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Use of ICT in Teaching English : challenges and Perspectives for the University Joseph KI-ZERBO in an International Collaborative Context

Housouagna Rabiyatou Zigani

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THESE DE DOCTORAT DE

L' UNIVERSITE RENNES 2 et L' UNIVERSITE JOSEPH KI-ZERBO

École Doctorale N° 646 Éducation, Langages , Interactions, Cognition, Clinique, Expertise
Spécialité : Didactique des Langues

et
École Doctorale Des Lettres, Sciences Humaines Et Communication
Spécialité : Linguistique Appliquée

Par
Housouгна Rabiyatou ZIGANI

Use of ICT in Teaching English: Challenges and Perspectives for the University Joseph KI-ZERBO in an International Collaborative Context

Thèse présentée et soutenue à l'Université Rennes 2 : le 29 septembre 2023

Unités de recherche : Unité de Recherche Linguistique, Ingénierie, Didactique des langues (LIDILE)
Laboratoire des Langues, Littératures et Civilisations Anglophones (LaLiCA)

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Directrices : Christine EVAIN
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DEDICATION

To

My beloved husband, Inoussa COMPAORE, whose understanding, patience, support and priceless help have brought me to where I am today,

My daughter Wendyam Amina Zakiya COMPAORE, the apple of my eyes, for whom I have not always been there because of this journey,

My parents, Yahaya ZIGANI and Rakia GAMPENE for their unwavering support and prayer

All my brothers and sisters for their love and moral support.

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Lastly, I thank my family, friends, and loved ones for their unconditional support throughout this academic journey. Their love, support, and understanding have been invaluable during times of doubt and difficult.

ABSTRACT

This thesis proposes an innovative approach to improving English language proficiency among students in the Université Joseph KI-Zerbo (UJKZ) English department in Burkina Faso, focusing on teaching listening comprehension (LC). Based on data collection over two years at the UJKZ, we aim to explore the potential benefits of introducing new Information and Communication Technologies (ICT) to enhance students' Listening Comprehension (LC) skills.

The experiments conducted in this thesis are based on a recent observation: educational technologies have become necessary in language teaching, particularly since the COVID-19 crisis. While many European universities have set up distance learning systems to ensure continuity of learning, the Université JKZ has faced challenges during this transition, like many universities in Africa, Asia, and South America.

Several innovative systems have been put in place in this study. Firstly, the study exploits the possibilities offered by an international collaborative project called Virtual Environmental Challenge (VEC), which provides a collaborative distance learning environment using Open Educational Resources (OER). By participating in this project, students developed their language skills by working in teams with students from other countries to tackle environmental challenges and to exchange best practices and ideas. Furthermore, using ICT tools enabled students to actively participate in listening exercises based on audio recordings and gap-fill texts. This study draws on theoretical concepts such as collaborative learning, peer tutoring, challenge-based learning, and distance learning. The data is analysed using descriptive and multivariate statistical approaches.

This study highlights how ICT can be integrated into higher education and the work dynamics to improve LC, leading to significant language learning progress. The study's results demonstrate the effectiveness of LC teaching and its positive impact on the language skills of UJKZ students. In addition, it highlights the necessity of the pedagogical integration of ICT in higher education, showing the potential of collaborative learning experiences and virtual platforms to foster effective learning and develop essential skills.

Keywords: English teaching, listening comprehension, ICT, distance learning, collaborative learning, challenge-based learning

RÉSUMÉ

Cette thèse propose une approche novatrice pour améliorer la maîtrise de l'anglais chez les étudiants du département d'anglais de l'Université Joseph KI-Zerbo (UJKZ) au Burkina Faso, en se concentrant sur l'enseignement de la compréhension orale (CO). Basée sur une méthodologie de collecte de données sur une période de deux ans à l'UJKZ, l'objectif de la thèse est d'explorer les avantages potentiels de l'introduction de dispositifs s'appuyant sur les TIC pour renforcer les compétences en CO des étudiants.

Les expériences menées dans le cadre de cette thèse reposent sur un constat récent : les technologies éducatives sont devenues indispensables dans l'enseignement des langues, notamment depuis la crise de la COVID-19. Alors que de nombreuses universités européennes ont mis en place des dispositifs d'enseignement à distance pour assurer la continuité de l'enseignement, l'UJKZ a été confrontée à des défis majeurs lors de cette transition, comme de nombreuses universités en Afrique, en Asie et en Amérique du Sud.

Dans le cadre de cette recherche, plusieurs dispositifs innovants ont été mis en place. L'étude exploite les possibilités offertes par le projet collaboratif international VEC, qui propose un environnement d'apprentissage collaboratif à distance utilisant des REL. En participant à ce projet, les étudiants ont pu développer leurs compétences linguistiques en travaillant en équipe avec des étudiants d'autres pays pour relever des défis liés à l'environnement. L'utilisation des outils TIC a permis aux étudiants de participer activement à des exercices d'écoute basés sur des enregistrements audio et des textes à trous. L'étude s'appuie sur des concepts théoriques tels que l'apprentissage collaboratif, le tutorat par les pairs, l'apprentissage basé sur les défis et l'enseignement à distance. Les données ont été analysées à l'aide d'approches statistiques descriptives et multivariées.

Cette étude a permis de mettre en évidence les modalités d'intégration des TICE et les dynamiques de travail pour améliorer la CO, ce qui a conduit à des progrès significatifs dans l'apprentissage des langues, notamment en ce qui concerne la CO. Les résultats démontrent l'efficacité de l'enseignement de la compréhension orale et son impact positif sur les compétences linguistiques des étudiants de l'UJKZ. De plus, la thèse met en évidence l'intégration pédagogique des TIC dans l'enseignement supérieur en montrant le potentiel des expériences d'apprentissage collaboratif et des plateformes virtuelles pour favoriser un apprentissage efficace et développer des compétences essentielles.

Mots-clés : Enseignement de l'anglais, compréhension orale, TICE, enseignement à distance, apprentissage collaboratif, apprentissage basé sur les défis.

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LIST OF ACRONYMS AND ABBREVIATIONS

ANPTIC: Nationale de Promotion des Technologies de l'Information et de la Communication

ARCEP: Autorité de Régulation des Communication Electroniques et des Postes

AUF: Agence Universitaire de la Francophonie

BEPC: Brevet d'études du premier cycle

CAPES: Certificat d'Aptitude au Professorat de l'Enseignement Secondaire

CAMES: Conseil Africain et Malgache pour l'Enseignement Supérieur

CBL: Challenge-Based Learning

CENATRIN: Centre National de Traitement de l'Information

CLT: Communicative Language Teaching

DPI: Document de Politique Institutionnelle

DSI: Direction de Services Informatiques

EFL: English as a foreign language

ENA: Environnement Numérique d'Apprentissage

ERT: Emergency Remote Teaching

GTP: Global Teenager Project

IB: Bureau intergouvernemental pour l'Informatique

ICT: Information and Communication Technologies

ICTE: Information and Communication Technology in Education

IFOAD: Institut de Formation Ouverte à Distance

IICD: Institut International pour la Communication et le Développement

IPA: Inclusive Pedagogical Approach

LSP: Language for Specific Purpose

MOOC: Massive Open Online Course

NET: New Educational Technologies

ONATEL: Office national des télécommunications

OPT: Office des Postes et Télécommunications

OER: Open Educational Resources

PATD-UJKZ: Projet d'Appui à la Transformation Digitale à l'Université Joseph KI-Zerbo

PIL: Partners in Learning Program

PSO: Plan Stratégique et Opérationnel

RENER: Réseau National d'Enseignement et de Recherche

TICE: Technologies de l'Information et de la Communication pour l'Enseignement

UNESCO: United Nations Educational, Scientific and Cultural Organisation

UVBF: Université Virtuelle du Burkina Faso

VEC: Virtual Environmental Challenge

GENERAL INTRODUCTION

Background of the Study

The English language is a fascinating and constantly evolving subject with a rich history and diverse variations spoken worldwide. According to the British Council, English is spoken by over 1.5 billion people globally and is the third most spoken language after Mandarin Chinese and Spanish¹. There are numerous dialects of English, such as British English, American English, and Australian English, that differ in pronunciation, grammar, and vocabulary, with some words having entirely different meanings depending on where they are used. Whether you are a native speaker or a learner, there is always something new to discover and explore in English.

The integration of the English language in African non-speaking countries is a growing trend that is changing the linguistic landscape of the continent. English is one of the most widely spoken languages in the world and is used as a global language of communication, business, and trade (Jiajing, 2007). Many African countries, including Burkina Faso, have recognised the importance of the English language and have taken steps to integrate it into their societies.

Historically, most African countries were colonised by European powers, such as France, Britain, Portugal, and Spain. As a result, many African countries inherited their colonisers' languages as the official languages of their countries. For example, most French-speaking African countries, including Burkina Faso, use French as their official language. This has made it difficult for African countries to integrate into the global community, where English is the dominant language (Ouédraogo, 2011).

One of the key areas where English is being integrated in Burkina Faso is education. English is now being taught in schools and universities across the country alongside

¹ www.britishcouncil.org

French (Coleman, 2013). This is partly due to the fact that many international organisations and companies require their employees to be proficient in English. Burkinabe students are being taught English to help them compete on the global job market.

Furthermore, the insertion of English in Burkina Faso is evident in the business and trade sectors. Many Burkinabe entrepreneurs are now using English to communicate with their international partners, customers, and suppliers. This is particularly true in the tourism industry, where many tourists from English-speaking countries visit Burkina Faso each year. By integrating English into their businesses, these entrepreneurs can better communicate with their customers and partners, ultimately increasing their chances of success.

The integration of the English language in Burkina Faso and other African non-speaking countries is a positive development that helps them better engage with the global community and ultimately, improve the lives of their citizens (Coleman, 2013). As the world becomes increasingly interconnected, the ability to communicate in multiple languages has become more critical than ever (McGrew, 1990). Given the increasing importance of English as a global language, using Information and Communication Technologies (ICT) in education has become essential to improve English language teaching and learning.

According to Lacroix (2005) and Karsenti (2009a), the development of ICT have revolutionised the education sector, transforming how students learn and how teachers teach. It has the potential to enhance the quality and effectiveness of education by providing students with access to vast resources, enabling them to engage in collaborative learning and improving the instruction (Ngnoulayé et al., 2013). Many researchers believe that ICT offers a suitable solution to the challenges of providing quality higher education and addressing educational gaps in developing nations (Kabore, 2009). Reports from both the OECD (2006) and UNESCO (2016) indicate the significance of this area, both economically and socially, suggests that technology will continue to shape the future of education.

One of the significant benefits of ICT in education is that it provides students with access to a wealth of resources beyond traditional textbooks and lectures. Students can access online databases, e-books, and other digital resources, allowing them to engage with the latest and most comprehensive information in their field of study (Ouédraogo, 2011). This access to information can help broaden their knowledge and deepen their understanding of the concepts they are learning.

