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**Using English as a medium language of
instruction: perspectives and challenges**

Master 2 biology as a case study

**A Dissertation Submitted to the Department of English Language and Literature in Partial Fulfillment
of the Requirements for the Degree of Master in Language and Culture**

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DEDICATION

In Loving Memory:

To Kamal Merzoug Slimani, you were more than a teacher; you were our mentor, guide, and a true inspiration. Your passion, dedication, and care made a lasting impact on our lives. You believed in us, challenged us, and nurtured our love for learning. Your presence will be deeply missed, and your legacy will forever live on in our hearts.

This study is wholeheartedly dedicated to our beloved parents, who have been our source of inspiration and gave us strength when we thought of giving up, who continually provide their moral, spiritual, emotional, and financial support. To our brothers, sisters, cousins, friends, and classmates who shared their words of advice and encouragement to finish this study.

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ABSTRACT

English as a medium language has become an essential tool for international communication in higher education, including the field of biology. The main objectives were to examine the reasons and motivations behind the decision to use English as a language of instruction in the Master's program in Biology and identify the advantages and disadvantages of implementing English as a medium of instruction in the biology program, as perceived by both students and instructors. A convergent parallel mixed methods research design was used to collect data from teachers' interviews and students' questionnaires. The study findings revealed positive views of both informants towards the implementation of English as a medium of instruction at the department of biology at Abbas Laghrour University. The study's implications suggest that incorporating English as a medium language in biology courses can enhance students' comprehension, communication, and analytical skills

Keywords: English Language, Medium of Instruction, Higher Education, Abbas laghror University, biology department

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LIST OF ABBREVIATIONS

STEM: Science, Technology, Engineering, and Mathematics

EMI: English as a Medium of Instruction

ESP: English for Specific Purposes

RQ: Research Question

M2: Master's 2 (referring to the second year of a Master's program)

General Introduction

1. Background of the study

Several scholars have investigated the issue of English as a medium of instruction (EMI) from both international and national perspectives. For example, Airey (2011) explored the experiences of Swedish university lecturers who shifted from teaching in their first language to teaching in English. Adnan (2012) emphasized the importance of conducting needs analyses to enhance English for specific purposes (ESP) courses in universities. Pranckevičiūtė and Zajankauskaitė (2012) highlighted the need for adjusting ESP courses in response to the changing needs of students in tertiary education. Madhavan and McDonald (2014) discussed the philosophies and policies surrounding EMI in higher education institutions. Dafouz (2014) examined the impact of EMI on academic achievement in accounting studies. Salazar (2017) analyzed the design and implementation of an ESP course for speakers of other languages. Gashi and Jusufi (2017) focused on bridging the gap between ESP challenges and 21st-century skills. Ackerley (2017) explored the perspectives on EMI in higher education institutions. Shi (2018) investigated the course design for an ESP-based college English program. Köksal and Tercan (2019) examined the impact of EMI from the perspective of students. Spencer and Bussi (2020) discussed the use of open badges in ESP assessment and accreditation. Li and Fu (2021) conducted a needs analysis for ESP courses for business and engineering students. Ivancevic Otanjac (2021) explored students' attitudes towards ESP courses at the university level. These studies have contributed to our understanding of EMI, the importance of needs analysis, course design, and the impact of EMI on students' academic achievement and attitudes. Kalpana Shrestha's article 2022

highlights the challenges of implementing EMI in public schools, particularly in Asian countries. It points out that teachers often face difficulties due to their insufficient English language proficiency and pedagogical knowledge. While some teachers adopt translanguaging pedagogy to leverage students' existing linguistic knowledge, the majority of English classes in the Nepalese context remain teacher and textbook-centered. The article emphasizes the need for research that investigates both teacher and student perspectives in the Nepalese public-school setting, as such studies are currently lacking. In the article by Nicola Galloway and Heath Rose 2023, it is noted that EMI research is still in its early stages of understanding how to address students' academic and language challenges. The importance of integrated academic and language support programs for students is emphasized. A study conducted in a business faculty in Japan found that specialized English for Academic Purposes (EAP) classes significantly contributed to students' success in EMI. This highlights the need for subject-specific language and academic support classes. Additionally, the article discusses the impact of EMI programs on English language teaching (ELT) practitioners, noting that their traditional training may not fully prepare them for teaching specialized EAP classes. The collaboration between ELT practitioners and content instructors in providing language support is also emphasized. The article raises questions about the preparation of future ELT practitioners and the role they should play in EMI programs.

Overall, the two last articles shed light on the challenges and potential solutions associated with EMI implementation in public schools and the importance of considering both teacher

and student perspectives in research. They also highlight the need for specialized language and academic support programs and the implications for ELT practitioners in EMI settings.

1.Statement of the problem

English has become a dominant language in the fields of science, technology, engineering, and mathematics (STEM) worldwide. As a result, many universities in non-English speaking countries have adopted English as a language of instruction to enhance their students' academic skills and competitiveness. In Algerian universities in general, and khenchela university in particular all stakeholders are motivated to change the language of instruction from Arabic to English language in order to join the world's first universities. However, the implementation of English as a medium of instruction (EMI) poses challenges for both students and teachers, particularly in terms of English language proficiency . Therefore, This study aims to examine the reasons and motivations behind the decision to use English as a language of instruction in the Master's program in Biology department and identify the advantages and disadvantages of implementing English as a medium of instruction in the biology program, as well as to provide recommendations for the effective integration of English as a language of instruction in higher education.

2. Objectives of this study

1. Examine the reasons and motivations behind the decision to use English as a language of instruction in the Master's program in Biology.
2. Identify the advantages and disadvantages of implementing English as a medium of instruction in the biology program, as perceived by both students and instructors.

3. Investigate the various support mechanisms and strategies that have been implemented to address the challenges associated with English as a language of instruction in the biology program

4. Research questions

This research seeks to answer the following research questions:

RQ1: what is the biology student's perspective of using English instead of French in khenchela?

RQ2: What is the current situation of the English language in the khenchela biology department?

RQ3: To what extent is the use of English language useful for biology students in khenchela?

5. Research Methodology and Design

5.1 Choice of Method:

Convergent parallel mixed methods design was used to gain a more comprehensive understanding of the research problem by combining both quantitative and qualitative research methodologies. The purpose of this design is to increase the validity, reliability and the comprehensiveness of the study. The data collection was achieved through (a) a questionnaire with students (b) interviewing the teachers of the biology Department currently. According to Nunan and Bailey (2009), combining questionnaire and interview data gives more reliable and rich data, which cause triangulation. As Wisdom and Creswell

(2013) expressed, the advantages of using mixed methods in a study are indicating participants' point of view, enhancing scholarly interaction, gathering rich data, and comparing quantitative and qualitative data.

5.2 Population and sampling

The samples of this study are restricted to second year master students of biology, and teachers at the faculty of biology in the department of science at khenchela university. due to shortage of time for the current study, and the large number of second year master students. This research is restricted to a particular number of students. We have decided to select only thirty (30) students. They have been chosen as participants randomly.

5.3 Data Gathering Tools

As Schleeff and Meyerhff put it, "many sociolinguistic studies combine data from different sources, a practice we recommend as it allows you to triangulate your data analysis and explore an issue from different angles" (as cited in Bijeikienė & Tamošiūnaitė ,2013, p.46). Thus, in the present study, we will use the following tools: a semi-structured questionnaire administered to second year master students' biology at abbes laghrour university of khenchela to obtain quantitative and qualitative data on their attitudes towards languages and the problems they face because of languages; the second tool is a semi-structured interviews will be distributed to four teachers of biology. to know if the English language is better in use than French in the research papers and articles. The questionnaires are very necessary means of data collection, which are regarded as being more appropriate to this type of research that will lead in the validity and the reliability of the findings of our research study.

4.4 Procedures

This study will use a mixed-methods research design, which combines quantitative and qualitative data collection and analysis methods. The use of a mixed-methods approach allows for a comprehensive and multi-dimensional exploration of the research topic, providing a more complete understanding of the phenomena under investigation. The quantitative component of the study will involve the collection of numerical data through surveys or questionnaires distributed to both students and instructors in the Master's program in Biology. These surveys will aim to gather information on participants' perspectives, experiences, and perceptions related to the adoption and implementation of English as a language of instruction. This study will include interviews with teachers of biology in the Master's program. The purpose of these interviews is to gather in-depth insights and perspectives from experienced instructors regarding the use of English as a language of instruction. The interviews will be semi-structured, allowing for flexibility and open-ended exploration of various aspects related to EMI implementation in the biology program. During the interviews, teachers will be asked about their motivations and reasons for adopting English as a language of instruction, their experiences in teaching biology courses in English, and their observations regarding the benefits and challenges associated with EMI.

6- Significance of the Study

study is intended to be informative so that teachers and students can benefit from its outcomes. First, conducting interviews with teachers allows for an in-depth exploration of their experiences, opinions, and strategies in implementing English as the language of

instruction. It can provide insights into the challenges they face, their teaching methods, and the support they need to effectively deliver content in English. Understanding teacher perspectives can contribute to the development of appropriate training programs, resources, and pedagogical approaches to ensure effective language integration in the Master 2 Biology curriculum. Second, By using questionnaires, the study can gather data on students' experiences, perceptions, and satisfaction with English as the language of instruction. It can help identify the advantages, such as improved language proficiency, enhanced access to global scientific literature, and increased confidence in communicating in English. Additionally, the study can uncover any difficulties students may face, such as comprehension issues, reduced engagement, or concerns about academic performance.

7. Limitations of the study

The limitations of this study include the sample size, which may not be representative of all master biology. Additionally, the study is limited to a specific university, which may limit the generalizability of the findings to other institutions.

8. Definition of terms

A. EMI: *the use of the English language to teach academic subjects (other than English itself) in countries where the first language of the majority of the population is not English.*

B. Perspectives: *is a particular way of thinking about something*

C. Challenges: *a statement or an action that shows that somebody refuses to accept something and questions whether it is right, legal, etc.*

9. Structure of the Work

The study is divided into two parts: theoretical, in one chapter, and a practical one. The first chapter discusses various aspects of English for Specific Purposes (ESP) in tertiary education. They highlight the importance of needs analysis in developing and improving ESP courses, and the changing needs of students in different contexts. The articles also touch upon the rise of English as a medium of instruction (EMI) and its implications for academic and professional cultures, staff recruitment, and mobility. Furthermore, the articles emphasize the need to design ESP courses based on specific study disciplines for homogenous groups of students and the importance of assessing and accrediting ESP courses.

The second chapter is devoted to data analysis and interpretation and general conclusion which contains the main findings and recommendations.

Chapter One: Previous studies on EMI

Introduction

In this chapter we will shed light on different studies carried out on English as a medium of instruction from an international and national perspective, to be followed by detailed synthesis.

I.1 Previous studies on EMI

One of the important studies was carried out by Airey 2011. In his entitled Talking about teaching in English: Swedish university lectures' experience of changing teaching language This article has addressed the experience of teaching lectures in English in Sweden universities instead of the first language of this country. The participants gave small lectures in their first language in the subject area that they normally teach. The next week the lecturers gave the same lectures again, this time in English. The lecturers were extensively asked to comment on videos of themselves using a questionnaire or interview. This process is carried out to signal the thought and experiences presented by lecturers in their online discussions also concerning changing the language of instruction and its effectiveness.

Similarly, Salwa Adnan 2012 in her entitled Needs Analysis: A Process to Improve the Learning of ESP at the College of Administration the Department of Administration and Economy University Needs analysis is, thus, suggested to be used as a technique to enhance the learning of ESP (English for specific purposes) teaching at the University level. The hypothesis of this research is: conducting a Needs Analysis on students studying ESP is of considerable importance. This is to arrive at their real needs and find a suitable design for the course to enhance their learning. This study is an attempt to focus on the importance of considering students' needs and wants from the ESP course that is taught to administration students at the College of Administration and Economics University of Basra. The study

sheds light on the reality and demands of ESP classes and the need to conduct a NA study every two or three years to cope with the changing needs of the students throughout the years.

In the same vein, Vilma Prancevičiūtė, Zita Zajankauskaitė 2012 in their case study entitled *Adjusting an ESP Course to Students' Needs in Tertiary Education: English for Specific Purposes (ESP)* is one of the predominant approaches to language teaching in tertiary education. Students' needs analysis is a reference base for developing a new ESP course or making alterations to an existing one. The most topical students' needs, such as the development of speaking skills, do not change over time. English for Specific Purposes (ESP) is the most widely used approach to teaching English in higher education institutions in Lithuania. Students' needs are undergoing constant change due to the socio-economic situation in the labor market that dictates their needs. It is essential to explore this issue in more detail so that the ESP course could be improved.

ALSO, Divya Madhavan, Julie McDonald Ecole Centrale Paris 16 June 2014 in their entitled *ENGLISH AS MEDIUM OF INSTRUCTION (EMI): PHILOSOPHIES AND POLICIES* In France, EMI is typically taught in higher education institutions (HEIs) where subjects such as business and social studies are taught in English. EMI can, however, be conducted in secondary and even primary schools, depending on the context. In a recent webinar, we asked: What adjectives would you use to describe people who use EMI? As many as 60% of post-graduate courses in Europe are taught through EMI (Macaro, 2013). English instruction is particularly preferred by instructors. EMI teachers have formal training as language teachers, while non-EMI teachers usually do not. No one said EMI is a trend best

ignored or resisted. The rise in the use of English-medium education (EMI) raises the question of a new professional order in higher education, where the role of (and potential struggles with) language occupy center stage. EMI has substantial implications for staff recruitment and mobility options among academics. The benefits of EMI include increased mobility and the creation of a more "modern" academic and professional culture. The benefits of introducing English-medium education (EMI) in HEIs vary widely depending on the context and practicalities of each institution, according to webinar participants. Half of the participants said that 50% of courses should be taught in the home language, while a third said less than 30% of them should be in English. They argue that EMI is culturally neutral and beyond the scope of legislative intervention.

In addition, EMI was well developed by Titik Agustina 2014 In his article: English for a specific purpose (ESP): An approach of English teaching for non -English department students This essay provides a study on the theoretical concept of English for a specific purpose, mentioning their definition and role as an academic approach, including analyzing the needs as the main features of esp. which is considered the main approach for learning the English language in secondary school and higher education, especially for a non-native speaker of English .Esp. focuses on the purpose of learning English and is improving students' ability to use English, especially for academic and professional needs.

in a related move, Julie Dearden 2014 in her article: English as a medium of instruction a growing global phenomenon. This report attempts to take a great picture of the growing global phenomenon of English as a language of instruction in 55 countries, and the implementation of this language in the educational phases as well as academic subjects such

as science, mathematics, and medicine rather than the first language. The process of establishing has significant implications carried out with the support of the British Council mapping the sequences and outcomes of using English in learning, teaching, assessing, and teacher professional development.

