English as the medium of instruction in computer science courses?

a) Provide language workshops

b) Offer tutoring services

c) Integrate language support into coursework

### **Section Three: Students Engagement**

**13.** How often do you actively participate in English-medium discussions

during classes?

a) Always

b) Sometimes

c) Rarely

**14.** What motivates you to engage actively in English instruction?

a) Interest in the subject matter

b) Desire to achieve high grades or rewards

c) Influence of educators and teaching methods

d) Use of technology in learning

e) All of the above

**15.** Do you enjoy English-mediated group assignments within the classroom?

a) Yes

b) No

**16.** How crucial do you think it is to incorporate elements of enjoyment in

English-mediated group assignments within the classroom?

a) Very important

b) Not important

**17.** Does the teacher play a role in enhancing student engagement in computer

science courses?

a) Yes

b) No

**18.** How would you rate the level of support provided by your professors regarding English instruction?

a) Very Supportive

b) Supportive

c) Neutral

d) Unsatisfactory

**19.** How often do you utilize the following methods to prepare for

English-medium lectures and enhance your engagement?

- Take notes during lectures . a) Always  b) Often  c) Rarely

- Review lecture materials in advance. a) Always  b) Often  c) Rarely

- Demonstrate commitment by attending all lectures and completing

assigned readings. a) Always  b) Often  c) Rarely

- Take responsibility for your learning by actively seeking clarification and

additional resources when needed. a) Always  b) Often  c) Rarely

#### **Section Four: Further Suggestions**

**20.** Would you please offer some suggestions for better integration of English

as a Medium of Instruction (EMI) in scientific fields?

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## Résumé

Cette étude vise à examiner l'effet de la mise en œuvre de l'anglais comme langue d'enseignement (EMI) sur l'engagement des étudiants de première année en informatique au Centre Universitaire Abdelhafid Boussouf de Mila, en Algérie. Afin de recueillir des informations complètes, cette recherche utilise deux questionnaires conçus pour les étudiants en informatique et les enseignants du Centre Universitaire de Mila. Les données collectées sont analysées en utilisant une approche de méthodes mixtes. Les résultats montrent que les étudiants et les enseignants reconnaissent l'importance de l'utilisation de l'EMI dans l'enseignement supérieur. Cependant, les résultats soulignent également des défis significatifs dans la mise en œuvre de l'EMI, principalement en raison d'une maîtrise insuffisante de la langue parmi les étudiants et les enseignants, ce qui, à son tour, impacte négativement l'engagement des étudiants. En outre, l'analyse des données révèle que le faible engagement des étudiants est également causé par un soutien insatisfaisant fourni par les enseignants et un manque de plaisir et d'intérêt. L'étude suggère également des méthodes pour améliorer la mise en œuvre de l'anglais comme langue d'enseignement, soulignant la nécessité d'une planification et d'une préparation minutieuses avant la mise en œuvre.

Mots-clés : défi , éducation en informatique, anglais comme langue d'enseignement (EMI), maîtrise de la langue, engagement des étudiants

## ملخص

تهدف هذه الدراسة إلى دراسة تأثير تطبيق اللغة الإنجليزية كوسيلة للتعليم على تفاعل طلاب السنة الأولى اعلام آلي في المركز الجامعي عبد الحفيظ بوصوف بميلة، الجزائر. لجمع رؤى شاملة، تستخدم هذه الدراسة استبيانين مصممين لكل من طلاب الإعلام الآلي والأساتذة في المركز الجامعي بميلة. يتم تحليل البيانات المجمعة باستخدام نهج الأساليب المختلطة. تظهر النتائج أن كل من الطلاب والأساتذة يدركون أهمية استخدام اللغة الإنجليزية كوسيلة للتعليم في التعليم العالي. ومع ذلك، تسلط النتائج الضوء أيضًا على تحديات كبيرة في تطبيق اللغة الإنجليزية كوسيلة للتعليم، وذلك بشكل رئيسي بسبب عدم كفاية الكفاءة اللغوية بين كل من الطلاب والأساتذة، مما يؤثر بدوره سلباً على اندماج الطلاب. علاوة على ذلك، تكشف تحليل البيانات أن انخفاض اندماج الطلاب يعود أيضًا إلى عدم الرضا عن الدعم المقدم من الأساتذة ونقص المتعة والاهتمام. كما تقترح الدراسة طرقًا لتعزيز تطبيق اللغة الإنجليزية كوسيلة للتعليم، مع التركيز على التخطيط الدقيق والتحضير قبل التنفيذ .

الكلمات المفتاحية: التحدي، تعليم الإعلام الآلي، اللغة الإنجليزية كوسيلة للتعليم ، الكفاءة اللغوية، اندماج الطلاب