ICT can also promote collaborative and interactive learning. Online discussion forums and other collaborative tools enable students to connect and engage in group projects, which can enhance their communication and problem-solving skills. This type of learning can be particularly beneficial for students who may not all have access to the same resources or come from diverse backgrounds.

In addition, ICT can also help overcome some of the challenges associated with traditional classroom learning. For example, it can provide students with more flexibility and accessibility, as they can access learning resources from anywhere and at any time. This can be particularly beneficial for students who may have difficulty attending traditional classes due to geographic, economic, or personal reasons.

Political authorities in Burkina also view ICT as a tool to enhance economic and social progress and transform Burkina Faso into a modern nation. In this regard, they have recognised the significance of incorporating digital tools into the education system and have implemented a law to support this initiative (MESSRS, 2003). The Orientation Law of Education, No 013-2007/AN of July 30, 2007, explicitly emphasises the use of ICT. Local initiatives are also underway to assist public universities in integrating ICT into their teaching and learning practices. This policy initiative is supported by various international partners such as the African Development Bank (BAD), the French Cooperation, and the University Agency of Francophonie (AUF). These development partners provide valuable support to higher education institutions in their desire to integrate ICT successfully in the teaching-learning process (Kaboré, 2021).

The use of ICT in language teaching and learning has become increasingly popular as it offers a range of benefits that can help students develop their language skills more effectively. Indeed, in the current context of globalisation, where international

communication is increasingly necessary, ICT have a crucial role, especially in teaching listening comprehension. It offers many possibilities for teaching listening comprehension.

Teaching listening comprehension is a critical component of language learning, as it enables learners to understand spoken language, communicate effectively in real-life situations, and improve their overall language proficiency (Weng et al., 2010). With the integration of ICT in education, teaching and learning listening comprehension have become more interactive, engaging, and effective.

Listening comprehension is an essential skill for effective communication in any language. By learning listening comprehension using ICT, learners can develop the skills to understand spoken language, communicate effectively, and improve their language proficiency.

ICT tools can encourage active learning, where learners can engage with the material and participate in the listening task. For example, interactive exercises and online quizzes can promote engagement and participation.

ICT tools can provide opportunities for autonomous learning, where learners can take charge of their learning process and work at their own pace (Higgins, 2015). For example, online listening materials and exercises can be accessed anytime and anywhere, giving learners flexibility and control over their learning. Using ICT tools to teach listening comprehension can enhance teaching effectiveness by providing teachers with the resources and tools to design practical listening tasks and exercises. Online platforms can also provide teachers with pre-made listening exercises and quizzes.

This doctoral thesis focuses on the challenges and perspectives of using ICT for teaching English at Université Joseph KI-Zerbo in Burkina Faso. Titled *Utilising ICT in English Language Teaching: Challenges and Perspectives for Joseph Université KI-Zerbo (UJKZ) in an International Collaborative Context*, it aims to delve into potential solutions and offer objective, scientifically supported arguments to facilitate critical analysis of the overarching issue. By focusing on the use of ICT in teaching English, this research endeavours to shed light on the challenges faced by students and to explore avenues for

improvement within the context of Université Joseph KI-Zerbo, fostering international collaboration as a key element.

Statement of the Problem

The issue I address in this dissertation raises essential questions about English teaching methods at Burkinabe University. It concerns the teaching of listening comprehension with the help of ICT. Indeed, listening comprehension is an essential aspect of foreign language learning, and teaching it can greatly improve students' communicative competence.

The ability to comprehend spoken language is a crucial component of second language acquisition. However, in many English as a Foreign Language (EFL) classrooms, listening comprehension is often overlooked and not given the same level of attention as other language skills, such as speaking, reading, and writing (Field, 2008). This is the case at Université JKZ, where listening comprehension is not taught to EFL students.

According to Vandergrift (2007), listening comprehension is a complex process that involves decoding the sounds of the language, understanding words and grammar, and making inferences about meaning. When students are not given the opportunity to practise these skills, they may struggle to understand spoken English, which can hinder their ability to communicate effectively in real-life situations.

Listening is a vital skill in any language-learning context. It is essential for classroom instruction, as students need to understand lectures, discussions, and instructions to participate in classroom activities effectively. Listening skills are also critical for communication outside the classroom, such as in job interviews, business meetings, and social situations.

Another reason why listening comprehension is essential for EFL students is that it can contribute to the development of other language skills. Research has shown a strong link between listening and speaking abilities. Students can improve their pronunciation, intonation, and speaking proficiency by practising listening comprehension (Field, 2008).

My interest in the issue of integrating listening comprehension teaching in higher education was sparked by several factors. Firstly, it has been observed that students' proficiency in English in the English department at Université Joseph KI-Zerbo is very weak (Palm, 2009; 2016). They struggle with English, despite taking phonetics, grammar, syntax, and phonology courses. Secondly, during my master's degree at Université Félix Houphouët Boigny (UFHB) in Ivory Coast and while visiting Université Gaston Berger (GB) in Senegal, I discovered the importance of listening comprehension for EFL students.

By comparing students from UJKZ, where listening comprehension is not taught, to those from UFHB and UGB, where it is taught during the first three years of their university studies, I gained valuable insight into the impact of this teaching method on oral competence. I was disappointed for the Université JKZ students, and especially for myself – I did a bachelor's degree in English without taking a single listening comprehension course in a language laboratory. I was then inspired to investigate Burkinabe students' potential challenges with listening comprehension and how teaching this skill can improve their abilities.

When considering ways to enhance the listening comprehension abilities of JZK students, I wanted to explore the use of language laboratories as used at Université Félix Houphouët Boigny and Université Gaston Berger. At the beginning of the thesis, my initial plan was to investigate the importance of language laboratories in an English studies department.

However, the rapidly changing nature of technology renders language lab-based learning processes obsolete. Recognizing this, I began exploring alternative approaches. During a discussion with my thesis supervisor, she recommended that I shift my focus and explore the use of digital tools for language teaching. She emphasised that the world is evolving at an unprecedented pace, and Information and Communication Technologies for Education (ICTE) are increasingly replacing traditional language laboratories. Consequently, she argued that language labs are no longer relevant and it is crucial to embrace ICTE instead. Inspired by our conversation, I made the decision to redirect my thesis towards utilising ICT in language teaching.

Research Objective

This research aims to analyse the effectiveness of listening comprehension teaching on EFL students' proficiency and the pedagogical integration of ICT in higher education in Burkina Faso. The specific objectives are as follows:

- Identify difficulties encountered by students in oral comprehension and the factors hindering students' oral comprehension;
- Evaluate the impact of listening comprehension instruction on EFL students' proficiency and the impact ICT has on its teaching;
- Assess the integration of ICT in higher education in Burkina Faso using the Virtual Environmental Challenge (VEC) project.
- Evaluate teachers' implication in the pedagogical integration of ICT in the JKZ education system.

Research Questions

In light of the specific objectives mentioned above, this study aims to address the following research questions.

Main Research Question: To what extent can teaching listening comprehension using ICT improve EFL students' proficiency, and how can ICT be pedagogically integrated into higher education in Burkina Faso through an international collaborative project?

Secondary Research Questions

What are the main difficulties EFL students encounter in oral comprehension, and what factors hinder their ability to comprehend spoken English?

How effective is listening comprehension instruction in improving EFL students' proficiency, and to what extent does the use of ICT enhance the impact of this instruction?

In addition to addressing the previous questions, this study also places significant emphasis on the practical aspect of examining the integration of ICT in EFL teaching within higher education in Burkina Faso, particularly through the project known as the Virtual Environmental Challenge (VEC). The research aims to investigate the extent to which the VEC project can facilitate this integration and to analyse the effects this integration will have on student learning outcomes. By considering the practical implications of the VEC project, this study aims to provide valuable insights into the role of ICT in enhancing EFL instruction and its impact on students' academic achievements.

The preceding inquiries prompt me to reflect on the following question: how are teachers involved in integrating ICT into higher education in Burkina Faso? By taking a step back and considering this question, we delve into the crucial role teachers play in effectively integrating ICT tools and methods into the educational landscape of Burkina Faso's *higher* education system. This examination seeks to uncover the implications, challenges, and opportunities that arise when teachers embrace and incorporate ICT in their pedagogical practices, thereby shedding light on the broader impact on educational outcomes and the overall advancement of higher education in Burkina Faso.

Research Hypothesis

The primary purpose of this research is to examine whether the introduction and teaching of listening comprehension using ICT can help students in the English department at Université JKZ improve their English proficiency. To achieve this goal, three hypotheses were formulated.

Hypothesis 1: EFL students in Burkina Faso face difficulties in oral comprehension due to various factors, such as lack of exposure to English outside the classroom, inadequate teaching methods, and insufficient financial and documentary resources.

Hypothesis 2: The integration of ICT in teaching listening comprehension can have a positive impact on EFL students' proficiency in Burkina Faso.

Hypothesis 3: The use of ICT-based teaching approaches such as the VEC project can facilitate the pedagogical integration of ICT in higher education in Burkina Faso for EFL teaching, thus improving students' listening comprehension skills.

Significance of the Study

The use of ICT in higher education represents a significant challenge for universities and other educational institutions. ICT offers opportunities to develop innovative pedagogical practices and to facilitate student learning. However, the integration of ICT in higher education remains a challenge, particularly in developing countries such as Burkina Faso.

In this context, this study plays a crucial role not only in assessing ICTE's effectiveness and its impact on student learning, but in understanding the factors that influence its adoption by teachers and students. The research also helps identify good practices and barriers to overcome and to integrate ICTE in higher education successfully.

Implementing distance learning facilities following the Covid-19 pandemic in developed countries such as France has shown the importance of using ICTE to ensure educational continuity. In Burkina Faso, efforts are being made to integrate it into higher education². My research can help evaluate the effectiveness of these facilities and identify the limitations and advantages of distance education.

Regarding the use of ICT for teaching English listening comprehension at Université Joseph KI-Zerbo, my research work is significant because until now, no study has been conducted on the integration of ICT for teaching listening comprehension in the curriculum of students learning English as a foreign language. My investigations can therefore help fill a gap in research on ICT use in Burkina Faso's higher education system. In particular, my work can help identify factors that promote or hinder the adoption of ICTE for teaching English listening comprehension at UJKZ.

² [\(see Chapter 3.4.1\)](#)

Finally, it should be emphasised that research is an ongoing process, and that the results of a study can inspire new research questions and projects. My research can therefore serve as a starting point for future research and contribute to the continuous improvement of the quality of higher education in Burkina Faso.

Articulation of the Study

This thesis has been divided into eight chapters. They are logically sequenced to address the research problem:

The first chapter presents the education system in Burkina Faso, with a focus on higher education, while the second one focuses on teaching and learning English in Burkina Faso, highlighting the difficulties students encounter in this area. The third chapter examines ICT in higher education in Burkina Faso. The fourth chapter outlines the theoretical framework that supports this research, including the concepts of collaborative learning, peer tutoring, challenge-based learning, and distance education.