Same case with Emma Dafouz 2014 in her article entitled "Exploring the impact of English-medium instruction on university student academic achievement": The case of accounting she mentioned that English-medium instruction (EMI) is increasingly common in Higher Education institutions (HEIs) that traditionally considered English a foreign language. The adoption of EMI in Europe is largely influenced by the European Higher Education Area (EHEA), aiming to attract international students and staff while facilitating trans-national research and networking (Doiz, Lasagabaster & Sierra, 2013; Fortanet-Gómez, 2013; Scott, 2011). Furthermore, the prominence of English in academia, research, and the internet is evident through the rising number of English publications, journals, and conferences (Mauranen, Hynninen & Ranta, 2010). In the field of Business

Studies, given the globalized economy, proficiency in English is considered essential for 21st-century business students (Louhiala-Salminen & Kankaanranta, 2012; Oria, 2012; Taillefer, 2007). Similarly, the International Federation of Accountants (IFAC) emphasizes English mastery as a "general knowledge" requirement for accounting students (Cole, Branson & Breesch, 2011; Diaconu, Coman, Gorgan & Gorgan, 2011; Jeanjean, Lesage & Stolowy, 2010). From a professional standpoint, companies that adopt English as their external reporting language enjoy various benefits, such as increased foreign ownership,

reduced information asymmetry, and lower information processing costs (Jeanjean, Stolowy, Erkens & Yohn, 2014).

as is the case with Elvia Salazar 2017 which entitled *Designing and implementing an ESP course: Revisiting an Experience*. This essay analyzes the procedure accompanied by using a team of graduate college students when designing an ESP course for speakers of other languages at the University of Costa Rica, to achieve a high level for a certain academic purpose. According to the needs and the working conditions of the learners, the designers opt for a specific course design attached with evaluation, assessment, and recommendations to help the workers to communicate efficiently in the target language, and to promote the use of the target in a work context.

in the same manner, Bardha Gashi and Jasmin Jusufi 2017, posted an article entitled *Analysis of ESP Courses Profile: Bridging the Gap Between ESP Challenges and 21st-Century Skills*: The emphasis is on learning English, specifically, English for specific purposes as "a unified tool" to get across borders. ESP Courses should be designed based on specific study disciplines for homogenous groups of students. In Kosovo, faculties of BA (Bachelor) study programs, have students whose level of English differs from beginner to advanced. English for Specific Purposes (ESP) Courses has been offered at the public universities in Kosovo as an elective or compulsory course for many departments, at least for two semesters. The focus of this research is on designing specific or separated courses based on the needs analysis, by analyzing students' language needs and General English knowledge.

Katherine Ackerley 2017 in her book *Sharing Perspectives on English-Medium Instruction* stated that: English is increasingly used as a medium of instruction in European higher education not only in northern countries, but also in the European 'south'. This volume is the fruit of a project which was carried out in a public university based in the north-east of Italy with the aim of delivering professional development for university lecturers engaged in EMI. It begins with an overview of the European context, the Italian context, and some of the arguments against the indiscriminate spread of English as a medium of instruction in higher education. The volume then focuses on the micro context of the university, giving voice to the various stakeholders in EMI. These include researchers, lecturers, administrative staff, those involved in professional development and students. The central part of the volume presents the views and experiences of twelve EMI lecturers from a range of academic disciplines. In sharing these perspectives on EMI, the volume hopes to stimulate critical dialogue and research on the many issues involved in this aspect of internationalization in higher education institutions.

Recent studies concluded the importance of EMI in higher education as it helps students keep in touch with the latest development of their field of expertise as well as up-date their knowledge in their field of study. A good example is the research carried out by Wenjie Shi 2018 which *Exploring Course design for a university -level ESP- based college English program at the university of finance and economics in China: Teaching English as a foreign language in China* focused on the application of a new college English program for finance and economic purpose, and its effectiveness and accordance based on learners' diversified and specialized needs towards English language courses, from where the developing skills

of listening, reading, writing and speaking are given much priority in various proficiency, also combining EFL teachers' educational expertise with the desires of different stakeholders before devising English courses featured by ESP-based courses for finance and economic purposes available to students.

Also, as Köksal, D., & Tercan, G. (2019). Said in her article entitled English as medium of instruction and international posture: From the perspective of students. English as Medium of Instruction was described by Dearden (2014) as “the use of the English language to teach academic subjects in countries or jurisdictions where the first language (L1) of the majority of the population is not English” (p. 4). Similarly, Hellekjaer (2010) defined it as “non-language subjects taught in English” (p. 234). Although EMI is common for higher education, it has started to be used even in primary schools recently. Usage of EMI in higher education is a controversial issue. Kirkpatrick (2011) asserted that the universities compete for attracting more attention from international students so that they can get students fees by offering more courses through English. Additionally, the increase in English medium education resulted from the internationalization of higher education which led to maintaining the AngloSaxon paradigm and raising their control over higher education. In contrast, some of the researchers in favor of EMI stated that EMI is a useful strategy to foster student mobility by means of internationalization of higher education which aims at developing foreign language and intercultural and international competences by implementing EMI (Corrales, Rey & Escamilla, 2016). Hengsadeekul, Hengsadeekul, Koul and Kaewkuekool (2010) highlighted that since English is used as the most unrivalled language of global communication and business world as well as a tool of educational advancement;

universities, policy makers and educator have been affected in deciding on the medium of instruction by social- economic pressure due to the impact of English. Employing EMI courses grabbed the attention of many researchers recently and several studies have been carried out concerning the use of English as a medium of instruction. The relationship of EMI with motivation (Kim, 2014), with academic achievement (Dafouz & Camacho-Miñano, 2016; Dorasamy, 2012; Mlay, 2010; Shahzad, Sajjad, Ahmed, & Asghar, 2013), with English proficiency, years of language study (Saegert, Scott, Perkins, & Tucker, 1974) and effectiveness of EMI (earning motivation, learning anxiety, and learning achievement (Huang, 2015; Civan & Coşkun, 2016) were the topics that were investigated by the researchers. Besides, the concept of EMI was investigated by different researchers from different perspectives of participants. The following Table 1 shows the related studies related to EMI.

As is the case with Alice spencer and anna Bussi 2020 in their entitled article The university language center as an open badge issuer: new directions in ESP assessment and accreditation. Open Badges are online records of achievement that document field-specific, soft and technical skills. As of 2019, Turin University Language Centre offers Open Badges in English for Social Services, "English for Administrative Purposes" (A2, B1, and B2), and "Academic Writing and Presentation Skills" (B2 and C1). We argue that Open Badge certifications are particularly suited to ESP since they provide a record of specific hard and soft skills.

Along the same line, Xuwei Li Huijun Fu 2021 in his article; Needs Analysis on ESP Course for business and engineering students in a Chinese local university :The significant aim of this study is to highlight the different professional needs of learners who have equipped with the fundamental knowledge of the English language for curriculum design ESP for business and engineering students in a Chinese local university, it also deals with the correlation of the student's proficiency in English and their needs for the four skills being instructed in ESP. This data is collected from different perspectives to explore the multiple views about esp needs. to emphasize the actual use of English in real work.

In a related move, maja r Ivancevic otanjac 2021 wrote titled Students' attitudes toward ESP courses at the university level: English for Specific Purposes (ESP) aims to meet learners' specific needs by focusing on language activities relevant to specific topics, disciplines, or occupations. The relationship between teachers and students has been described as "different but complementary", where teachers are language specialists with pedagogical skills and students have some knowledge in their mother tongues. However, it is very difficult to make generalized assumptions regarding their knowledge of English. The needs analysis is one of the key principles of ESP (Richards, 2001). An ESP coursebook at the university level should be designed according to students' needs. It should be related to the student's field of study and include topic-related vocabulary and tasks. Authentic texts can be too complex for students at different levels of competence.

Kalpana Shrestha 2022 in her recent article entitled English as a Medium of Instruction: Pedagogical Practices and Perceptions of Public-School Teachers and Students stated that: Implementing English-Medium Instruction (EMI) in public schools poses challenges due to

teachers' insufficient English language proficiency and pedagogical knowledge. Research studies highlight the difficulties and challenges associated with EMI implementation in Asian countries (Hamid et al., 2013; Coleman and Nunan, 2011; Phyak, 2017). Despite these limitations, teachers employing EMI strategies make efforts to enhance classroom effectiveness by using diverse methods and materials. Some teachers adopt translanguaging pedagogy, which leverages students' existing linguistic knowledge to facilitate understanding and communication (Phyak, 2017). However, most English classes in the Nepalese context remain teacher and textbook-centered (Phyak, 2017). While previous studies have explored EMI policies and practices in various educational contexts, there is a lack of research focusing on both student and teacher perspectives in the Nepalese public-school setting. Therefore, the primary aim of this study is to investigate the perceptions of teachers and students regarding EMI and the pedagogical practices of teachers using EMI across academic subjects.

Nicola Galloway and Heath Rose 2023 in their article entitled English medium instruction and the English language practitioner wrote that EMI research is still in its early stages of understanding how to address students' academic and language challenges. However, evidence is accumulating on the importance of integrated academic and language support programs for students. A study conducted in a business faculty in Japan found that specialized EAP classes significantly contributed to students' success in EMI. The study emphasized the need for specific classes targeting vocabulary, language, and academic needs associated with the subject area. While most EMI research focuses on content lecturers, the impact on ELT practitioners has been overlooked. The rise of EMI programs globally provides opportunities

for ELT practitioners to specialize, but their traditional training may not fully prepare them for teaching specialized EAP classes. ELT practitioners may also have to collaborate closely with content instructors to provide language support. The increasing demand for qualified teachers in EMI programs raises questions about who should provide language and academic support and how future ELT practitioners should be prepared.

Synthesis

English as a medium of instruction (EMI) has become increasingly popular in higher education in non-English speaking countries. This is especially true in the fields of science, technology, engineering, and mathematics (STEM), where English is the dominant language of research and communication. The adoption of EMI has been motivated by the desire to enhance students' academic skills, internationalize universities, and increase students' employability in global markets. In addition, EMI implementation also offers potential benefits, such as the opportunity for students to improve their English language proficiency, and for instructors to enhance their teaching and research skills. EMI can also facilitate international collaborations and networking, and enhance the visibility and reputation of universities. While EMI has potential benefits, its implementation poses several challenges. One of the main concerns is that students and instructors may have limited proficiency in English, which may negatively impact their academic performance and comprehension. Studies have shown that students with lower levels of English proficiency face difficulties in understanding lectures, expressing themselves in discussions, and producing high-quality academic writing. Moreover, instructors may have difficulty adapting their teaching styles and materials to suit students with diverse linguistic backgrounds, which may hinder

effective communication and engagement in the classroom. EMI implementation also offers potential benefits, such as the opportunity for students to improve their English language proficiency, and for instructors to enhance their teaching and research skills. EMI can also facilitate international collaborations and networking, and enhance the visibility and reputation of universities.

The case study of a Master's program in Biology provides insights into the perspectives and challenges associated with EMI implementation. The program was offered in English at a university in a non-English speaking country. The study found that students had mixed opinions about EMI, with some seeing it as a valuable opportunity to improve their English skills, while others found it challenging and overwhelming. Instructors also faced challenges in adapting their teaching methods to suit diverse linguistic backgrounds and facilitating effective communication in the classroom. To address these challenges, the study recommends that universities provide language support services for students and instructors, such as English language courses, academic writing workshops.

Additionally, universities can invest in teacher training programs and provide resources for instructors to develop and adapt their teaching materials for EMI Courses.

Chapter two: Data Analysis and Interpretation

Introduction

The following chapter provides well-researched data on the use of English as the language of instruction at Abbes Laghrour University. It aims to examine the perspectives and thoughts of both students and teachers regarding the use of English.

To gather data for our study, we employed a mixed methods approach, utilizing questionnaires and interviews with teachers and second-year master's students.

II.1 Students' Questionnaire

Question1: How many years have you been learning English?

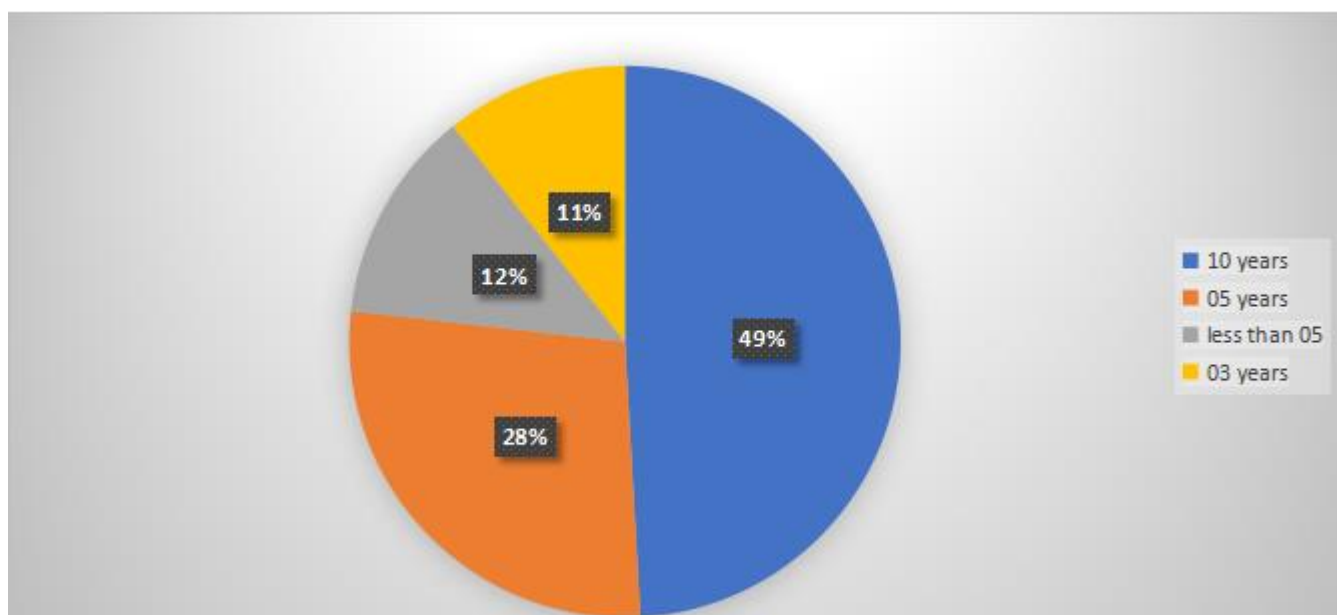


Figure 1: A pie chart represents how many years students have been learning English (As extracted from Google Forms)

Question2: Do you read in English?