The fifth chapter of the dissertation provides a comprehensive overview of the Virtual Environment Challenge (VEC) project, which serves as the chosen ICT-based teaching project for testing my set of hypotheses. By examining the intricacies and characteristics of the VEC project, this chapter establishes a foundation for investigating its effectiveness in achieving the research objectives.

In the sixth chapter, the research methodology employed to evaluate the impact of ICT on enhancing students' English listening comprehension is outlined. This chapter details the procedures, data collection methods, and analytical techniques utilised to assess the effectiveness of incorporating ICT in this specific area of language learning.

Moving forward, the seventh chapter analyses the results of the VEC experiment and the accompanying student questionnaire. By examining the data collected through these means, this chapter aims to draw meaningful insights, interpret the findings, and uncover patterns or correlations that contribute to the overall understanding of the research problem.

Finally, the eighth chapter offers a comprehensive discussion of the results, providing insights into the implications, and suggesting perspectives for future research. Additionally, this chapter offers recommendations for effectively integrating ICT into English language teaching in Burkina Faso.

Each chapter of the dissertation is interconnected, drawing upon existing literature, empirical data, and result analysis to address the research problem comprehensively.

CHAPTER 1

EDUCATION SYSTEM IN BURKINA

FASO

Introduction

This first chapter provides an in-depth analysis of the education system in Burkina Faso. I begin by outlining its structure and then concentrate on higher education, which is the primary focus of my research. My discussion will cover the objectives, significance, and challenges various stakeholders face in the education system. I will also examine the reforms implemented to improve the quality of higher education in Burkina Faso and compare it with the education systems in neighbouring countries. I will explore the impact of the Covid-19 pandemic on the education system throughout this chapter.

Burkina Faso is a landlocked country situated in the heart of West Africa, covering an area of 274,400 square kilometres. It shares borders with several neighbouring countries: Mali to the northwest, Niger to the northeast, Benin and Togo to the southeast, Ghana to the south, and Côte d'Ivoire to the southwest. Its geographic location places it at the crossroads of the Sahel and the Sudanian Savanna, influencing its climate and natural environment.

With a high population growth rate of 2.4% per year, Burkina Faso has experienced significant demographic expansion. As of 2020, the estimated population of the country was approximately 20,835,401 inhabitants. This rapid population growth poses various challenges to the country, including increased pressure on resources and infrastructure as well as the need to provide essential services to a growing number of people.

Despite its vibrant culture and rich history, Burkina Faso faces significant development challenges. It is considered one of the least developed countries in the world, with a development index of 0.45. This index takes into account factors such as income, education, and health, among others, to assess a country's overall level of development. Burkina Faso's low index reflects the existing socio-economic disparities and the need

for comprehensive development strategies. Poverty is a persistent issue in Burkina Faso, with nearly 45% of the population living below the poverty line. Economic opportunities are limited, particularly in rural areas, where agriculture is the main source of livelihood. The lack of access to quality education, healthcare, and infrastructure further exacerbates the challenges faced by the population.

The average life expectancy in Burkina Faso is estimated to be around 52 years, which is relatively low compared to global averages. Various factors contribute to this relatively short life expectancy, including limited access to healthcare services, a high prevalence of infectious diseases, and inadequate nutrition.

One of the factors affecting Burkina Faso's development is the lack of abundant natural resources. The country relies heavily on agriculture, particularly subsistence farming, as its main economic activity. Limited natural resources and vulnerability to climatic hazards, such as droughts and desertification, further impede economic growth and exacerbate food insecurity.

In Burkina Faso, education faces significant challenges, and the country has one of the lowest literacy rates in the world. Literacy rates decline significantly as one progresses through the educational system, highlighting the barriers and disparities that exist in accessing quality education.

According to the 2018 United Nations Development Programme (UNDP) Country Literacy Ranking Report, the literacy rates in Burkina Faso are relatively low across all educational levels. At the primary level, the literacy rate is estimated to be around 72%. This means that only about 72% of the population has basic reading and writing skills. However, as students transition to the secondary level, the literacy rate drops significantly to approximately 22%. This decline indicates the limited opportunities for further education and the challenges faced by students in accessing and completing secondary education.

The situation becomes even more challenging at the tertiary level, with literacy rates ranging between 4% and 6%. This means that only a small percentage of the population has access to higher education and possesses advanced literacy skills. The low tertiary

enrollment rates reflect the limited number of universities and higher education institutions in the country, as well as the economic constraints and limited opportunities for further education.

According to the UNDP report, Burkina Faso ranks 179th out of 182 countries in terms of literacy rates. The general literacy rate in the country is estimated to be around 36 %, underscoring the significant gaps in educational attainment and the need for targeted interventions to improve literacy rates across all levels.

The low literacy rates in Burkina Faso can be attributed to various factors. Firstly, there are challenges related to access and infrastructure, particularly in rural areas where educational facilities are scarce. Limited resources, inadequate school infrastructure, and a shortage of qualified teachers pose significant obstacles to providing quality education.

Socioeconomic factors also contribute to low literacy rates. Poverty, especially in rural areas, often leads to families prioritising immediate economic needs over investing in education. This results in low school enrollment rates and high dropout rates, particularly among girls and marginalised groups.

Furthermore, cultural and gender norms can influence access to education. Traditional gender roles and societal expectations may limit educational opportunities for girls, perpetuating gender disparities in literacy rates. Addressing these cultural barriers and promoting gender equality in education are crucial steps towards improving literacy rates in the country.

The Burkinabe government recognises the crucial role of education in promoting socio-economic development and has made it a priority through its education system. The importance of education in Burkina Faso's development goals is highlighted in the National Economic and Social Development Plan (PNADES)³ for 2014–2023. The PNADES plan emphasises the need to produce responsible, productive, and creative citizens who can actively contribute to the development of their country⁴.

³ Plan National de Développement Economique et Social (PNADES)

⁴ (Ministère de l'Économie, des Finances, et du Développement, 2015).

However, despite these efforts, the education system in Burkina Faso remains underdeveloped and faces numerous challenges. According to the UNESCO Institute for Statistics, two-thirds of Burkinabe individuals aged fifteen and above are not enrolled in school and lack basic literacy skills (UNESCO Institute for Statistics, 2021). This indicates a significant gap between the official policy⁵ mandating primary education for all Burkinabe children between the ages of six and sixteen (Ministère de l'Éducation Nationale, de l'Alphabétisation et de la Promotion des Langues Nationales, 2009) and the actual enrollment rates and literacy levels in the country.

The underdevelopment of the education system in Burkina Faso can be attributed to various factors. Limited access to education, particularly in rural areas, is a significant challenge. Many schools lack proper infrastructure, such as classrooms and sanitation facilities, and are situated far from communities, making it difficult for children to attend school regularly (World Bank, 2019). Economic constraints and poverty also contribute to low enrollment rates, as families often prioritise immediate economic needs over investing in education (World Bank, 2019).

To address these challenges, the Burkinabe government has implemented various initiatives. The Education Development Plan (2016–2020) aimed to improve access, quality, and governance in the education system, with a particular focus on increasing enrollment rates and reducing disparities⁶.

Additionally, efforts have been made to promote inclusive education and expand opportunities for girls and marginalised groups (World Bank, 2019).

⁵ Law n° 013-2007 / AN on the orientation law of education in Burkina Faso

⁶ (Ministère de l'Éducation Nationale, de l'Alphabétisation, et de la Promotion des Langues Nationales, 2016).

1.1. Structuration of the Education System in Burkina Faso

In accordance with Law N°013-2007 / AN of June 4, 2007, which outlines the orientation law of education in Burkina Faso, the education system in Burkina Faso is categorised into formal, non-formal, informal, and specialised education types.

Formal education is a structured educational system developed by government institutions, encompassing educational activities in schools, universities, and vocational training settings. It includes primary education from preschool to post-primary and secondary and higher education. Evaluation of the learning or the skills acquired is performed, with diplomas being awarded for the successful completion of these evaluations. The law in Burkina Faso stipulates that primary education is compulsory for all children aged six to sixteen years.

Non-formal education, typically established and executed by non-governmental organisations (NGOs) working with or without the state, involves educational and organised activities outside the formal education system, such as youth organisations, sports clubs, and community centres. These settings provide opportunities for young people and children to engage in projects, artistic activities, sports, or academic skill-building⁷. The aim of non-formal education is to reduce illiteracy while providing access to education for those who do not have access to primary education due to socio-economic limitations. Non-formal education also aims to promote national languages.

Informal education encompasses learning acquired by chance or diffusely in family, traditional and religious communities, civil society organisations, political parties, social groups, mass media, life events, and street performances (Ouedraogo et al., 2020, p. 11). It is not structured or organised regarding objectives, time, and content, as is the case for formal education. Although education is mandatory, many people in Burkina Faso lack access to primary and secondary education. Thus, a vocational training system has been

⁷ <https://fondationdaniellemitterrand.org/quest-leducation-non-formelle/>

established in parallel with initial education to address this discrepancy between policy objectives and reality⁸.

Specialised education comprises a set of education and training activities intended for individuals with physical, sensory, or mental disabilities or those facing difficulties in personal adaptation and social integration, to facilitate their adjustment and social integration (Ouedraogo et al., 2020, p. 11). In principle, the education system should enable people with disabilities or reduced mobility to find their place in society, to have an active life, and to participate in the country's socio-economic development. However, in Burkina Faso, these individuals are often neglected, leading many to resort to begging, ultimately becoming a burden on the community.

⁸ This observation raises a certain number of questions: when was the political will to set up a parallel system of vocational training established? Is this system sufficient, and what results has it achieved so far?

1.2. Higher Education in Burkina Faso

According to the PNADES (2014-2023), higher education in Burkina Faso admits individuals who hold diplomas or titles indicating the completion of their studies. It encompasses universities and both public and private higher institutes, and is divided into two or three cycles, depending on the educational and training sector. The primary objective of higher education in Burkina Faso is to provide the country with highly skilled leaders capable of managing economic and social development effectively.

The University of Ouagadougou was founded in April 1974⁹ and initially had only 393 students enrolled. The University's fundamental aim was to generate and disseminate knowledge, to conduct research and training, to meet the country's requirements by providing personnel in all sectors, and to enhance economic and social conditions in each region. Prior to the establishment of the University of Ouagadougou, higher education was provided by institutions outside of Burkina Faso.

Over the years, there has been a 10 to 15% annual increase in the number of students, leading to a need for additional educational facilities to cater to the population's demands. Therefore, the authorities decided to decentralise higher education by creating universities, university centres, and public higher education institutes to accommodate young graduates. Currently, there are 104 higher education institutions in Burkina Faso (MESRSI, 2017), with 36 being public institutions (35 universities and one high school) and 110 being private institutions (27 universities and 83 high schools). Of these, 588 sectors are functional, including 176 in the public sector and 412 in the private sector. Between 2007 and 2017, the number of educational institutions increased from 50 to 146,

⁹ By order n°74/031 of April 19, 1974. Initially, it was the only university in Burkina Faso

with the private sector playing a significant role in the expansion, having grown from 31 to 110 establishments.

Despite a low enrolment rate in higher education (4 to 6%), each year, higher education welcomes 16,000 to 20,000 new students (PNADES: 2014–2023). This increase in the number of Burkinabe students can be attributed to the fact that university education represents the key to a successful life for most Burkinabe. Parents, who consider their children as an investment, exert pressure on them to attend university at all costs, which has led to the development of private educational institutions, as the public sector has been unable to meet the national demand for higher education.

As of October 2000, higher education institutions are distributed across five out of the thirteen regions in Burkina Faso, with 20 public and 29 private higher education institutions. The private sector is booming in higher education, and it contributes to the expansion of the training supply to meet the strong educational demand. However, many of these institutions require monitoring and organisation because most private promoters lack practical knowledge of the educational profession and do not always adhere to the guidelines established by the State to ensure the quality of training. To address this, the African and Malagasy Council for Higher Education (CAMES) has proposed a set of terms of reference specifying the criteria and regulations for creating private higher education institutions.

1.3. Objectives and Importance of Higher Education in Burkina Faso

In accordance with Law No. 13-2007/AN on the orientation of education, the primary objectives of higher education in Burkina Faso are to provide a high level of education, foster scientific and technical research, and disseminate culture and scientific and technical information.

To achieve these objectives, the higher education system aims to increase access to education for all students with the capacity and willingness to pursue higher education. This is to be achieved by expanding the number and capacity of infrastructure such as amphitheatres and classrooms, and by diversifying the training offered at the university level. Strengthening human resources by recruiting teachers, administrative staff, and technical support staff is also an important step towards achieving this objective.

Ensuring the quality of higher education is another critical goal, which is to be achieved by implementing the Bachelor Master Doctorate (LMD) system that was adopted for all university-level training during the national symposium organised from 26th to 28th May, 2011. This is meant to put an end to the traditional graduation system and to improve the pedagogical environment for students and teachers. Integrating information and communication technologies into the higher education system and enhancing the professional skills of teachers through training are additional ways to achieve this goal.

Developing research and academic cooperation is another crucial objective of higher education in Burkina Faso. The intention is to improve students' study conditions by providing access to social services, preventing violence, drug abuse, and incivility in the university environment; by providing information, support, advice, and guidance; and by strengthening the institutional capacities of the structures in charge of social work. Strengthening the governance of higher education through the strengthening and financial

autonomy of universities, managing human resources, and training is also essential to provide accessible and high-quality education to all students.

It is noteworthy that the primary objective of higher education in Burkina Faso is to reinforce the economic and social development of the country by training future leaders. Nonetheless, the higher education system is confronted with several challenges that affect the quality of education and achieving the set objectives

1.4. Challenges in Higher Education

Higher education plays an essential role in the socio-economic development of Burkina Faso. However, the sector faces many challenges, particularly concerning teachers, students and administration. These challenges affect the quality of teaching and research and the development of students' skills. These challenges call for concerted efforts from the government, higher education institutions, and other stakeholders to address them and to ensure quality education for Burkinabe students. They occur at various levels, such as student, teacher, administrative and state levels.

1.4.1. At the State and Administrative Level

At the administrative and state level, the higher education system in Burkina Faso faces significant challenges that hinder its ability to meet the educational needs of its population effectively. These challenges encompass governance issues, funding constraints, infrastructure deficits, quality assurance concerns, limited access, and the pressing inadequacy of infrastructure and equipment. Furthermore, the system is grappling with exponentially growing student admission, exacerbating the strain on resources and the existing challenges. Understanding and addressing these obstacles are crucial for the sustainable development and advancement of higher education in Burkina Faso. This section will delve into these challenges, examining their impact and implications on the state and administrative levels of Burkina Faso's higher education system.

One of the primary challenges in Burkina Faso's higher education system lies in governance. The state's role in policy formulation, coordination, and oversight is crucial (Ouedraogo et al., 2020). However, political instability and frequent changes in government leadership have hindered the establishment of consistent policies and

strategies. The absence of long-term planning and of a clear vision has resulted in an inefficient system that struggles to adapt to emerging educational needs.

Insufficient funding also poses a significant challenge. The Burkinabe government allocates a limited portion of its budget to the education sector, with a disproportionate emphasis on primary and secondary education. This leaves higher education institutions with meagre financial resources to meet the growing demands for quality education. The lack of adequate funding affects infrastructure development, recruitment of qualified faculty, research activities, and the provision of necessary teaching and learning resources.

Burkina Faso's higher education system suffers from significant infrastructure deficits (CAR, 2012). Many institutions lack adequate classrooms, laboratories, libraries, and other essential facilities. This not only hampers effective teaching and learning but also restricts research and innovation opportunities. Inadequate physical infrastructure also contributes to overcrowding, limiting the number of students that can be accommodated, and thus compromising the overall quality of education.

Ensuring quality education is a crucial aspect of any higher education system. However, Burkina Faso faces challenges in establishing effective quality assurance mechanisms (Ouedraogo et al., 2020). Limited resources and institutional capacity hinder the implementation of robust accreditation systems and evaluation processes. The absence of quality insurance frameworks can lead to disparities in educational standards, thereby compromising the credibility and relevance of degrees awarded by higher education institutions in the country.

Access to higher education in Burkina Faso remains limited, particularly for marginalised populations, such as women, rural communities, and low-income individuals. Socioeconomic factors, including poverty, cultural barriers, and geographic location, hinder equitable access to educational opportunities. Additionally, limited spaces in higher education institutions constrain the number of students who can enrol. As a result, talented individuals are often excluded from pursuing higher education, perpetuating social and economic inequalities.

One of the challenges pertains to the inadequacy of infrastructure and equipment, which is characterised by the poor management of classrooms for theoretical classes and practical work. As a result, educational activities are not effectively delivered, causing an accumulation of delays in higher institutions and conflicts between teachers and students. The management of infrastructure is also affected by a lack of appropriate logistics such as electronic management systems. Additionally, there is a lack of office space for teachers and equipment in laboratories, which adversely affects fields that require experimentation.

Another challenge is managing the exponentially growing number of student admissions. Higher education institutions are not adequately prepared to handle the enrolment in terms of classroom capacity. According to the 2020/2021 Higher Education Dashboard, student enrolment is growing at an annual rate of 11.9. The number of students per 100 inhabitants increased from 424 in 2011/2012 to 884 in 2020/2021. These numbers show that the number of students is growing exponentially while higher education institutions are not prepared to handle this enrollment in terms of classroom capacity.

Type d'institution	Amphithéâtres		Bibliothèques		Laboratoires		Pavillons		Salles de cours		Salles informatiques		Effectif d'étudiants
	Nombre	Capacité Théorique	Nombre	Capacité Théorique	Nombre	Capacité Théorique	Nombre	Capacité Théorique	Nombre	Capacité Théorique	Nombre	Capacité Théorique	
Universités publiques	45	18 840	37	1 953	109	2 324	15	17 125	364	26 859	35	1 089	149 297
Universités privées	12	2 980	13	695	18	576	1	60	266	16 101	16	583	12 538
Instituts/Grandes écoles publics	4	1 800	3	114	6	240	0	0	82	5 460	4	100	7 377
Instituts/Grandes écoles privés	24	5 724	61	2 490	45	1 021	2	100	820	51 830	80	2 451	21 006
Total	85	29 344	114	5 252	178	4 161	18	17 285	1 532	100 250	135	4 223	190 218

Table 1: Distribution of public and private higher education institutions teaching accommodation by type and theoretical capacity. Source: DGESS/MESRSI, 2020/2021 annual statistical survey.

Moreover, the integration of information and communication technologies (ICT) into the educational system poses a challenge, as it requires significant structural changes and constraints. Despite efforts to do so, there is a need to align universities in Burkina Faso with international standards. Another challenge pertains to the application of the Bachelor's Degree Master's Degree (LMD) reform, which faces obstacles such as student

mobility across universities, inflexibility of teaching programs and methods, and lack of human and financial resources.

1.4.2. At the Student Level

Burkina Faso's population primarily comprises young people. For a country's economic development, the youth must be equipped with the necessary resources for social and economic success. However, in Burkina, a mere 4 to 6% of the population has access to higher education, resulting in only 289 students per 100,000 inhabitants, or a rate of 0.289%. This is significantly lower than the UNESCO standard of 2%. Low representation may be attributed to two main factors: the Burkinabe government's prioritisation of basic education over higher education and the limited availability of higher education. Consequently, students are forced to attend classes in inadequate conditions, hindering their academic success.

Student life in Burkina Faso is marked by several challenges, which significantly impact the overall educational experience, including inadequate material and working conditions, overcrowded lecture halls, limited access to internet connectivity, insufficient social aid, and poor quality meals in university restaurants. These poor conditions contribute to a high repetition rate among students.

Besides, one of the primary challenges faced by students in Burkina Faso is inadequate material and working conditions. Lecture halls, which often lack proper infrastructure and facilities, are frequently overcrowded. This can hinder effective teaching and learning. Furthermore, insufficient ventilation systems may lead to discomfort and to difficulty concentrating for students, particularly in regions with high temperatures.

Another issue is the limited access to internet connectivity. In many cases, students may not have reliable internet access on campus, making it difficult to conduct research, access online resources or participate in online learning platforms. This lack of connectivity can be a significant hindrance to academic progress and staying up to date with coursework.

Furthermore, the social aid allocated to students in Burkina Faso is often insufficient. Financial support systems for students, such as scholarships or grants, may not adequately cover the cost of tuition fees, accommodation, food and other essential expenses. This financial strain can impede students' ability to fully focus on their studies and may force some to seek part-time employment to make ends meet, further impacting their academic performance.

The university restaurants in Burkina Faso also face challenges. These establishments often have a low capacity, resulting in long waiting times and difficulty accessing meals. Additionally, the quality and quantity of meals served may be inadequate, affecting students' nutrition and overall well-being.

These challenging study conditions in Burkina Faso contribute to a high repetition rate among students. Students may struggle to cope with the difficult learning environment, leading to lower academic performance and a higher likelihood of repeating courses or even dropping out. Poverty also hinders students from attending university due to financial constraints.

Furthermore, some graduates may have to give up their studies to take public service exams, but with limited positions, many applicants end up jobless. It is unfortunate that unemployment is a pervasive issue in Burkina, and many young people aspire to improve their living conditions and support their families by securing a position in the civil service or by going abroad to continue their studies. For example, in 2009, for 3,500 available jobs, there were 370,000 registered applicants (PNADES: 2014–2023).