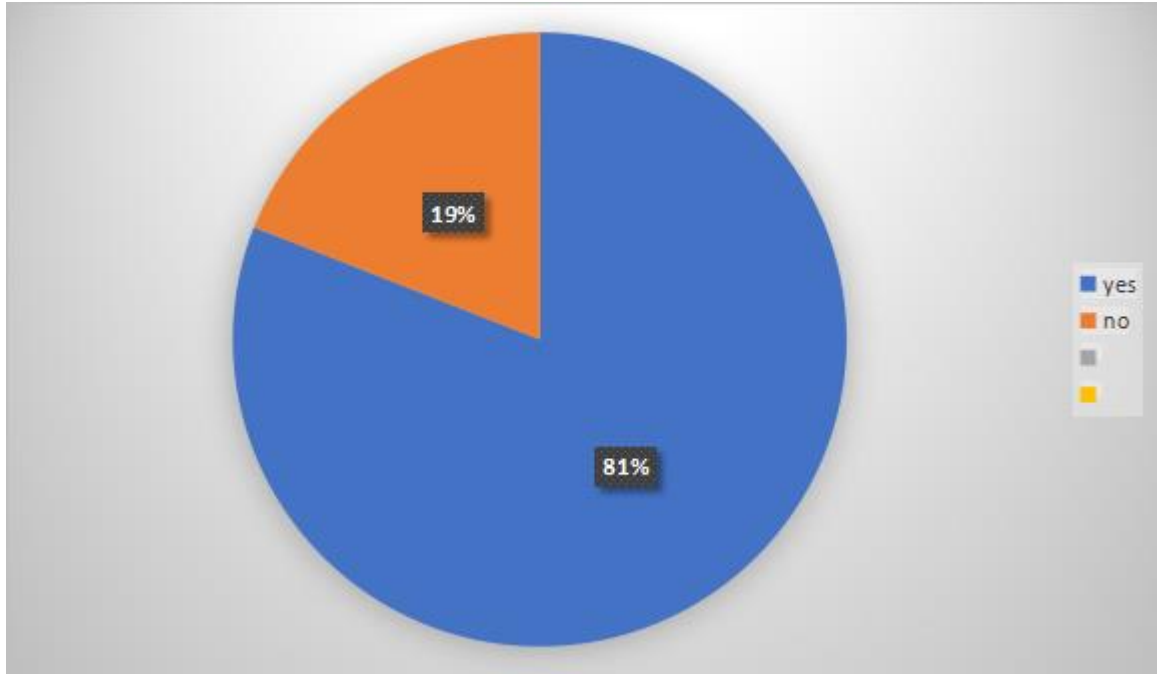


Figure 2: a pie chart represents readers of English

During our research, we conducted a survey among biology students to assess their reading habits in English. The survey included a question specifically asking whether they read in English or not. Out of the participants, a significant majority of 81% responded affirmatively, indicating that they do read in English. On the other hand, 19% of the respondents answered negatively, indicating that they do not read in English. These findings highlight the prevalence of English reading practices among the biology students and provide valuable insights into their language preferences when it comes to academic materials and resources.

Question 3: What do you consider the English language?

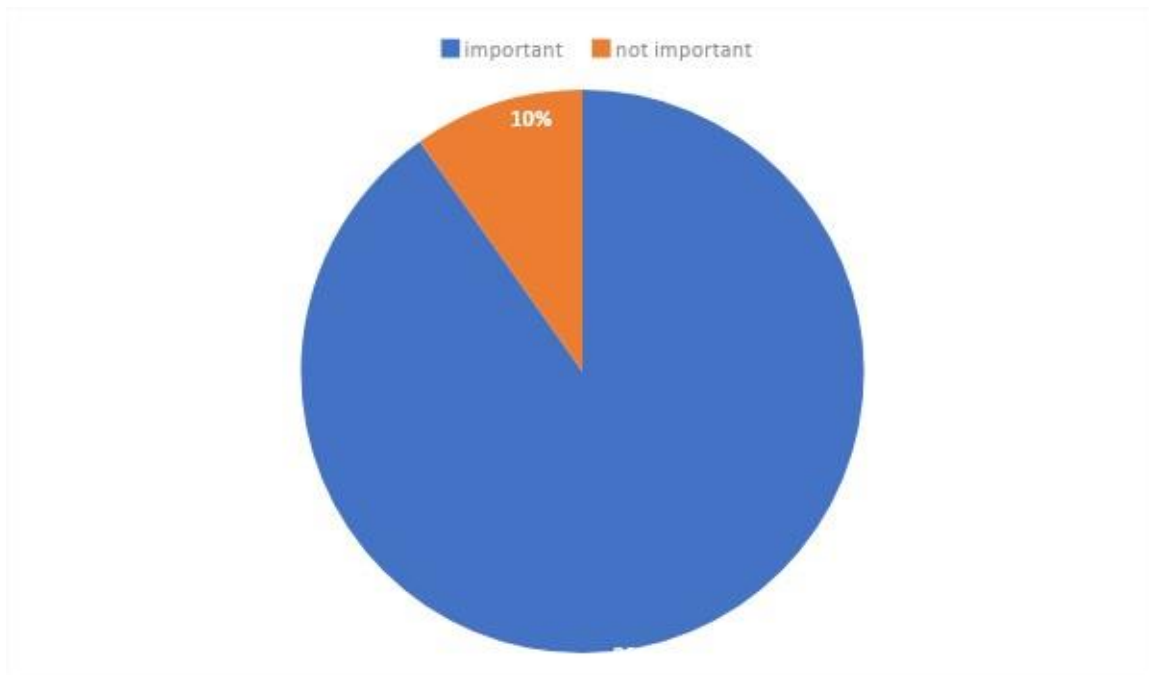


Figure 3: a pie chart representing the importance of English language

As part of our study, we sought to explore the perceptions of biology students regarding the importance of the English language. To achieve this, we included a specific question in our survey asking the participants whether they consider the English language to be important. The results revealed a notable trend, with a substantial majority of 90% of the students acknowledging the significance of the English language.

They recognized its importance in their academic and professional lives, as well as its relevance to the field of biology. Conversely, 10% of the respondents expressed a contrasting viewpoint, indicating that they do not consider the English language to be important. These individuals may hold different perspectives on the role of language in their academic pursuits or may prioritize other skills and aspects within their field of study.

These divergent responses provide valuable insights into the varying perspectives within the student population, shedding light on the complex dynamics surrounding the importance of the English language within the context of biology education.

Question 4: Have you studied any courses in English?

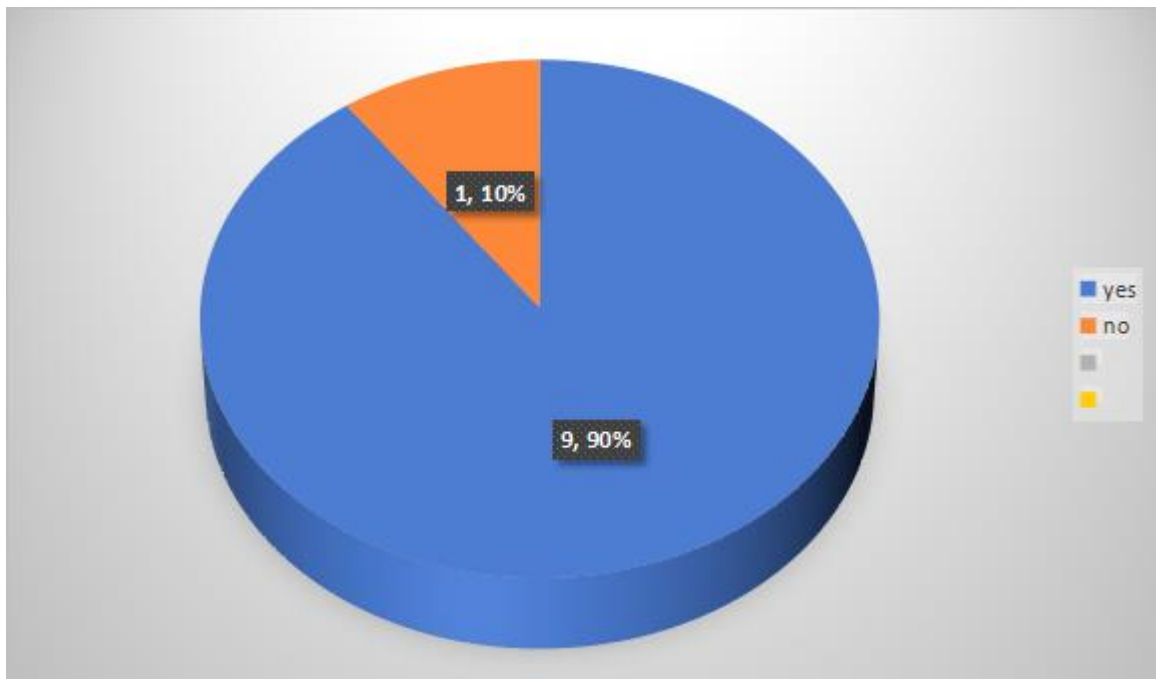


Figure 4: a pie chart represents if they studied any courses in English

In order to gain a comprehensive understanding of the language practices within the field of biology, we inquired about the students' enrollment in English-taught courses. Our survey included a specific question asking the biology students whether they had studied any courses in English. The results revealed a significant trend, with a substantial majority of 90% of the respondents confirming that they had indeed taken courses in English. This finding suggests a widespread recognition among biology students of the importance of acquiring knowledge and skills through the medium of English. It also underscores the growing prominence of

English as a language of instruction in the field of biology, possibly driven by the need to access international resources, engage with global scientific communities, and enhance career prospects in an increasingly interconnected world. Conversely, 10% of the participants responded negatively, indicating that they had not studied any courses in English.

Question 5: what is your level in English? A0 /A1/A2/B1/B2/C1/C2

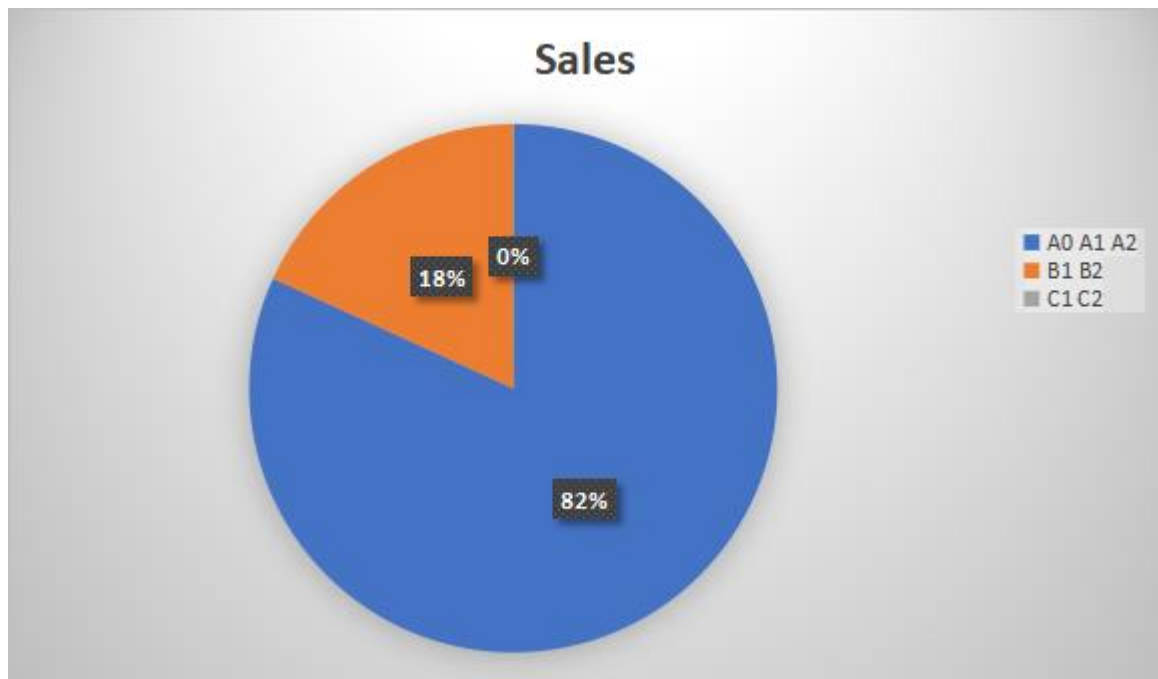


Figure 6: a pie chart represents the levels of English

As part of our research, we aimed to assess the English language proficiency levels among biology students. To accomplish this, we included a question in our survey that asked participants to self-assess their English proficiency. The results provided interesting insights into the distribution of proficiency levels within the student population. An overwhelming majority of 80% of the students indicated that their English proficiency level fell within the A0 to A2 range. This suggests that a significant portion of the biology students possess a

basic to elementary level of English proficiency. It is worth noting that this group may require additional support and resources to enhance their language skills, particularly in academic contexts related to their field of study. In contrast, 18% of the respondents reported a higher English proficiency level within the B1 to B2 range. This subset of students demonstrated a moderate level of English proficiency, indicating that they have acquired a solid foundation in the language and are capable of engaging in more complex language tasks. Their proficiency level positions them to handle academic materials and communicate effectively in various English-language settings. These findings underscore the diversity of English language proficiency levels within the biology student population. They highlight the need for tailored language support programs and resources that address the specific needs of students at different proficiency levels. By acknowledging these variations, educational institutions can better cater to the linguistic development and academic success of their biology students, fostering a conducive learning environment for all.

Question 6: “English is the Language of Science” Do you agree?