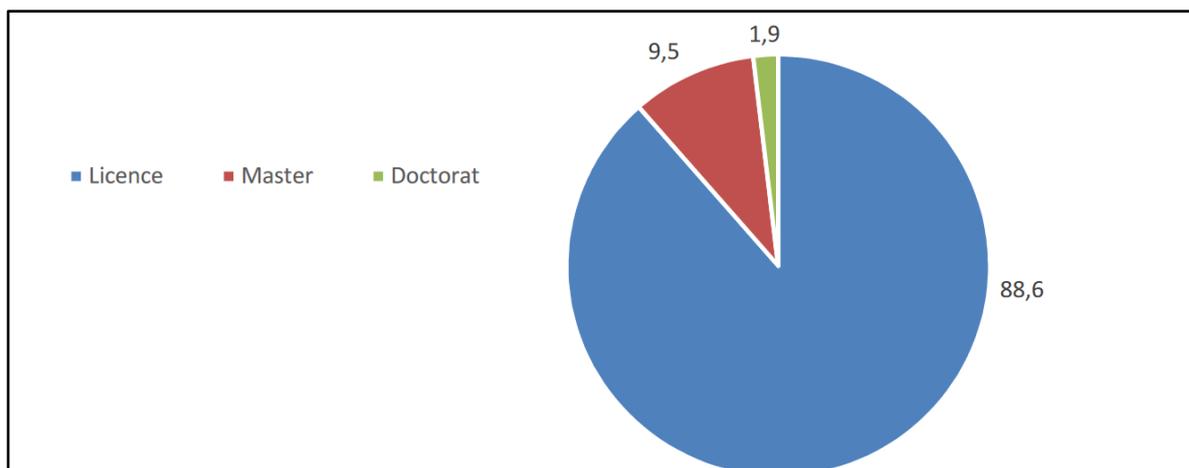


Figure 1: Distribution (%) of students by academic discipline. Source: DGESS/MESRSI, 2020/2021 annual statistical survey.

The distribution of students by cycle in Burkina Faso indicates that a relatively small percentage of university students pursue advanced studies beyond the undergraduate level. Only 9.5% of students continue their education to pursue third-cycle studies, typically referring to Master's degree programs, while an even smaller minority, approximately 1.9% of university students, proceed to complete a PhD. To provide a comparison with developed countries like France and the United States, it is important to note that the educational landscape and opportunities differ significantly between Burkina Faso and these countries.

In developed countries such as France and the United States, the higher education systems are generally more robust and offer a wider range of academic options. In France, for instance, pursuing third-cycle studies, including Master's programs, is more common among university students. Many students choose to pursue specialised Master's degrees in their respective fields of interest. Moreover, a significant proportion of students in France continue their education further to complete doctoral studies (PhD), leading to a higher percentage compared to Burkina Faso. Similarly, in the United States, pursuing advanced degrees beyond the undergraduate level is a well-established pathway for many students. Master's programs are prevalent and pursued by a considerable number of students seeking specialised knowledge and expertise in their chosen fields. Additionally, the United States has a strong tradition of doctoral education, with a larger percentage of students pursuing PhD programs compared to Burkina Faso.

These differences in educational attainment between Burkina Faso and developed countries can be attributed to various factors, including disparities in access to resources, funding, infrastructure, and the overall development of higher education systems. Limited resources, economic challenges, and educational infrastructure constraints in Burkina Faso also contribute to the lower percentage of students pursuing advanced degrees compared to developed countries.

Additionally, the diplomas offered by higher education institutions in Burkina do not align with the country's economic requirements, as evidenced by the distribution of

students by field of study. Specifically, a small percentage of students study agriculture, service, education, health and social welfare, while engineering dominates. This information is based on the MESRSI annual statistical survey of 2020/2021.

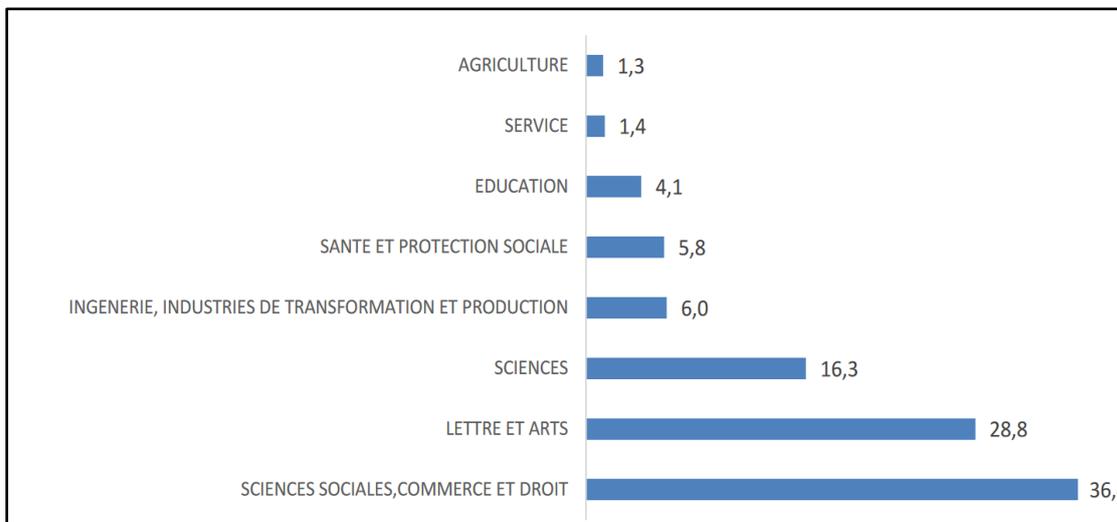


Figure 2: Distribution of students by field of study. Source: DGESS/MESRSI, 2020/2021 annual statistical survey.

The 2018 survey on the living conditions of Burkinabe reveals that the majority of workers in Burkina are engaged in agriculture, hunting, forestry, and fishing (67.4%). This is followed by mining and quarrying (4.8%), manufacturing (3.2%), construction (1.9%), trade, repairs, and domestic activities (17.1%), hotels and restaurants (0.6%), transport and auxiliary activities (0.7%), financial activities (0.6%), real estate, renting, and business services (0.7%), and public administration, social education, and health (2.6%)¹⁰.

However, it is concerning that despite this, graduates cannot find suitable employment that compensates for their educational investment due to a mismatch between the fields of study chosen by students and the sectors of activity where most jobs are available. As a result, a majority of graduates remain unemployed.

¹⁰ INSD, Enquête Burkinabé sur les conditions de vie des ménages 2018

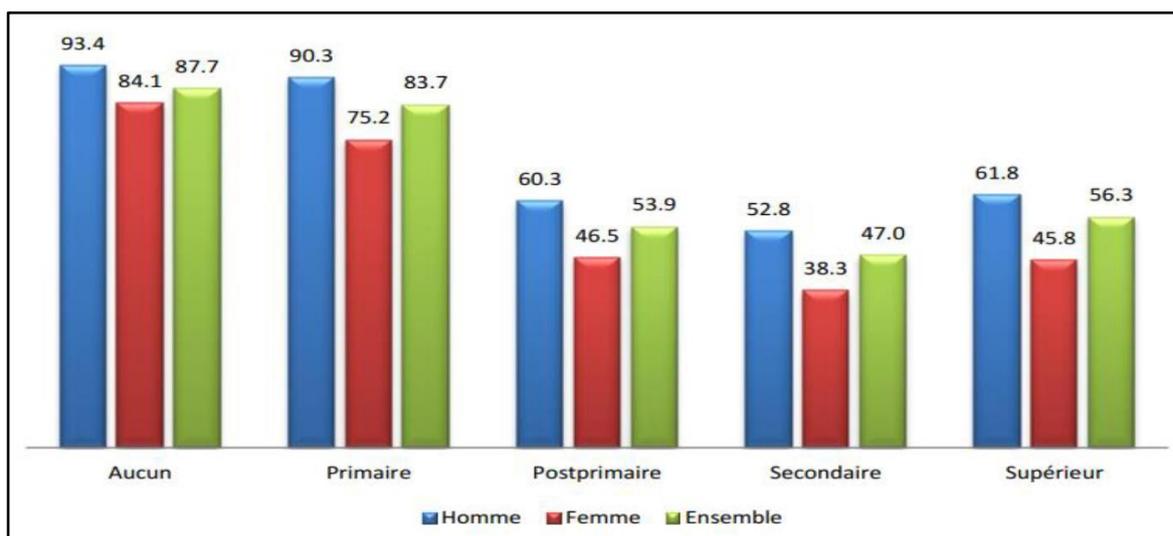


Figure 3: Employment rate by education level. Source: (TBS, 2017; INSD, 2015), National Survey on Employment and the Informal Sector.

According to a study by Ouedraogo et al. (2017), individuals with no education¹¹ have the highest employment rate at 87.7%, followed by those with primary education at 83.7%, post-primary education at 53.9%, secondary education at 47.0%, and higher education at 56.3% (Ouedraogo et al., 2017, p. 30). This implies that fewer opportunities are available for those with higher education diplomas, as individuals occupy most jobs without education. Additionally, the number of senior and middle management positions is only around 900 per year, less than a third of the number of university graduates (PNADES: 2014–2023: 21).

To address this challenge, President Captain Ibrahim Traoré made a commitment to the university community and students, during his visit at Joseph Ki-Zerbo University in Ouagadougou on 17 January 2023,. He pledged to establish a comprehensive information and guidance system that would provide insights into employment opportunities in higher education and research institutes. On 26 May 2023, he went to Yendabili to launch this initiative, named the Skills Assessment and Guidance (BCA)¹².

During the launch ceremony, President Captain Ibrahim Traoré emphasised the growing concern about integrating young graduates into the job market. He highlighted that the

¹¹ That is to say, who have not been taught to read and write.

¹² Bilan de Compétences et Accompagnement (BCA)

government of Burkina Faso had implemented measures in recent years to facilitate access to education, resulting in a significant increase in university enrollments.

President Captain Ibrahim Traoré also noted that the evolving job market demands a new concept of the university. Rather than merely awarding diplomas, universities should focus on imparting practical knowledge tailored to specific professions.

The President observed that many young graduates entering the job market are unaware of the actual opportunities available to them. To address these shortcomings, he stressed the necessity of establishing local mechanisms that facilitate access to information and guidance for integration opportunities. He explained that the BCA office within higher education and research institutions offers an operational solution to support students in developing and realizing their professional and employment goals.

The primary objective of establishing the BCA offices is to inform students about job market opportunities, characteristics, and requirements. Additionally, these offices aim to assist students in conducting skills assessments and guide them in defining their career paths. President Captain Ibrahim Traoré mentioned that the initial phase of implementing the BCA offices would involve fourteen (14) public universities and will gradually expand to include both public and private higher education and research institutions by 2025.

Higher education institutions are mainly located in large cities, and only four of Burkina Faso's 15 regions have such institutions. As a result, students from cities without universities face problems finding accommodation. One of the main challenges faced by students with no family in town is finding affordable accommodation. Private accommodation is often much more expensive than what is available at the CROU. Unfortunately, unlike other developed countries, Burkina Faso does not allow students to work while studying to support themselves financially. As a result, many rely on their parents and the National Fund for Education and Research (FONER) for support. As more and more students are becoming aware of these challenges, they search for creative ways to meet their needs while finishing their studies and searching for employment.

1.4.3. At the Teachers' Level

Higher education is crucial in developing a nation's socioeconomic status, and Burkina Faso is no exception. The vital role of teachers in training future generations of professionals, researchers, and leaders should be noticed. Their contribution goes beyond just imparting knowledge; they also provide their students with mentorship, guidance, and inspiration. However, for teachers to effectively fulfil these roles, they require adequate support, both financially and professionally. The quality of higher education can only be ensured by addressing the challenges faced by teachers, who are the backbone of any education system. These challenges can significantly affect the quality of teaching, of research, and of the development of student skills. In this section, I will take a closer look at the specific challenges higher education teachers face in Burkina Faso.

The Higher Education Dashboard 2020/2021 reveals that there are 8,758 teachers who work in higher education. Of this number, 3,047 are from the public sector while the remaining 5,711 are from the private sector. Out of the total, 767 are women and 7,991 are men. There has been an increase of 1,283 teachers compared to the previous year. However, they face challenges due to unsatisfactory working conditions such as inadequate financial and material resources, lack of teacher training, poor incentives for research, lack of recognition and motivation, low salary and an unbalanced teacher-student ratio faced by teachers in Burkina Faso higher education.

One of the significant difficulties facing university teachers in Burkina Faso is the lack of adequate financial and material resources. Teachers' salaries are often insufficient to meet their requirements, which can negatively impact their motivation and commitment. To remedy this situation, the government must prioritise higher education funding. Additionally, an investment must be made to improve teachers' salaries, modernise infrastructure and provide adequate teaching and research resources. In addition, teaching infrastructure and equipment need to be updated, which limits the opportunities for quality teaching and research.

Another major challenge facing higher education teachers in Burkina Faso is the lack of pedagogical training. Many teachers are recruited primarily for their research skills and do not receive adequate training in teaching and assessment methods (Ouédraogo et al.,

2020). This can lead to uneven teaching quality and limit student engagement. There is a need for teacher training programmes for higher education teachers to enhance their teaching and assessment skills. These programmes should also encourage the use of new technologies in teaching, which could improve the learning experience for students.

Research is an essential part of higher education, but teachers in Burkina Faso often face challenges in conducting quality research. Lack of funding and resources, as well as heavy teaching loads, limit research opportunities. In addition, the academic promotion system does not sufficiently value research, reducing teachers' incentive to engage in research. It is crucial to create a research-friendly environment by providing adequate financial support for research projects, by encouraging collaboration between teachers and research institutions, and by implementing promotion policies that recognise and reward research achievements.

University teachers in Burkina Faso are often faced with a lack of recognition and motivation. Their contributions to society and their role in training students are not always sufficiently valued. In addition, limited career prospects and the absence of performance recognition mechanisms contribute to teacher motivation decline. To remedy this, it is crucial to implement recognition and reward mechanisms for teachers who excel in their field. In-service training, professional development, and career advancement opportunities should also be provided to boost teacher motivation and commitment.

One of the significant challenges facing higher education teachers in Burkina Faso is the low salary. Compared with other countries in the sub-region, such as Senegal, Côte d'Ivoire and Mali, higher education teachers in Burkina Faso generally receive lower salaries. This income disparity can lead to problems of motivation and job satisfaction among teachers and can also contribute to a brain drain to other countries offering better opportunities. Therefore, the government of Burkina Faso should pay particular attention to increasing higher education teachers' pay. This could involve a review of salary scales, specific bonuses for high-calibre teachers and better budget allocation for the higher education sector. It is also important to stress that improving salaries should not be considered in isolation.

The teacher-student ratio is also a major challenge in higher education in Burkina Faso. At 109 students per teacher, it is much higher than the UNESCO standard of 25 students per teacher. Consequently, they are overwhelmed with teaching responsibilities and have to deal with overcrowded classrooms, making it difficult to give proper attention to students and to correct their papers. This negatively affects the internal efficiency of the educational system, teacher-researchers' performance, and students' academic progress. Increasing the number of students without a corresponding increase in the number of teachers can have a negative impact on student learning, as teachers may find it difficult to meet individual requirements and provide adequate supervision. This affects the availability of lecturers for research and for the supervision of memoirs and theses.

In addition, innovative pedagogical approaches can be implemented to optimise existing resources. For example, information and communication technologies can enable online training and distance learning methods, which can help widen access to higher education while reducing pressure on teachers.

In a study conducted with Geer (2021) on optimising Learning Management System (LMS) online course spaces in Burkina Faso, he created the graph below, highlighting the correlations between problems that students, professors, and the administration faced, which led to the desire to implement an LMS. For him, these urgent issues facing the Burkinabe education system require immediate attention to prevent further challenges.

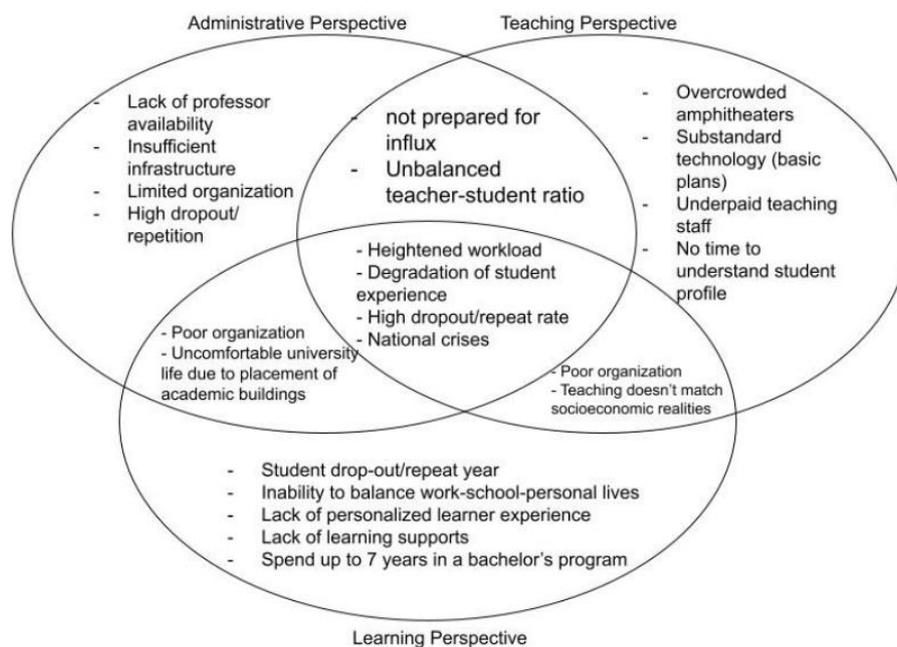


Figure 4: Diagram detailing correlations between problems faced by principal actors in education. Source: Geer, 2021: 25

Thus, the education system has encountered many obstacles that have necessitated the implementation of reforms aimed at improving its overall quality. The following section delves into the specifics of these reforms and evaluates their efficacy in achieving their intended goals.

1.5. Reforms in Burkina Faso's Higher Education System

Reforms play a pivotal role in shaping and revitalising higher education systems, enabling countries to meet the evolving demands of the globalised world. The Burkinabe government has not always prioritised the higher education sector, instead focusing on basic education. Given the numerous challenges that higher education has been facing for decades, the Burkinabe government has realised that the country's socio-economic development depends on the success of the higher education sub-sector. Consequently, it has committed itself to making higher education a national priority and ensuring a stable future for public universities.

Over the years, the government and educational stakeholders have embarked on a series of comprehensive reforms to address the challenges faced by universities and to enhance the quality, accessibility, and relevance of higher education. To this end, it has developed a National Action Plan for the Development of Higher Education¹³ in order to provide prospects to face the challenges of the higher education system. The PNADES' objective is that 'by 2023, Burkina Faso will have a democratic, efficient and inclusive higher education system, open to the sub-region and the world, enabling individuals to acquire skills that will contribute to the socio-economic development of the country.'¹⁴

This plan constitutes the reference for programming, monitoring and assessing the programs and actions that are undertaken over the period 2014–2023. One of the fundamental aspects of this reform has been the focus on improving governance structures and processes. Efforts have been made to enhance policy formulation, coordination, and

¹³ Plan National d'Action pour le Développement de l'Enseignement Supérieur (PNADES)

¹⁴ The translation: À l'horizon 2023, le Burkina Faso dispose d'un enseignement supérieur démocratique, performant et inclusif, ouvert sur la sous-région et le monde, permettant à l'individu d'acquérir des compétences à même de contribuer au développement socio-économique du pays. (PNADES : 2014–2023)

oversight at the national level. The government has implemented measures that promote transparency and accountability and that increase stakeholder participation in decision-making processes. This includes establishing regulatory bodies and developing strategic plans to guide the growth and development of the higher education system.

One of the key objectives of the reforms is to improve the quality and relevance of higher education in the country. This includes increasing the number of graduates with skills that are in demand in the labour market, such as in the fields of science, technology, engineering, and mathematics (STEM). To achieve this goal, the government has invested in building new universities and expanding existing ones, as well as in teacher training and curriculum development.

Another focus of the reforms is to increase access to higher education for students from disadvantaged backgrounds. The government has introduced various measures to reduce existing financial barriers, such as increasing the number of scholarships available and providing financial aid to students from low-income families.

The reforms also aim at improving the country's governance and management of higher education institutions. This includes promoting transparency and accountability in allocating and using resources and strengthening the capacity of universities to manage their affairs and make effective decisions. (PNADES: 2014–2023)

Curriculum Development and Relevance: Burkina Faso has undertaken curriculum reforms in its higher education institutions to address the changing needs of society and the labour market. Emphasis has been placed on enhancing the relevance of programs and aligning them with national development priorities. The curricula have been reviewed and updated to integrate emerging disciplines, technology, and interdisciplinary approaches. This ensures that graduates have the knowledge and skills necessary to meet the demands of a rapidly evolving job market.

Investment in Infrastructure: Recognising the importance of adequate infrastructure, Burkina Faso has prioritised investments in developing and improving higher education facilities. Efforts have been made to expand and upgrade classrooms, laboratories, libraries, and other essential amenities. Infrastructure projects have aimed to address the

existing deficits, to accommodate the growing student population and to create conducive learning environments that foster innovation and research.

The government has implemented measures that encourage research activities, establish research centres, and enhance collaboration between higher education institutions, industries, and other stakeholders. Efforts have been made to provide funding and incentives for research projects, to improve research infrastructure, and to enhance the capacity of faculty members and students to engage in research.

The government has taken significant steps to enhance higher education in Burkina Faso. These measures include a substantial increase in teachers' salaries and the construction and equipping of vital infrastructure such as doctoral schools, classrooms, lecture halls, and laboratories. Furthermore, teachers have been allocated offices, and the virtual university and Thomas Sankara University have been established. Integrating new information and communication technologies through digital workspaces and teacher training in ICTE has also played a crucial role in securing a bright future for higher education in Burkina Faso.