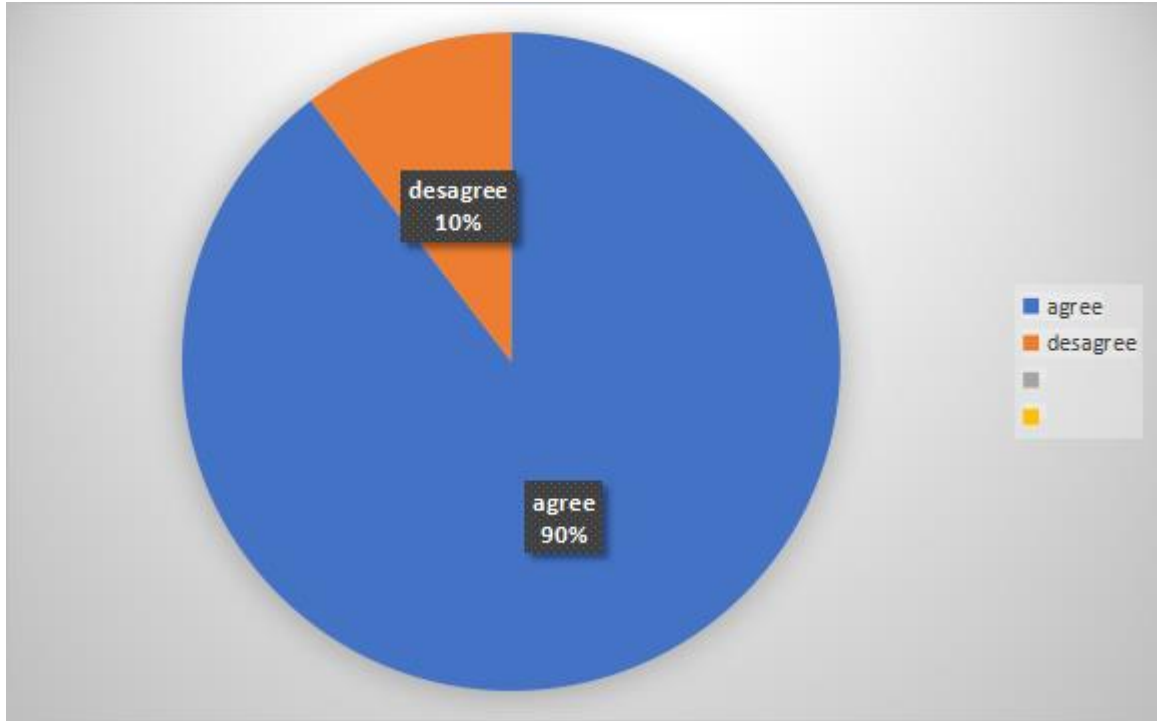


Figure 7: English is the language commonly used for scientific communication.

In our study, we sought to explore the perceptions of biology students regarding the role of English as a language of science. To gauge their perspectives on this matter, we included a specific question in our survey asking participants whether they believed English to be a language of science. The findings revealed a strong consensus among the biology students, with a substantial majority of 90% agreeing that English indeed holds a prominent position as a language of science. This overwhelming agreement reflects the students' recognition of English as a crucial tool for communication and knowledge dissemination within the scientific community. It suggests that the students are aware of the widespread use of English in scientific literature, conferences, collaborations, and other scholarly activities. Moreover, it highlights their understanding of the necessity to develop proficiency in English to access and contribute to scientific advancements on a global scale. However, it is

noteworthy that 10% of the respondents held a differing viewpoint, expressing their disagreement with the notion that English is a language of science. This subset of students may hold alternative perspectives, emphasizing the importance of other languages in scientific research and discourse, or they may perceive language diversity as valuable within the scientific community. These findings underscore the complexity and diversity of perspectives regarding the role of English as a language of science among biology students. They highlight the need for further exploration and discussions on this topic, taking into account the varied cultural and educational backgrounds of the student population. Understanding these perspectives can inform curriculum development, language support initiatives, and instructional approaches that empower biology students to navigate the global scientific landscape effectively.

Question 7: When you search for information, do you find books more available in English

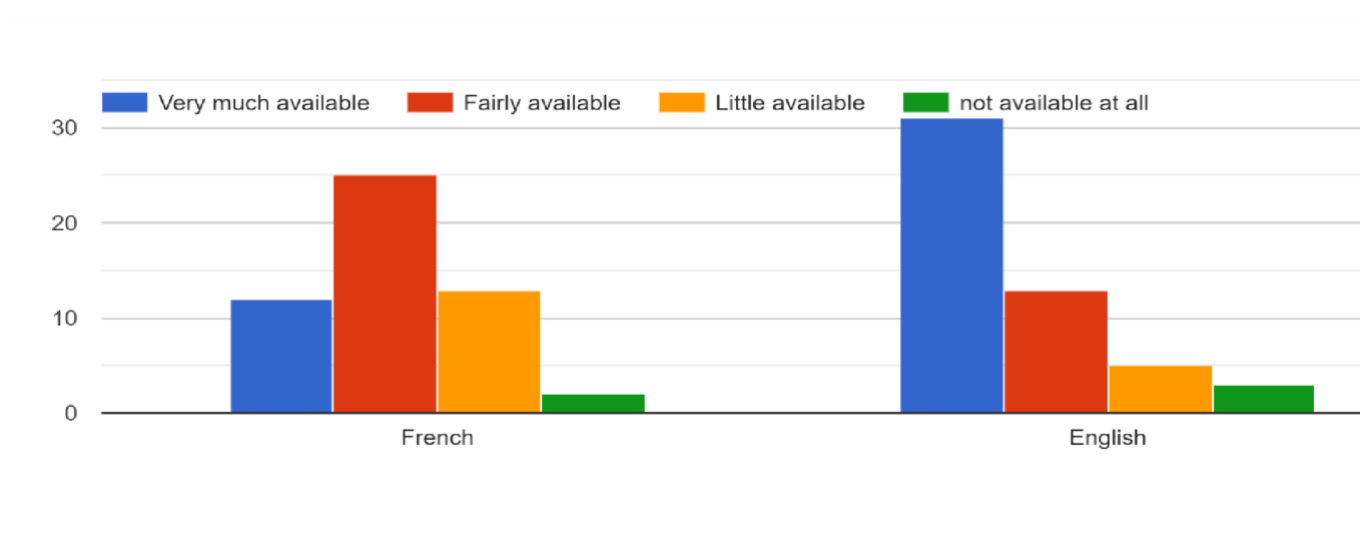


Figure 8: Availability of Resources in each Language. (As extracted from Google Forms)

Question six was asked to see students' awareness of the scientific community and reality.

59,6% of subjects indicated that academic resources are very much available in English.

Meanwhile, the same informants indicated that resources in French are fairly available. The

overall results show that resources in the English language are more available than in

French, since 80% of the internet and scientific contents are in English.

Question 8: Do you believe that using English as a medium of instruction improves your language proficiency?

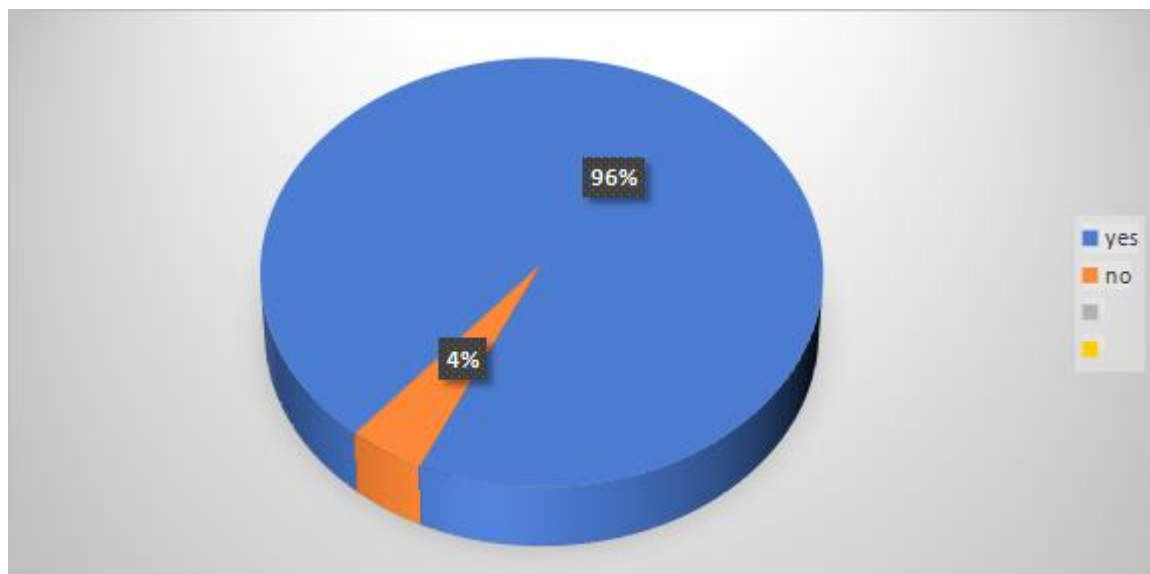


Figure 9 : PIE chart represents EMI improves language

The results of our survey showed that a significant majority of 96% of biology students believe that using English as a medium of instruction improves their language proficiency. They recognize the value of studying in English for enhancing their language skills and gaining a deeper understanding of biology concepts. However, a small percentage, 4%, held a differing opinion and did not believe that using English as a medium of instruction leads to improved language proficiency. These findings highlight the overall positive perception among the students regarding the language learning benefits associated with English-medium instruction in the field of biology.

QUESTION 09: Do you believe that English as a medium of instruction enhances your comprehension of course material?

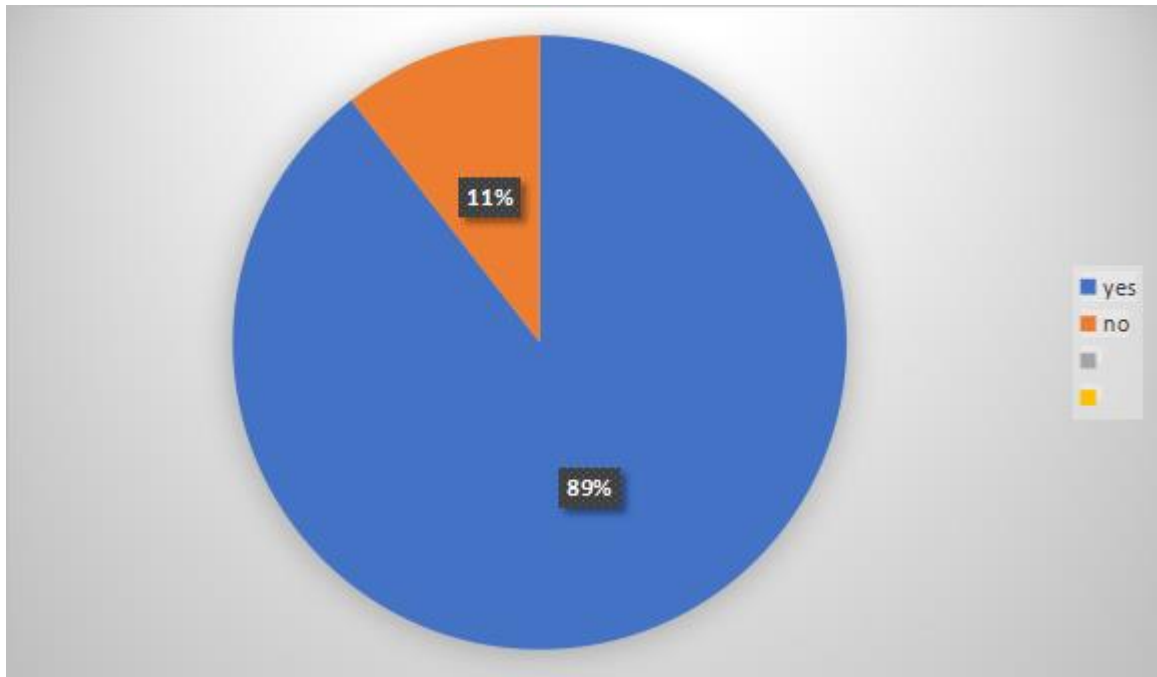


Figure 10 Pie chart about using EMI enhances comprehension of courses.

The survey results showed that 89% of biology students believe that using English as a medium of instruction enhances their comprehension of course material. They recognize the benefits of studying in English for gaining a deeper understanding of the subject matter. However, 11% of the respondents held a differing opinion, stating that using English as a medium of instruction does not enhance their comprehension. These findings highlight the overall positive perception among the majority of students regarding the impact of English-medium instruction on their comprehension of course material in biology.

Question10: If you had the chance to choose a language you prefer to study biology, would you choose: English /French?

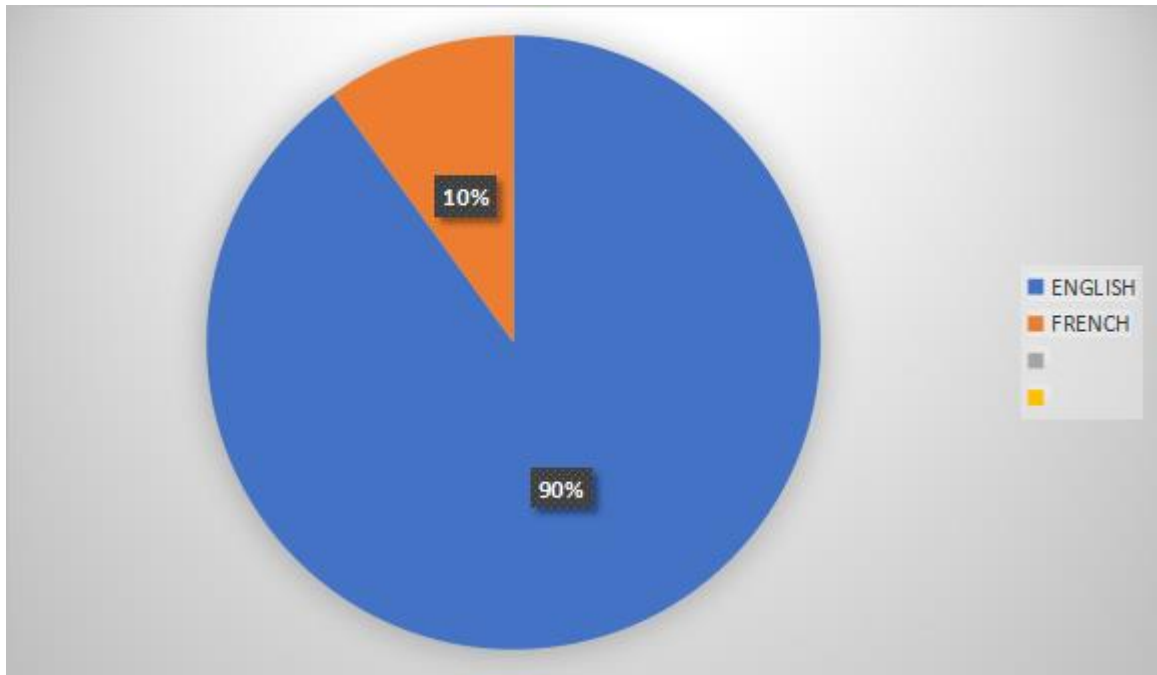


Figure11 pie chart represents which language the students prefer

The survey results indicated that 90% of biology students would choose to study biology in English if given the opportunity to choose a language. This suggests a strong preference for English as the language of instruction in their academic studies. Conversely, 10% of the respondents expressed a preference for studying biology in French. These findings highlight the majority preference for English among biology students, while acknowledging the presence of a smaller subset who favor studying in French.