Conclusion to Chapter One

In this first chapter on the educational system of Burkina Faso, I have first reviewed the structure of the Burkinabe educational system presenting higher education in Burkina, which is the focus of my study, and its objectives and importance. I then pointed out the challenges it has been facing for decades. Finally, I enumerated the reforms undertaken by the government to improve the accessibility and quality of higher education.

It emerges from this analysis that the education system in Burkina Faso, like any other education system, is structured into formal, non-formal, informal and specialised types of education.

Burkina Faso is one of the least literate countries in the world, with enrollment rates that decrease considerably as one progresses through the education system (72% in primary school, (22%) in secondary school, and 4 to 6% in higher school, compared to developed countries such as France, which have a rate of 99.2%.

According to the orientation law on education, primary education is compulsory for all children aged between six and sixteen, though unfortunately, in practice, this is far from being the case, given the high illiteracy rate in the country. Two-thirds of Burkinabes aged fifteen and up are not in school and do not have basic literacy skills.

The government of Burkina Faso, aware of the importance of education in the socio-economic development of a country, has made education a priority by aiming through its education system to train responsible, productive and creative citizens capable of participating actively through their skills in the development of their country (PNADES: 2014–2023).

It should be noted that the higher education sector has not always been a priority for the Burkinabe government, which has focused more on basic education. Therefore, the number of students has been increasing by 10 to 15% per year. This exponential increase has led the authorities to decentralise higher education by creating universities, university centres and public institutes of higher education that can accommodate young people after their baccalaureate, as the University of Ouagadougou could no longer meet the training demand of the population.

Moreover, the principal aim of higher education is to foster equal and inclusive access, ensuring that all students with the aptitude and aspiration to pursue it have the opportunity to do so. This goal is accomplished by providing new infrastructural resources, such as lecture halls and classrooms, and expanding existing ones. However, higher education in Burkina Faso confronts various political, economic, and social hurdles that detrimentally impact its quality and accessibility. Inadequate funding, restricted entry to higher education institutions, insufficient infrastructure, limited scholarship opportunities, and substandard teaching are among the challenges the higher education sector faces. The curricula offered in certain institutions are also perceived as incongruous with the demands of the job market, resulting in a discrepancy between the skills acquired by graduates and the labour market's requirements.

Furthermore, students in Burkina Faso encounter numerous challenges that significantly hinder their academic experience, particularly due to insufficient material resources and working conditions. Lecture halls suffer from overcrowding, possess inadequate ventilation systems, and lack reliable internet connectivity. Additionally, the social support provided to students is inadequate, and the university dining facilities have limited capacity, offering low-quality and insufficient meals. This situation is further exacerbated by the unavailability of teachers to adequately supervise students' work, which can be attributed to a shortage of teachers or to the excessive workload placed on existing faculty members. These unfavourable study conditions contribute to a high rate of academic repetition among students and compel those with the means to do so to pursue their studies abroad before returning to work in Burkina Faso.

Regarding these challenges that higher education has been facing for decades, the government of Burkina Faso has realised that the country's socio-economic development depends on the success of the higher education sub-sector. It is therefore committed to making higher education a national priority by adopting reforms to meet the challenges it faces and to improve the quality of education and the conditions of work, teaching and learning. The reforms implemented in Burkina Faso's higher education system reflect a commitment to address the challenges and unlock the potential of higher education for national development. Through governance reforms, curriculum development, infrastructure investments, research promotion, and inclusivity measures, Burkina Faso has taken significant strides towards building a more dynamic and responsive higher education system. However, sustained efforts and collaboration among the government, educational institutions, and other stakeholders are essential to ensure these reforms' successful implementation and long-term impact.

In conclusion to this first chapter, it is crucial to acknowledge that the education system in Burkina Faso has been influenced by prominent individuals who have made significant contributions to its intellectual and cultural landscape. Notably, Norbert Zongo, a Burkinabe journalist and writer, played a crucial role in promoting education and freedom of expression in Burkina Faso. In particular, he founded the newspaper "L'Indépendant" and fervently advocated education for all. Additionally, Joseph Ki-Zerbo, a historian and politician, significantly contributed to developing Burkina Faso's national consciousness and identity. He actively promoted educational reform by advocating for a pan-African approach to teaching history and by emphasising the importance of valuing African cultures. Thomas Sankara greatly emphasised education during his presidential tenure, recognising its fundamental significance. He implemented policies to enhance educational accessibility for all Burkinabe citizens, mainly by prioritising literacy and education for women. Yacouba Isaac Zida, a Burkinabe general and politician, played a crucial role during Burkina Faso's political transition in 2014–2015. In this context, he prioritised educational reform and implemented measures to improve teaching quality and to strengthen the education system.

While the specific influence of these figures in Burkina Faso may differ from figures like Jules Ferry in France or Horace Mann and John Dewey in the United States, their

intellectual contributions and advocacy for African history and culture have left a lasting impact on the higher education system in Burkina Faso. Such influential figures' presence highlights visionary thinkers' role in shaping education systems worldwide. Their ideas and contributions have shaped curricula, pedagogical approaches, and cultural perspectives within their respective contexts. These legacies inspire and guide educational practices, fostering a more inclusive, holistic, and culturally grounded approach to learning and knowledge dissemination.

As I delve deeper into the characteristics of the education system in Burkina Faso, it is important to note its distinct differences compared to the French or American education systems. One notable difference is the level of decentralisation. While the French system is highly centralised and the American system is decentralised, Burkina Faso's system falls somewhere in between. The Ministry of National Education and Literacy establishes the national curriculum and standards, but there is also a significant level of autonomy at the regional and local levels. This allows for adaptation to regional needs and promotes a sense of local ownership in the education process. Additionally, Burkina Faso's emphasis on vocational training and practical skills aligns with the country's focus on developing a skilled workforce to contribute to its economic growth.

Understanding these distinct characteristics and influences is crucial for comprehending the complexities and nuances of the education system in Burkina Faso. By recognising the contributions of visionary thinkers like Joseph Ki-Zerbo and by drawing parallels with influential figures in other educational contexts, we gain a deeper appreciation for the multifaceted nature of education and its impact on societies. This sets the stage for further exploration of the challenges, opportunities, and future directions of education in Burkina Faso.

CHAPTER 2

ENGLISH TEACHING/LEARNING

IN BURKINA FASO

Introduction

This chapter is essential for individuals with an interest in English language teaching and learning in Burkina Faso. It explores the reasons behind the incorporation of English into the education system, highlights its significance, and examines the teaching methods employed. Additionally, it delves into the challenges encountered in teaching and learning English in Burkina. Lastly, the chapter thoroughly examines the current status of teaching listening comprehension in English as a foreign language classes, not only in Burkina, but also in other countries.

Burkina Faso is a country known for its cultural diversity, with approximately sixty ethnic groups, each with its own language. This linguistic diversity poses challenges for communication and integration among the different ethnic groups. To address this, Burkina Faso has adopted French as the official language and language of instruction, as it was a former French colony. French serves as a *lingua franca*, facilitating communication and fostering national unity.

In addition to French, English is also taught as a foreign language in Burkina Faso. The purpose of English language teaching in the country is multifaceted. Firstly, English is recognised as a global language and an essential tool for international communication, trade, and diplomacy. By offering English language instruction, Burkina Faso aims to equip its citizens with the skills necessary to engage with the global community and take advantage of opportunities in an increasingly interconnected world.

English language teaching also serves as a means of expanding educational and professional opportunities for Burkinabe students and professionals. English proficiency can enhance employment prospects, particularly in sectors such as tourism, international organisations, and business. Additionally, English language skills can facilitate higher

education opportunities abroad and enable access to a wider range of academic resources and networks.

English is a West Germanic language that originated in England and is now widely spoken as a first or second language in many parts of the world. It is the third most spoken language in the world, after Mandarin Chinese and Spanish, and is the most widely spoken language in the world in terms of the number of countries where it is an official language or the language of instruction in schools.

English is the language of international business, science, and technology. It is the language of the internet and has become the lingua franca of global communication, and is the primary language of many international organisations, including the United Nations, the International Olympic Committee, and the International Red Cross.

The English language is constantly evolving and adapting to new contexts and uses. There are many dialects of English, each with its own unique vocabulary, grammar, and pronunciation. Variations of English include American English, British English, Australian English, Canadian English, and many others.

As emphasised earlier and further supported throughout my analysis in this chapter, learning English offers a multitude of advantages. These include enhanced career prospects, expanded access to information and resources, and the ability to effectively communicate with individuals from diverse cultural backgrounds. Furthermore, proficiency in the English language is frequently a prerequisite for university admission and to obtain numerous professional certifications.

2.1. Purpose and Importance of English Teaching in Burkina

English teaching has become increasingly important in Burkina Faso due to the country's globalisation efforts and the growing demand for English proficiency in various sectors of the economy. English is the most widely spoken language in the world, and it is the language of international business, science, and technology.

Teaching English in Burkina began in 1947 and for many years was only taught only in post-primary and secondary schools. Nowadays, however, it is taught at universities and in private language centres. Other foreign languages, such as Italian, German and Spanish, have also been taught, and students have had the choice between these foreign languages to conform to the school program, but since then, learning English has been compulsory for all students.

The purpose of English teaching in Burkina Faso is to provide students with the skills and knowledge needed to communicate effectively in English. English is an important language in the global market, and proficiency in the language is increasingly becoming a requirement for many jobs in the country. By studying it, students are able to improve their employability and gain access to better job opportunities.

It is imperative to recognise that in the beginning, there was no official text that defined the objective of English teaching in Burkina as well as other foreign languages; it was only in December 1983 that Emmanuel Y. Dadjouari, the then Minister of Education, Arts and Culture, noted the lack of efficiency in the teaching of foreign languages, indicating in the circular N°105/MENAC/ICESD dated December 1st, 1983 that:

(...) From now on, teaching modern languages: German, English, Arab, etc., should, besides the knowledge and a certain acquaintance of the language community's civilisation and their literature, mainly aim at

acquiring a solid linguistic competence. This means that the objective of this teaching should not only be the mastery of the language rules but also and mainly the ability to communicate fluently in the language. (...)

Apart from the objectives stated in the 1983 circular:

every learner at the end of a given cycle should be able to hold normal communication with a native peer of the same level and in the syllabi: to express oneself both orally and in writing, to discover aspects of the literature and civilisation of the peoples whose languages are taught¹⁵,

there is no reference framework like that of the Common European Framework of Reference for Languages¹⁶ (CEFR) that clearly defines the objectives of foreign language teaching in European countries. Studies by Coleman (2013: 66) and Sanon (2022: 34) show that the objectives of English language teaching are expressed in very general and ambitious terms, which makes it difficult to identify with precision the objectives pursued by the language teaching programs and their impact on personal and community development.

Otherwise, English teaching in Burkina Faso serves the purpose of promoting cultural exchange and understanding (Christian & Souleymane, 2010). The English language is not only a tool for communication but also a means of gaining insight into different cultures and ways of thinking. Through English classes, students in Burkina Faso are exposed to different cultures, ideas, and perspectives, which can broaden their understanding of the world and help them become global citizens.