QUESTION 11: Do you think that Studying Biology in English can help you to continue your graduate studies abroad?

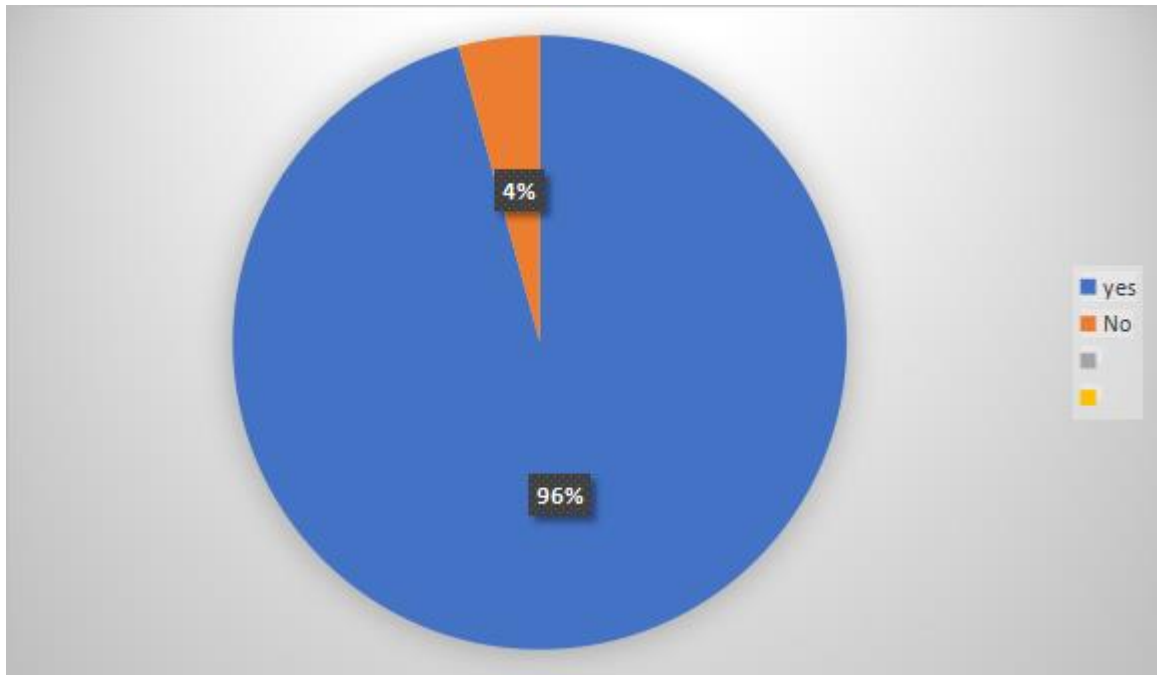


Figure 12: Impact of Studying Biology in English on Pursuing Graduate Studies Abroad.

The survey results indicated that 96% of biology students believe that studying biology in English can help them to continue their graduate studies abroad. This suggests a strong consensus among the majority of students regarding the benefits of English proficiency for pursuing higher education internationally. However, it is important to note that a small percentage of 4% held a differing opinion, indicating that they do not believe studying biology in English helps with pursuing graduate studies abroad. This subset of students may have different perspectives, such as placing greater emphasis on other factors like research experience or the availability of programs in their native language.

QUESTION12: Do you think that you would spend less time studying Biology modules if EMI were used?

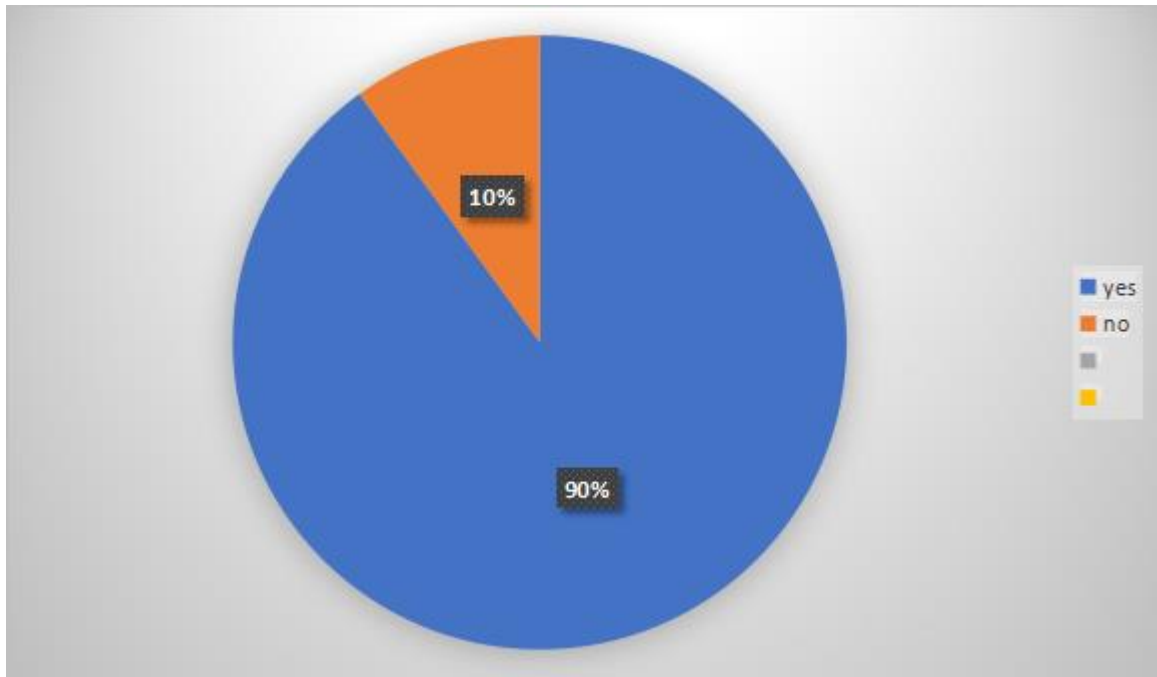


Figure 13: Perception of Time Spent Studying Biology Modules with EMI

The survey results indicated that 90% of biology students believe they would spend less time studying Biology modules if English as a Medium of Instruction (EMI) were used. This suggests a strong consensus among the majority of students regarding the potential time-saving benefits of EMI. Conversely, 10% of the respondents held a differing opinion, stating that they did not believe EMI would reduce their study time. These findings highlight the overall positive perception among the majority of biology students regarding the potential impact of EMI on their study time.

QUESTION13: Do you agree that EMI makes learning science fields easy?

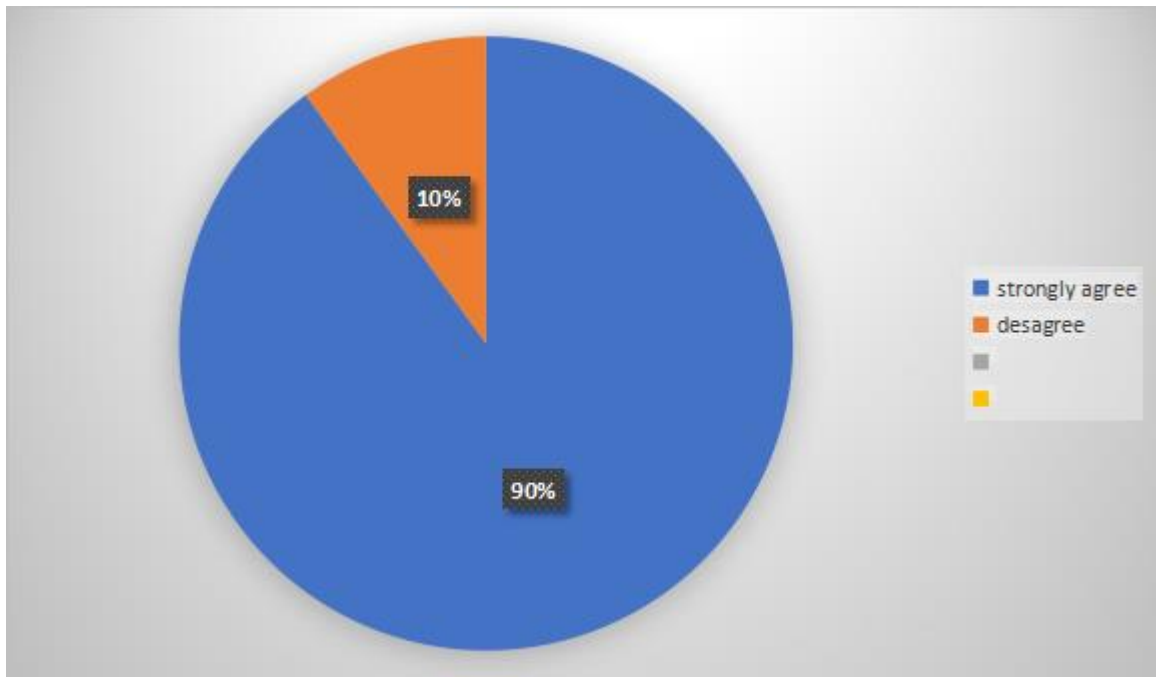


Figure 14: a pie chart of Perception of EMI's Impact on Learning Science Fields

According to a recent survey conducted among biology students, we sought their opinion on whether they believe that English, as a medium of instruction, facilitates the process of learning in the field of science. The results of the survey indicated a strong consensus, with an overwhelming majority of 90 percent of the student's expressing agreement with this notion, while the remaining 10 percent held a differing viewpoint.

The findings of this survey suggest that the use of English as a medium of instruction is perceived by a significant portion of biology students as advantageous for learning scientific subjects. These students believe that studying science in English enables them to access a wider range of resources, such as textbooks, research papers, and online materials, which are often predominantly available in the English language. Additionally, they argue that English

offers a standardized and widely understood scientific vocabulary that facilitates effective communication and knowledge exchange among researchers and professionals in the field.

QUESTION 14: Do you think that you learn better because English is used in class?

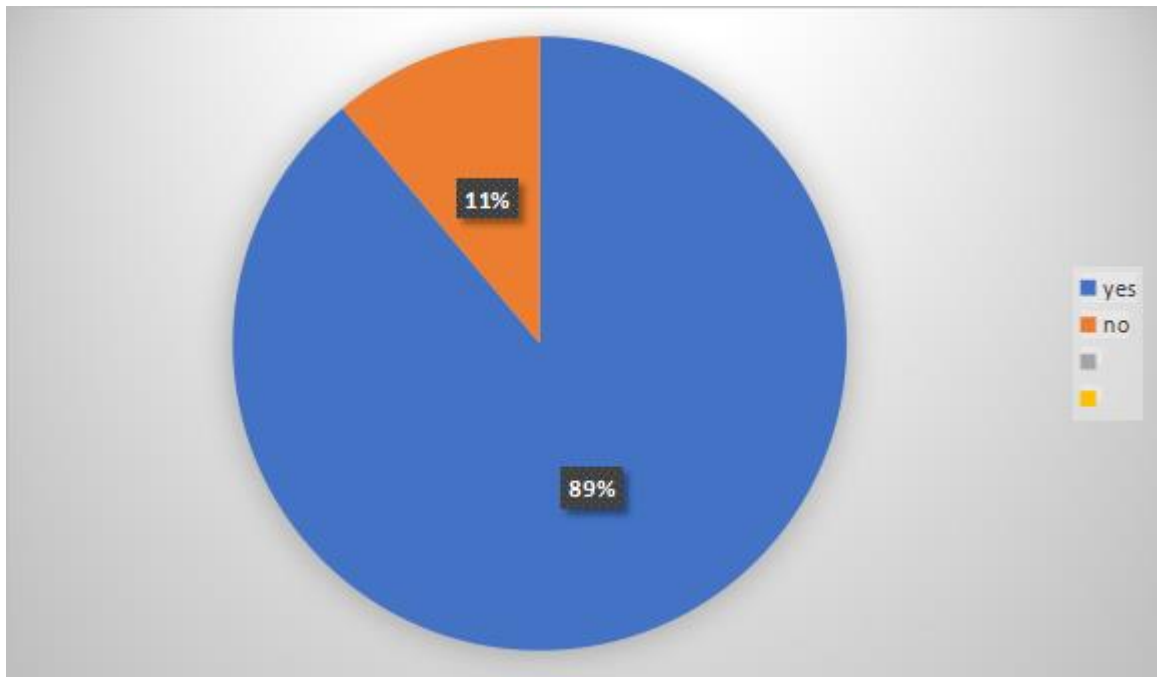


Figure 15: a pie chart represents Students' Perceptions of Learning Improvement Due to English Language Usage in Class

According to a recent survey conducted among biology students, a resounding majority of 89 percent agreed that the utilization of the English language in their classes significantly enhances their learning experience. In contrast, a smaller but notable 11 percent expressed a different perspective, suggesting that English may not necessarily contribute to their learning in a significant manner. These findings shed light on the potential impact of language choice

on educational outcomes and highlight the diverse viewpoints within the student community regarding the influence of English in the biology classroom.

QUESTION 15: Do you find it easy to conduct research papers using English?

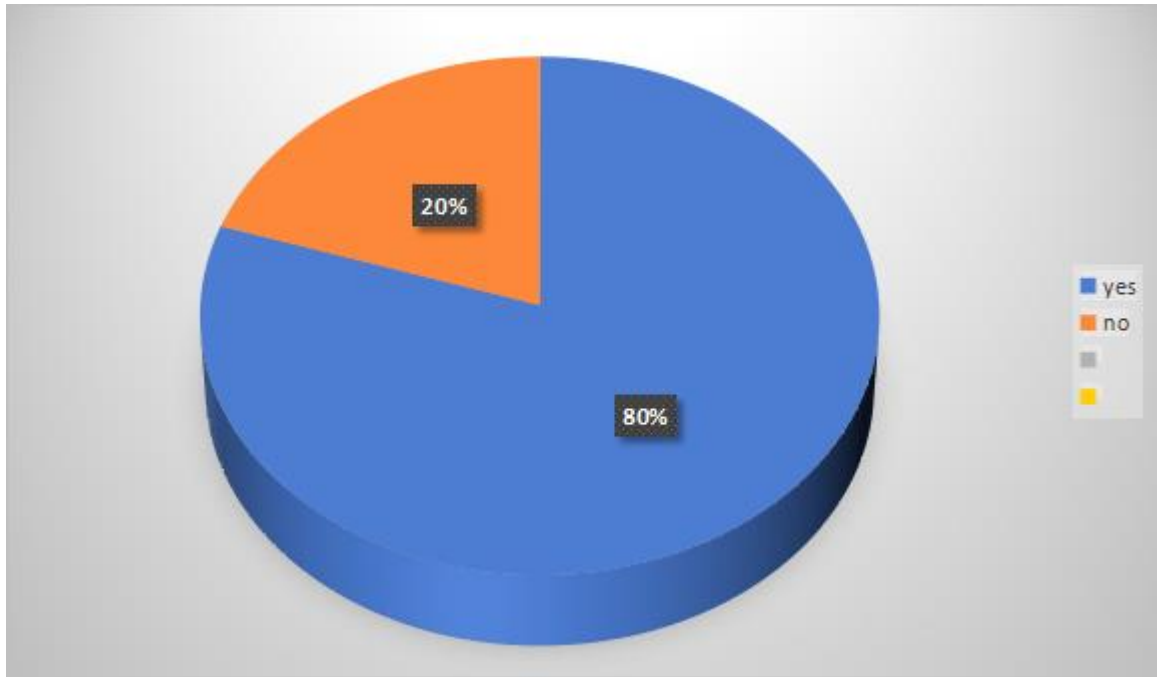


Figure 16: a pie chart represents Perception of Ease in Conducting Research Papers Using English

Our recent study among biology students revealed that 80 percent of participants find it easy to conduct research papers in English. However, approximately 20 percent reported difficulties in utilizing English for research purposes. These findings emphasize the importance of providing tailored support to address language barriers and enhance research skills for students facing challenges with English.

Question 16: What is your Perception about the use of English as a medium of instruction?

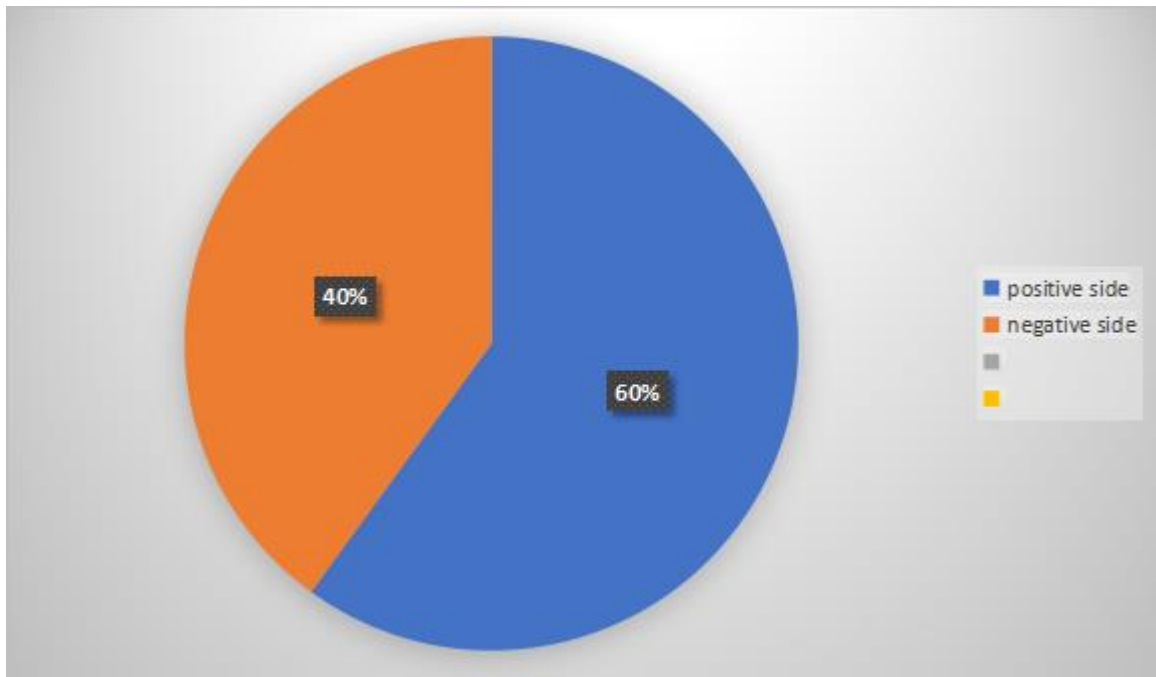


Figure 17: a pie chart represents Perception of English as a Medium of Instruction

In our survey of biology students, we asked about their perception of using English as the medium of instruction. The results showed that 80 percent viewed it positively, considering it beneficial for their learning experience. However, 20 percent expressed a negative perception, finding it challenging. These findings highlight the diverse opinions among students regarding the use of English in biology classes. It underscores the importance of addressing individual needs to ensure inclusive and effective learning environments.

Question17: Have you encountered any challenges with using English as a medium of

instruction?

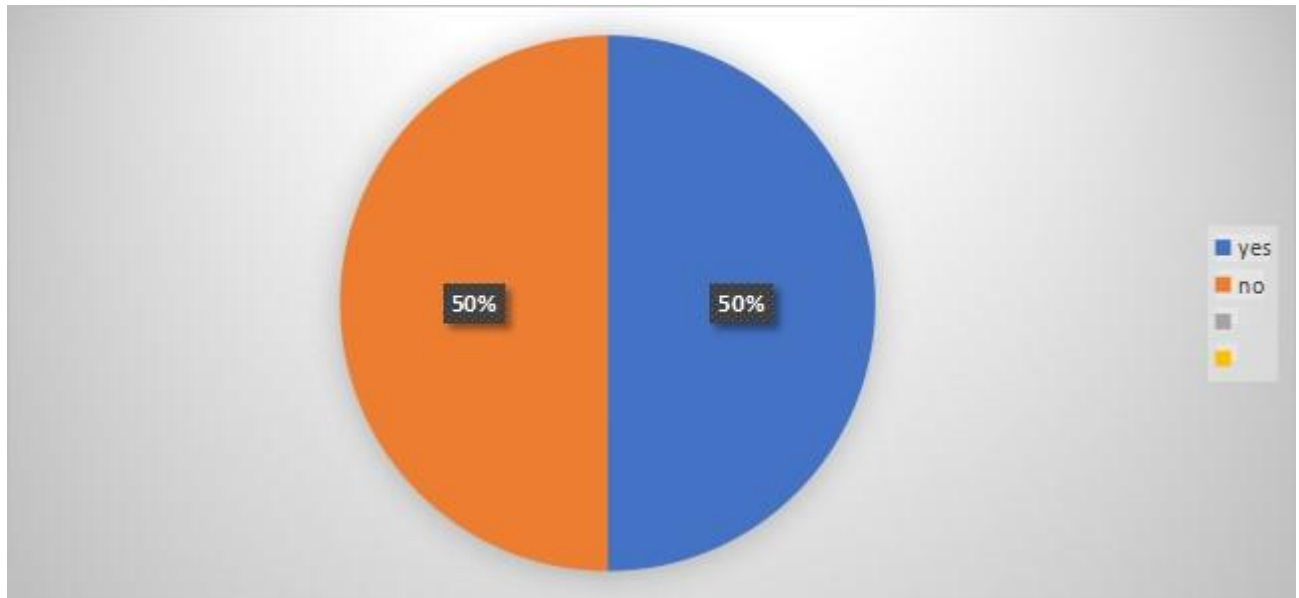


Figure 18: a pie chart represents percentage of Challenges Faced with Using English as a Medium of Instruction.

In our survey of biology students, we explored their experiences with English as a medium of instruction and the challenges they encountered. The results showed a divided perspective, with 50% of participants acknowledging difficulties, such as language barriers and comprehension issues. Meanwhile, the other 50% reported no problems, indicating a higher proficiency in English. Recognizing and addressing these challenges through targeted support and resources can promote equal learning opportunities and enhance students' employability prospects.

Question 18: Do you believe that using English as a medium of instruction improves your employability prospects?

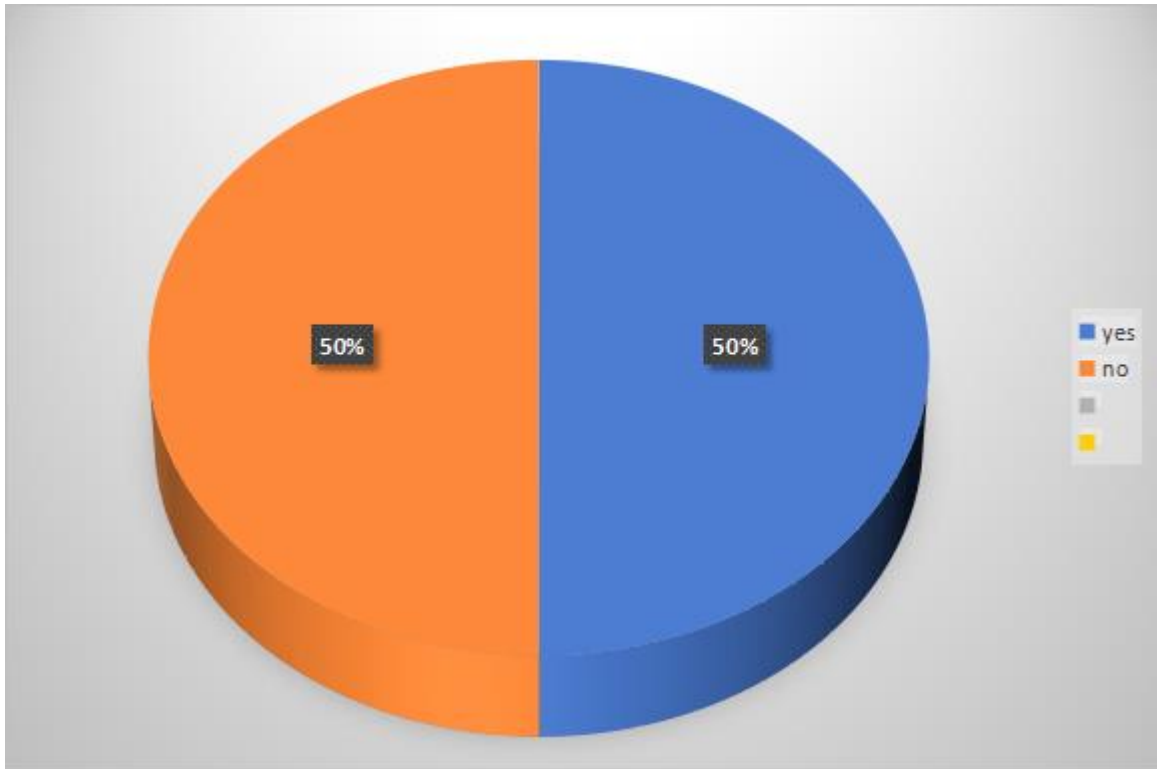


Figure 19: a pie chart entitled Perception of English as a Medium of Instruction and Its Impact on Employability Prospects

In our survey of biology students, we found a divided perspective on the impact of using English as a medium of instruction on employability prospects. 50% believed it would enhance their employability, citing global language prevalence and access to international job markets. The other 50% didn't perceive a significant improvement, considering factors such as localized job markets and the importance of other skills in their chosen fields. Understanding these differing beliefs can inform inclusive educational strategies for career preparation.

Question19: Do you believe that English as a medium of instruction is becoming more common in your country?

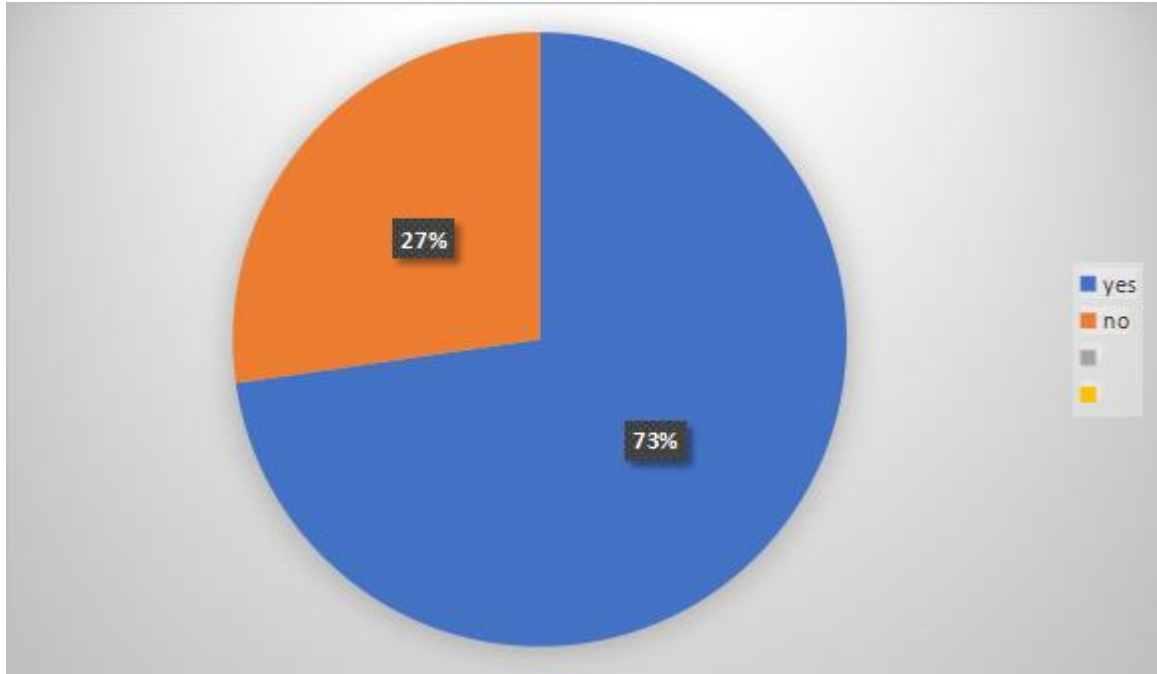


Figure 20: a pie chart of Perception of the Growing Commonality of English as a Medium of Instruction in the Country.

In our survey conducted among biology students, we sought to understand their perception regarding the increasing prevalence of English as a medium of instruction in their country. The results revealed that 73 percent of the participants believed that English as a medium of instruction is indeed becoming more common, while 27 percent expressed a differing viewpoint, indicating that they did not perceive such a trend. These findings shed light on the diverse perspectives within the student community concerning the use of English as the instructional language. The 73 percent who perceived an increasing prevalence of English may base their belief on various factors. These could include globalization, the growing importance of English as a global language. On the other hand, the 27 percent who did not perceive a rise in the use of English as a medium of instruction may have differing

perspectives. They might consider factors such as the prominence of local languages, culture preservation, or limited implementation of English-medium education in their country's education system.

QUESTION 20: Would you recommend that your institution use English as a medium of instruction for more courses?

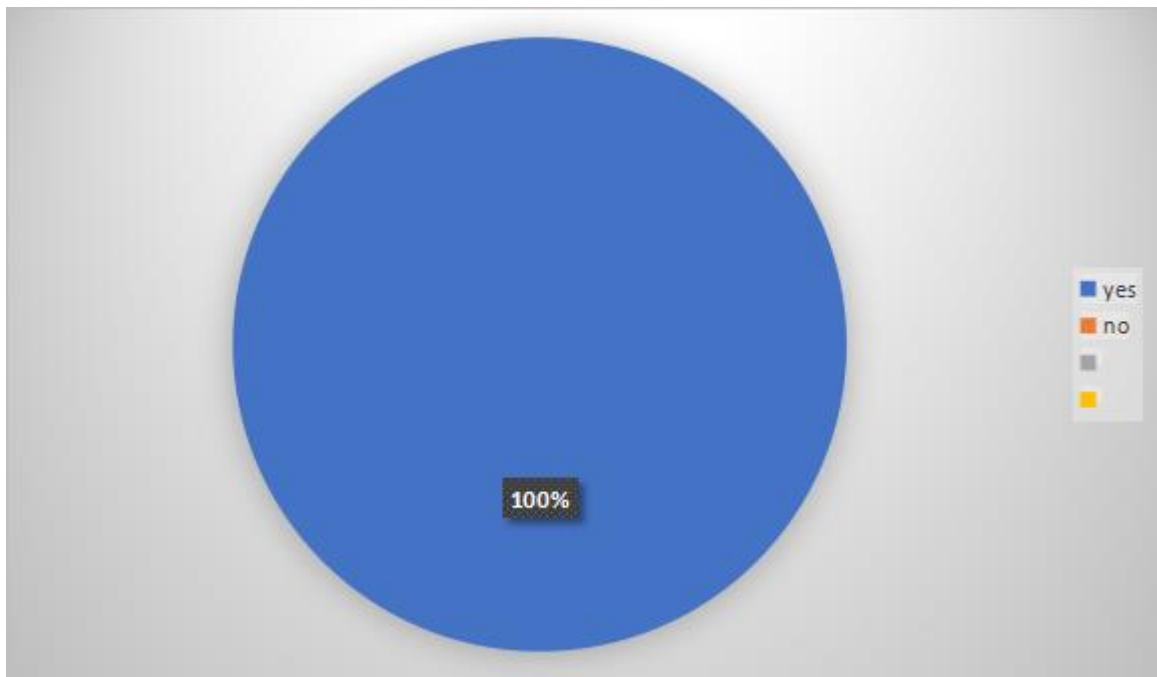


Figure 21: a pie chart represents Recommendation for Institution's Use of English as a Medium of Instruction for More Courses among Biology Students (as extracted from google form

To confirm the previous findings and our study, according to the feedback we received from biology students, it is noteworthy that 100 percent of them enthusiastically recommended their institution to utilize English as a medium of instruction for more courses. This unanimous agreement demonstrates a high level of confidence and belief in the benefits

associated with incorporating English across a broader range of academic subjects. The reasons underlying this resounding support can be attributed to several factors. Firstly, students recognize the prominence of English as a global language, acknowledging its significance in facilitating international communication and collaboration. By embracing English as a medium of instruction, students believe they can better prepare themselves for a competitive global job market and broaden their career opportunities. Moreover, students perceive the use of English as an opportunity to enhance their own language proficiency, fostering their ability to engage with diverse cultures and perspectives. They value the exposure to a wider range of academic resources and research materials available in English, which can contribute to their overall educational growth. The unanimous agreement among biology students underscores the strong conviction that incorporating English as a medium of instruction will create a more comprehensive and globally-oriented learning environment. It reflects their desire to be equipped with the necessary skills and knowledge to navigate an increasingly interconnected world.

By considering and implementing the recommendations put forth by biology students, educational institutions can create an inclusive and dynamic educational setting that prepares students for success in an international context. This will not only bolster their academic and professional prospects but also foster a deeper understanding and appreciation for different cultures and languages.

II.2 teachers' interview

Just like the previous one, the teachers' interviews, designed to gather valuable insights, encompassed a comprehensive set of 12 questions. Our intention was to obtain responses

from a diverse range of teachers within the biology department. However, due to various constraints, we were able to secure participation from four exceptional teachers who offered their valuable perspectives.

Question 1: what is your degree?

Teacher 1: I'm assistant professor A

Teacher 2: I'm assistant professor A

Teacher 3: I'm lecturer professor B

Teacher 4: I'm lecturer professor B

During our interview in the biology department, we encountered four teachers, each possessing different degrees. The first and second teachers both held the title of Lecturer Professor A. Their academic qualifications and expertise in the field of biology were apparent throughout the discussion. The third and fourth teachers, on the other hand, were recognized as Lecturer Professor B. They too demonstrated a strong command of their subject matter and provided valuable insights during the interview. Overall, the panel of teachers we interviewed exhibited a diverse range of academic backgrounds and experiences, contributing to a rich and comprehensive discussion on various aspects of biology.

Question 2: In what language did you earn your PhD?

Teacher 1: I obtained my PHD in French language

Teacher 2: I obtained my PHD in French language

Teacher 3: I obtained my PHD in French language

Teacher 4: I obtained my PHD in French language

In the biology department, all four teachers hold a Ph.D. degree, which they earned in the French language. Their educational background reflects a common thread, as each of them pursued advanced studies and specialized in their respective fields while conducting research and scholarly work using French as the medium of communication.

Question 3: - have you ever been to an English-speaking country? How long?

Teacher 1: No, I have not lived or studied in an English-speaking country.

Teacher 2: No, I have not lived or studied in an English-speaking country.

Teacher 3: Yes, I had the opportunity to live in the United States for one year during my doctoral studies.

Teacher 4: YES, I have lived in an English-speaking country. London for 2 weeks

Among the four teachers in the biology department, Teacher 1 and Teacher 2 have not had the experience of living or studying in an English-speaking country. However, Teacher 3 had the opportunity to reside in the United States for a duration of one year during their doctoral studies. This period likely exposed them to an immersive English-speaking environment, enabling them to gain valuable linguistic and cultural insights. On the other hand, Teacher 4 also had a brief encounter with an English-speaking country by spending two weeks in London. While relatively short, this experience might have

offered them a glimpse into the English language and culture, contributing to their overall perspective as an educator in the biology department.

Question 4: what language do you feel comfortable in class?

Teacher 1: Generally, I use French due to its obligation in the education field, including scientific terms and so on. However, I feel more comfortable when I use English.

Teacher 2: In the classroom, I feel most comfortable teaching in English, but I am obliged to use French.

Teacher 3: I feel most comfortable teaching in French in the classroom.

Teacher 4: I feel most comfortable teaching in French in the classroom, it creates an immersive environment for students to develop their language skills and appreciate the beauty of French terms.

In the classroom, each teacher has their preferred language for teaching. Teacher 1 generally uses French due to its requirement in the education field, encompassing scientific terms and other relevant aspects. However, they express a greater level of comfort when teaching in English. Similarly, Teacher 2 states that they feel most at ease teaching in English, but they are obligated to use French. In contrast, Teacher 3 expresses their comfort in teaching in French within the classroom setting. Finally, Teacher 4 shares a similar sentiment, highlighting their preference for teaching in French. They believe that using French creates an immersive environment for students, facilitating the development of their language skills and fostering an appreciation for the beauty of French terms. Overall, the teachers' comfort

in the classroom is influenced by various factors, including language requirements, personal preferences, and pedagogical considerations.

Question 5: Can you tell me your experience with using English as a medium of instructions?

Teacher 1: Although my primary teaching language is French, I have some experience using English as a medium of instruction. I have received training and lessons on teaching in English.

Teacher 2: I have some experience using English but not that much

Teacher 3: While my primary medium of instruction is French, I occasionally use English as a supplementary language for clarification or when discussing specific linguistic or cultural aspects.

Teacher 4: While English is not the primary language of instruction in my department, I have occasionally used English to supplement my teaching. This has been mainly in the context of discussing comparative literature or exploring linguistic concepts that are better understood in English. It provides students with exposure to different linguistic perspectives and helps broaden their understanding of literary and linguistic studies.

The teachers in the biology department have varying experiences with using English as a medium of instruction. Teacher 1, whose primary teaching language is French, possesses some experience in using English as a medium of instruction. They have received training and lessons specifically geared towards teaching in English. Teacher 2, on the other hand,

has limited experience with using English as a medium of instruction. While Teacher 3 primarily instructs in French, they occasionally incorporate English as a supplementary language. This inclusion serves the purpose of providing clarification or addressing specific linguistic and cultural aspects. Teacher 4 notes that English is not the primary language of instruction in their department. Nevertheless, they have utilized English on occasions to supplement their teaching. This has primarily occurred when discussing comparative literature or exploring linguistic concepts that are better understood in English. By incorporating English into their instruction, students are exposed to different linguistic perspectives and their understanding of literary and linguistic studies is broadened. Overall, the teachers' experiences with using English as a medium of instruction vary, but they all acknowledge its value in enhancing the learning experience for their students.

Question 6: which language do you suggest to be used as a medium of instruction in your department? And why?

Teacher 1: In our department, I would suggest using English as the medium of instruction. The primary reason for this recommendation is that the majority of scientific articles and new scientific writings are readily available in English. By utilizing English as the medium of instruction, students will have easier access to a wealth of scientific knowledge and research materials, allowing them to stay updated with the latest advancements in their field.

Teacher 2: Given the widespread availability of scientific articles and recent research writings in English, I recommend utilizing English as the primary medium of instruction in our department.

Teacher 3: Given the nature of our department, I believe that French should remain the primary medium of instruction. It is essential for students to develop strong language skills and cultural understanding in French to fully engage with the subject matter.

Teacher 4: I firmly believe that French should be the primary language of instruction. French is not only the language of the subject matter we teach but also an integral part of the cultural heritage associated with it. By using French as, the medium of instruction, we can better immerse students in the language, literature, and cultural aspects of the French-speaking world.

In our department, the teachers hold different perspectives on the language to be used as the medium of instruction. Teacher 1 and Teacher 2 both recommend utilizing English as the primary medium of instruction. They emphasize the prevalence of scientific articles and research writings in English, which grants students access to a wide range of resources and facilitates their engagement with the latest advancements in their field.

However, Teacher 3 holds the belief that French should remain the primary medium of instruction. They argue that the nature of the department necessitates strong language skills and cultural understanding in French for students to fully grasp the subject matter. Teacher 4 shares a similar viewpoint, stating that French should be the primary language of instruction. They highlight that French not only serves as the language of the subject matter but also plays a significant role in preserving the cultural heritage associated with it.

Immersing students in the language, literature, and cultural aspects of the French-speaking world is seen as beneficial in their education. The divergent opinions among the teachers

reflect the complexity of language considerations in the department. Factors such as the disciplinary focus, availability of resources, and cultural relevance all contribute to shaping the recommended medium of instruction. Ultimately, the decision on the language to be used as the medium of instruction in the department should be made through careful deliberation, taking into account the specific needs and goals of the students and the subject matter being taught.

Question 7: have you encountered any challenges with using English as a medium of instruction? If so, describe them?

Teacher 1: As a teacher who primarily uses French in teaching, the main challenge I have encountered with using English as a medium of instruction is the lack of practice and fluency. This can sometimes hinder effective communication and explanation in the classroom.

Teacher 2: Using English as a Medium of Instruction (EMI) presents a challenge for me as a teacher due to the limited opportunities for practice.

Teacher 3: While I haven't faced significant challenges with using English as a medium of instruction, there can be occasional difficulties in accurately conveying certain linguistic nuances or cultural subtleties that are better expressed in French.

Teacher 4: As I primarily use French as the medium of instruction, I have not encountered significant challenges with using English. However, I am aware that some students may struggle with English as a second language, particularly when it comes to grasping complex literary concepts or fully expressing themselves in English.

The teachers in the biology department have shared their experiences and challenges with using English as a medium of instruction. Teacher 1, who primarily teaches in French, has encountered difficulties due to the lack of practice and fluency in English. This can sometimes impede effective communication and explanation in the classroom. Similarly, Teacher 2, as a French-speaking teacher, has faced the challenge of limited opportunities to practice English as a Medium of Instruction (EMI). In contrast, Teacher 3, while not facing significant challenges, acknowledges occasional difficulties in accurately conveying certain linguistic nuances or cultural subtleties that are better expressed in French when using English as a medium of instruction. They recognize the importance of language precision and cultural understanding in effective teaching.

Teacher 4, primarily teaching in French, personally hasn't encountered significant challenges with using English. However, they are aware that some students may struggle with English as a second language, particularly when it comes to comprehending complex literary concepts or fully expressing themselves in English. Overall, the challenges with using English as a medium of instruction for teachers who primarily teach in French include limited practice, difficulties in conveying nuances, and potential language barriers for students. These experiences highlight the need for effective language support and the recognition of individual student needs to ensure comprehensive understanding and successful communication in the classroom.

Question 8: what is the possible solution to overcome these challenges?

Teacher 1: To overcome the challenges, I suggest providing language support for both teachers and students. This can include language enhancement programs, workshops, and opportunities for practice and exposure to English language scientific literature.

Teacher 2: To overcome the challenges, I suggest providing language support for both teachers and students.

Teacher 3: To overcome these challenges, incorporating more language support resources and providing additional cultural context during English-medium instruction can help ensure clarity and better understanding for students

Teacher 4: To support students who face challenges with English, it is crucial to provide additional language support and resources. This can include offering language enhancement courses, providing bilingual materials, and encouraging active participation in language-focused activities such as discussions and presentations. Creating a supportive and inclusive learning environment can also help students build their confidence in using English as a secondary language.

- To overcome the challenges faced with using English as a medium of instruction, the teachers in the biology department suggest several possible solutions. Teacher 1 emphasizes the importance of providing language support for both teachers and students. This can be achieved through language enhancement programs, workshops, and opportunities for practice and exposure to English language scientific literature. Similarly, Teacher 2 also recommends offering language support for teachers and students as a solution to overcome the challenges. This support can come in the form of additional resources,

training, and guidance to improve language proficiency and communication skills. Teacher 3 suggests incorporating more language support resources and providing additional cultural context during English-medium instruction. By offering comprehensive language support and enhancing the understanding of cultural nuances, clarity and better comprehension can be ensured for students. Teacher 4 stresses the need for providing additional language support and resources to support students facing challenges with English. This can include offering language enhancement courses, providing bilingual materials, and encouraging active participation in language-focused activities. Creating a supportive and inclusive learning environment is also crucial to help students build confidence in using English as a secondary language. Overall, the proposed solutions focus on providing language support, resources, and opportunities for practice and exposure to English. By addressing these challenges proactively, both teachers and students can benefit from an improved learning experience in an English-medium instruction setting.

Question 9: Do you think that using English in teaching and learning improves academic achievements?

Teacher 1: Yes, I do believe that using English as a medium of instruction can improve academic achievements. English is widely used in scientific research and communication globally. Proficiency in English allows students to access a vast pool of knowledge, collaborate with international researchers, and present their work to a broader audience.

Teacher 2: Yes, I do believe that using English as a medium of instruction can improve academic achievements. Because English is the most used language in the world.

Teacher 3: While English can offer access to a broader range of academic resources, I believe that using French as the primary medium of instruction in our department is crucial for fostering a deep understanding of French language, literature, and culture. This focus on French language acquisition ultimately enhances academic achievements in our specific field

Teacher 4: While English as a medium of instruction has its benefits in terms of global communication and access to a broader range of resources, I believe that using French as the medium of instruction in our department is essential for fostering academic achievements.

The teachers in the biology department have differing opinions regarding the impact of using English as a medium of instruction on academic achievements. Teacher 1 and Teacher 2 express belief in the positive influence of English on academic achievements, highlighting its widespread use in scientific research, global communication, and access to knowledge. On the other hand, Teacher 3 emphasizes the importance of using French as the primary medium of instruction to foster a deep understanding of language, literature, and culture, which they believe ultimately enhances academic achievements in their specific field. Teacher 4 supports the use of French as the medium of instruction, considering it crucial for promoting academic achievements. Ultimately, the impact of using English or French as a medium of instruction on academic achievements depends on various factors, including the specific field of study and the goals of the educational institution.

Question 10: what impact do you think English as a medium of instruction has on

international education and global communications?

Teacher 1: English as a medium of instruction has a significant impact on international education and global communications. It facilitates the exchange of ideas, promotes international collaboration, and enables students to engage with a diverse academic community.

Teacher 2: The use of English as a medium of instruction has a profound influence on international education and global communications. It facilitates international cooperation and allows students to actively participate in a diverse academic community.

Teacher 3: English as a widely spoken global language undoubtedly plays a significant role in international education and global communications. It allows for broader access to academic and professional opportunities, facilitates cross-cultural collaboration, and promotes a more interconnected world.

Teacher 4: English as a medium of instruction plays a crucial role in international education and global communications. It serves as a common language for academic and professional exchanges, facilitating collaboration and knowledge-sharing across borders. It enables students to connect with a broader international community, access a wider range of educational opportunities, and enhance their employability in a globalized world.

The teachers in the biology department collectively acknowledge the significant impact of English as a medium of instruction on international education and global communications. They highlight that using English facilitates the exchange of ideas, promotes international collaboration, and enables students to engage with a diverse academic

community. English, as a widely spoken global language, provides broader access to academic and professional opportunities, fosters cross-cultural collaboration, and prepares students for success in a globalized world.

Question 11: would you recommend that your institution use English as a medium of instruction for more courses? Why or why not?

Teacher 1: Based on the benefits of English as a medium of instruction, I would recommend that our institution consider using English for more courses. This would provide students with enhanced opportunities for global engagement, broaden their horizons, and better prepare them for the international job market

Teacher 2: Considering the advantages of English as a medium of instruction, I strongly suggest expanding the use of English in our institution's curriculum. This approach would offer students increased opportunities for global engagement, enabling them to benefit from enhanced international connections and experiences.

Teacher 3: While I understand the importance of English as a global language, I would recommend maintaining a balance between English and other languages. Our institution should continue to prioritize and promote the importance of French language proficiency while providing opportunities for English language development in specific contexts.

Teacher 4: Personally, I would recommend that our institution considers using English as a medium of instruction for select courses in addition to French. While I firmly believe in the

importance of preserving and promoting the French language within our department, incorporating English instruction can provide students with valuable skills and opportunities.

The teachers in the biology department hold different perspectives regarding the use of English as a medium of instruction for more courses. Teacher 1 and Teacher 2 advocate for expanding the use of English, emphasizing the benefits of enhanced global engagement, broadened horizons, and better preparation for the international job market. On the other hand, Teacher 3 believes in maintaining a balance between English and other languages, with a continued emphasis on French language proficiency and selective opportunities for English language development. Teacher 4 personally suggests incorporating English as a medium of instruction for specific courses alongside French, recognizing the value of providing students with valuable skills and opportunities. Ultimately, the decision on using English as a medium of instruction for more courses should consider a balanced approach that incorporates both the preservation of the French language and the advantages of English in fostering global engagement and preparing students for the international arena.

Question 12: What advice do you give to students who are learning a second language?

Teacher 1: To students learning in a second language, my advice would be to focus on building a strong foundation in language learning, practicing regularly, and seeking opportunities to immerse themselves in the target language. Additionally, seeking support from language tutors, participating in language exchange programs, and embracing a positive and proactive mindset can greatly contribute to their success in mastering the language.

Teacher 2: For students learning in a second language, my recommendation would be to prioritize the development of a solid language learning base.

Teacher 3: My advice to students learning in a second language is to immerse themselves in the language as much as possible. Actively practice speaking, reading, and writing in the target language, and seek out authentic materials and cultural experiences to enhance their understanding.

Teacher 4: As for advice to students Learning a second language which can be challenging, but with dedication and practice, students can overcome obstacles and improve their language proficiency.

The teachers in the biology department offer valuable advice to students who are learning in a second language. Teacher 1 recommends focusing on building a strong foundation in language learning, practicing regularly, and seeking opportunities for immersion. They also suggest seeking support from language tutors, participating in language exchange programs, and maintaining a positive and proactive mindset. Teacher 2 emphasizes the importance of prioritizing the development of a solid language learning base. Teacher 3 advises students to immerse themselves in the language by actively practicing speaking, reading, and writing, and seeking authentic materials and cultural experiences. Lastly, Teacher 4 acknowledges the challenges of learning a second language but encourages students to persevere through dedication and practice. Collectively, these suggestions highlight the significance of consistent effort, exposure, and an open mindset in achieving language proficiency.

Summary of the teachers interviews findings

We can say that all the teachers in the biology department acknowledge the significant impact of English as a medium of instruction on international education and global communications. They highlight its role in facilitating the exchange of ideas, promoting international collaboration, and enabling students to engage with a diverse academic community. English is seen as a language that bridges cultural and linguistic barriers, allowing for broader access to academic and professional opportunities. It facilitates cross-cultural collaboration and contributes to a more interconnected world. Overall, the teachers recognize the importance of English in fostering global communication and enhancing international education. As a result, this data helps us to confirm that English as a medium of instruction has a great effect in biology students' learning skills which is considered as an answer to our main research question.

Conclusion

Our research among biology students revealed that a majority of them read in English and consider it important for their field. Many have taken English-taught courses, indicating its growing prominence as a language of instruction. While most students have basic to elementary English proficiency, a significant portion has a moderate level. English is widely regarded as a language of science and studying in English is believed to improve language skills and comprehension. Given the choice, most students would opt to study biology in English, as it can facilitate pursuing graduate studies abroad and potentially reduce study

time. While the use of English in biology classes is generally seen positively, some students face difficulties. There is a split opinion on whether studying biology in English enhances employability. Teachers' interviews provided diverse perspectives, with some having experience in English-speaking environments. These findings underscore the importance of English in biology education and suggest the need for tailored language support programs and resources to accommodate students' varying proficiency levels and preferences.

General Conclusion

1-Findings and Discussion

This study aims at investigating the impact of using English as a medium language of instruction on biology learning among Master's students at Abbas Laghrour University. The main objectives were to Examine the reasons and motivations behind the decision to use English as a language of instructions, Identify the advantages and disadvantages of implementing English as a medium of instruction in the biology program, as perceived by both students and instructors, and to investigate the various support mechanisms and strategies that have been implemented to address the challenges associated with English as a language of instruction in the biology program.

The results from questionnaire and interview shows that there is a lack of proficiency in teacher 's performance in second language, who primarily use French as a medium of instruction and usually they use the mother tongue to facilitate teaching and comprehension. Moreover, the students have a positive impact on learning in a second language however due to the lack of practicing, the participants recognized the role of English in teaching and enhancing the understanding of course materials.

The first research question indicates the perspectives of master biology students in using English as a language of instructions instead of French language, through the results the participant believe that English improves their language proficiency and enhance their comprehension of the courses

The second research question analyzes the situation of the English language in kenchela biology department, which astonishingly the students had negatively expressed their

willingness to participate in English, this proves the weak linguistic level of the students and less practicing within classroom, in addition English is not used within the section and this reduces the acquisition of new scientific vocabulary and terms. The third research question aims at considering the usefulness of English language in teaching and enhancing course material of biology students the students, the field of research and new publication indicates that all the newer scientific research are published in English, moreover using English as a means of instructions helps in developing the student's Career and future achievement especially for the scientific field.

2-Limitations of the Study

The study had several limitations that should be acknowledged. Firstly, the sample size of the student participants was relatively small, with only 50 out of the targeted 100 students responding to the questionnaire. This smaller sample size may limit the generalizability of the findings to the larger student population in the department. Secondly, the study relied on self-reported data, which may introduce bias or inaccuracies in the responses. Additionally, the study focused on biology students from a specific department, which may not reflect the perspectives and experiences of students in other fields of study. Furthermore, the study did not explore the potential impact of language proficiency on academic performance or delve into the specific challenges faced by students in using English as a medium of instruction. These limitations highlight the need for further research with larger and more diverse samples to obtain a comprehensive understanding of the topic.

3-Suggestions and recommendations for further research

Based on the findings of this study, there are several suggestions and recommendations for further research. Firstly, it would be beneficial to conduct a larger-scale study with a more diverse sample to validate the results and ensure their applicability to a wider population. Including participants from various academic disciplines and institutions would add depth and breadth to the research. Secondly, incorporating longitudinal research designs would provide insights into the relationship between language proficiency and academic performance over time. Examining how this relationship evolves and potentially fluctuates throughout a student's academic journey would enhance our understanding. Furthermore, employing a mixed-methods approach that combines quantitative and qualitative methods could offer a more comprehensive understanding of the topic. By complementing standardized language tests with interviews or observations, researchers can delve deeper into students' experiences, perceptions, and strategies within English-medium educational settings. In addition, investigating the influence of contextual factors, such as cultural background and socioeconomic status, on the language proficiency-academic performance relationship would enrich the analysis. Comparing students from diverse backgrounds and considering the impact of these factors on their academic success would provide a more nuanced perspective. Lastly, exploring the effectiveness of interventions or support programs designed to enhance language proficiency and academic performance would be valuable. Identifying successful strategies and practices that can be implemented in educational settings to support students' language development and academic

achievements would have practical implications. By addressing these suggestions and recommendations in future research, we can advance our understanding of the language proficiency-academic performance relationship, inform educational policies, and foster more effective support for students in English-medium academic environments.

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Appendices

Appendix A : Students' Questionnaire

Please answer the following questions by selecting the appropriate response or providing the requested information.

1. How many years have you been learning English?

.....

2. Do you read in English?

a. Yes

b. No

3. Do you consider the English language:

a. Important

b. Not important

c. Other: [Please specify]

.....

4. Have you studied any courses in English? If so, please list them.

.....

5. What is your level in English?

a. A0

b. A1

c. A2

d. B1

e. B2

f. C1

g. C2

h. Other: [Please specify]

6. "English is the Language of Science." Do you agree? Please explain briefly.

a. Agree

- b. Disagree
- c. Other: [Please specify]

.....

7. When you search for information, do you find books more available in English or French?

- a. English books
- b. French books
- c. Other: [Please specify]

.....

8. Do you believe that using English as a medium of instruction improves your language proficiency?

.....

9. Do you believe that English as a medium of instruction enhances your comprehension of course material?

.....

10. If you had the chance to choose a language to study biology, would you choose: a. English

- b. French
- c. Other: [Please specify]

.....

11. Do you think that studying Biology in English can help you to continue your graduate studies abroad? Please justify your answer.

.....

12. Do you think that you would spend less time studying Biology modules if English as a medium of instruction were used?

- a. Yes
- b. No
- c. Other: [Please specify]

.....

13. Do you agree that English as a medium of instruction makes learning science fields easy?

- a. Strongly agrees

- b. Agree
- c. Strongly disagrees
- d. Disagree
- e. Other: [Please specify]

.....

14. Do you think that you learn better because English is used in class?

- a. Yes
- b. No
- c. Other: [Please specify]

.....

15. Do you find it easy to conduct research papers using English? If yes, please justify.

.....

16. What is your perception about the use of English as a medium of instruction?

.....

17. Have you encountered any challenges with using English as a medium of instruction?

.....

18. Do you believe that using English as a medium of instruction improves your employability prospects?

.....

19. Do you believe that English as a medium of instruction is becoming more common in your country?

20. Would you recommend that your institution use English as a medium of instruction for more courses?

Thank you for your participation!

Appendix B: teachers' interview questions

1. What is your degree?

.....

2. In what language did you obtain your PhD?

.....

3. Have you ever been to an English-speaking country? If yes, how long?

.....

4. In what language do you feel comfortable in class?

.....

5. Can you tell me about your experience with using English as a medium of instruction?

.....

6. Which language do you suggest to be used as a medium of instruction in your department? And why?

.....

7. Have you encountered any challenges with using English as a medium of instruction? If so, please describe them.

.....

8. What possible solutions do you propose to overcome these challenges?

.....

9. Do you think that using English in teaching and learning improves academic achievements?

.....

10. What impact do you think English as a medium of instruction has on international education and global communications?

11. Would you recommend that your institution use English as a medium of instruction for more courses? Why or why not?

.....

12. What advice would you give to students who are learning a second language?

Thank you for your participation

نبذة مختصرة

أصبحت اللغة الإنجليزية كلغة وسيطة أداة أساسية للتواصل الدولي في التعليم العالي، بما في ذلك مجال البيولوجيا. هدفت هذه الدراسة إلى التحقيق في تأثير استخدام اللغة الإنجليزية كلغة وسيطة على تعلم البيولوجيا بين طلاب الماجستير في جامعة عباس لغرور. تم تصميم الدراسة على شكل دراسة حالة، حيث تم جمع البيانات من خلال المقابلات واستبيان. كشفت نتائج الدراسة أن استخدام اللغة الإنجليزية كلغة وسيطة يؤثر إيجابياً على تعلم البيولوجيا بين طلاب الماجستير في جامعة عباس لغرور. تشير النتائج المستخلصة من الدراسة إلى أن إدراج اللغة الإنجليزية كلغة وسيطة في مقررات البيولوجيا يمكن أن يعزز فهم الطلاب ومهارات الاتصال والتحليل.