English teaching is essential for students who want to pursue higher education abroad. Many universities in English-speaking countries require applicants to demonstrate a

¹⁵ The translation: *s'exprimer à l'oral comme à l'écrit, découvrir des aspects de la littérature et de la civilisation des peuples dont les langues sont enseignées.*

¹⁶ The CEF is a language reference tool for all member states of the Council of Europe and of the European Union. It is an international standard for describing language proficiency used worldwide to describe learners' language proficiency. It presents a comprehensive descriptive scheme of language proficiency and a set of common reference levels (A1 to C2) detailed in descriptor scales. It also provides options for designing programs that promote plurilingual and pluricultural education.

certain level of proficiency in English. By providing students with high-quality English language instruction, Burkina Faso's education system is preparing them for the demands of international study.

The importance of English teaching in Burkina Faso cannot be overstated. In today's global economy, English proficiency is a prerequisite for many jobs in the private sector, government, and international organisations. Additionally, the ability to communicate effectively in English is becoming increasingly important for the country's economic development (Crystal, 2003).

Moreover, English teaching in Burkina Faso can potentially enhance the country's reputation on the global stage (Christian & Souleymane, 2010). As the country continues to engage with the international community, proficiency in English can help Burkina Faso to build stronger partnerships and collaborations with other countries.

2.2. State of English Teaching in the Burkinabe Education System

Within the broader context of Burkina Faso's education system, it is crucial to delve into the specific state of English teaching, particularly at the secondary school and university levels. Understanding the current landscape of English instruction in Burkina Faso is essential in order to identify the challenges and opportunities that exist in this domain. By examining the state of English teaching in the Burkinabe education system, we can gain valuable insights into the specific areas that require attention and improvement. In the following sections, I will further explore the specific findings and implications related to English teaching in both secondary schools and universities in Burkina Faso.

2.2.1. At Secondary School

According to Burkina Faso's curriculum, English is taught to students throughout their secondary education, or for a total of seven years. According to the program, the content of the lessons is based on the acquisition of correct pronunciation of grammatical mechanisms, the progressive enrichment of vocabulary, and the exploitation of authentic materials allowing functional use of the language (Christian & Souleymane, 2010, p. 14). The number of hours devoted to English classes is 5 hours for Form I and Form II and 3 hours for Form III, Form IV, Form V, Lower Sixth and Upper Sixth.

English teachers for the first and second cycles are recruited through different methods. They can either be recruited after completing four and a half years of higher education and professional preparation and then be admitted to the Certificat d'Aptitude au Professorat de l'Enseignement Secondaire (CAPES). Alternatively, or they can obtain the Certificate of Pedagogical Aptitude for Teaching in General Education Colleges (CAP-CEG) with the level DEUG 2. They can be directly recruited as Certified Teachers of high

schools and colleges with bachelor's degrees. To support and help teachers succeed in teaching English, syllabi are designed and provided to guide them in their tasks.

Given these mechanisms, students should be able to communicate fluently in English after high school. Unfortunately, it has been observed that after learning English for seven years, students cannot express themselves in English. They lack interest and enthusiasm in learning and acquiring English. They start learning English with great motivation and energy in Form I, but by the time they reach Form IV, this energy tends to disappear (Adjanakou, 2018). The worst point is that these students give the impression of having forgotten everything they learned since Form I, while according to the circular N°105/MENAC/ICESD of December 1, 1983, 'every learner at the end of a given cycle should be able to hold a normal communication with a native peer of the same level'.

In addition, in observing some students' attitudes towards English language learning, many see English as a subject where they need to get good grades on a summative assessment rather than as a language that can help them find work and communicate. I also noticed that both outside of the classroom and in English class, students do not speak English; they communicate more in French and their local languages instead (Tekpeti & Awokou, 2022, p. 8).

An analysis of exam results in Burkina Faso indicates unsatisfactory results in English language instruction in public schools. Indeed, according to Coleman (2013),

An analysis of the college English final exam results in Burkina Faso between 2005 and 2009 shows that 80% of candidates scored less than 9 out of 20 on the written English exam, and the most frequent score given was 4 out of 20. On the English oral exam, about 50% of candidates scored 10 out of 20. There is no information on how these scores can be interpreted regarding actual proficiency, but they generally indicate unsatisfactory results.¹⁷

¹⁷ The translation: 'une analyse des résultats de l'examen final du collège en anglais au Burkina Faso entre 2005 et 2009 montre que 80% des candidats ont obtenu une note inférieure à 9 sur 20 à l'écrit d'anglais et la note la plus fréquemment attribuée était de 4 sur 20. A l'examen oral d'anglais, environ

These difficulties are due to the fact that English teaching is more oriented towards writing, there is no oral evaluation in English except during the exams of the Brevet d'études du premier cycle (BEPC) and the baccalaureate, teaching activities are not diversified, and teaching methods are teacher-centred with little active collaboration between teachers and their learners and between learners themselves (Zongo et al., 2009). The amount of time allocated to English courses is not sufficient to allow students to master this language. It is five hours per week for Form 1 and Form 2 and decreases by two hours from Form three to the Upper Sixth, knowing that the administrations of some schools reduce time volume according to their program. It goes without saying that in large classes, not all students have the opportunity to express themselves or to participate in educational activities; the daily use of French strongly influences the acquisition of English so much that outside the classroom, students do not speak English (Tekpeti & Awokou, 2022: 7). Indeed, some students hate English because of teachers whose teaching methods are unsatisfactory. According to the new recruitment system, teachers are recruited with just a bachelor's degree, that is to say, after three years spent in the English department, to start teaching directly.

Based on observations during class visits and inspections, most English teachers in Burkina Faso focus primarily on teaching grammar and reading, and those who attempt to incorporate productive activities often face challenges. A survey of pupils revealed that most struggle to formulate correct sentences in English and lack the confidence to communicate effectively. This is due to limited access to effective teaching tools and methods and a lack of ICT in language instruction. As a result, many students feel uncomfortable expressing themselves in English due to fear of making mistakes.

50% des candidats ont obtenu une note de 10 sur 20. Il n'y a aucune information sur la manière dont ces notes peuvent être interprétées en termes de compétences réelles, mais elles indiquent en général des résultats insatisfaisants.'

2.2.2. At Universities

English is a subject taught in higher education, whether in public or private institutions, across all fields of study. Various departments even offer specialised training programs in English, such as at Université JKZ, where the Department of English Studies, the Department of Translation and Interpretation, and the Department of Languages Applied to Tourism and Business all provide such programs.

As stated above, teaching English in higher education improves students' abilities to communicate in English, access English-written documents, succeed in the international job market, and have a global perspective. English proficiency is a valuable asset for a successful career. Therefore, universities offer English for Specific Purposes (ESP) courses to equip students with relevant skills. Different linguists have developed ESP curricula and syllabi to provide learners with suitable teaching and learning materials that meet their needs (Nunan, 1992; Palm, 2021: 24).

It is essential to underscore that students reach higher education with accumulated gaps in English because they have not acquired the necessary skills mentioned above. Because the objectives of English language teaching in Burkina Faso are not clearly defined, the impact of seven years of learning on students' linguistic competence is not apparent. As a matter of fact, in the English curriculum at the university level, in addition to ESP classes taught according to the field of study, grammar and basic notions are always reviewed as if English were being taught for the first time, despite that fact that these notions were supposed to have been mastered by the end of high school. The amount of time allocated to English courses at university varies according to the institution of higher education; realistically, students spend around 30 hours, of which 20 hours are lectures and 10 hours are exercises. This amount of exposure to English is insufficient for students to master and speak English fluently.

Concerning English departments, where all students are expected to be proficient in English by the end of their university degree, the situation is alarming. Studies have shown that the level of oral performance of students in English is deficient (Palm, 2021, p. 24), and after three years (Bachelor's level) or five years (Master's level) spent learning

English, students have difficulty expressing themselves fluently. For some, this failure is due to the inadequacy of the teaching programs' content and the teaching methodology/approach adopted (Palm, 2021). For others, it is due to the quality of the teaching aids used in EFL classrooms (Malgoubri, 2019, p. 13). The curriculum in English language departments is based essentially on grammar, syntax, phonetics, phonology and American and British literature and civilisation. These notions seem insufficient or are taught in a way that does not allow students to master English. In light of this observation, Bancé (2019) suggests revising the curriculum of future English teachers. For this purpose, he states that

In the English department, we have noticed that we do general English. What would be interesting is to redirect this English to specific types of English, for example, mining English, industrial English, agricultural English, and English in animal breeding.

It is consequently a matter of choosing among various options that seem best suited to the future of learners in the different domains in which they may be required to use English: professional, educational, public and personal (Ollivier, 2019, p. 4). It would be interesting and beneficial to focus the practice of English on specific fields rather than on general English, which apparently has no future in Burkina.

When comparing the proficiency of Burkinabe students to that of students from Ivory Coast and Senegal, a noticeable difference can be observed. The latter possess a good command of English and are able to express themselves effectively in the language. Upon examining the teaching methods, it is clear that listening comprehension is taught during the first three years in the English departments of Senegal and Ivory Coast. In contrast, this module is absent in Burkina Faso. This raises concerns about whether the absence of this course in Burkina's English departments is the primary reason for the weak performance of Burkinabe students. As a result, it is crucial to find solutions to enhance the quality of English language instruction in higher education, particularly in English departments. Graduates from these departments become high school, college, and university English teachers. If the teachers are not proficient in English, it will inevitably impact the quality of education provided.

2.3. English Teaching/Learning Methods in the Burkinabe Education System

English, as mentioned above, is taught in Burkina as a foreign language. According to circular N°105/MENAC/ICESD of December 1, 1983, the objective of this teaching was the mastery of the language rules and mainly the ability to communicate fluently in the language. To this end, a teaching program is developed by the actors in charge of education and made available to teachers to help them in their tasks and to prepare them to conduct teaching/learning activities in their classrooms. However, the widespread use of English in the social, political, economic and commercial international spheres requires non-English-speaking countries like Burkina to revise their English language syllabi to meet the requirements of the global economy (Somé-Guiébré, 2018).

In this regard, Burkina's education policymakers have revised the English as a Foreign Language (EFL) curricula from middle school to high school in the hopes of helping students acquire communicative competence (ibid, 2018). The latest revised version dates back to the year 2010. The new curriculum indicates the contents to be taught, the objectives to be pursued, and the methodological approaches to be adopted, as illustrated by examples of pedagogical sheets (Christian & Souleymane, 2010, p. 5). It is built in line with the Inclusive Pedagogical Approach (IPA), whose main goal is the integration of the learner in his or her social, cultural and linguistic environment by advocating interculturalism and multilingualism (Sanon, 2014).

Regarding English teaching methods, several have since been adopted such as the grammar-translation approach and the audio-linguistic approach. They proved to be unsuccessful in helping students develop communicative competence in English, and policymakers instead adopted the communicative language teaching (CLT) approach in 1980. *Communicative language teaching* is defined as 'a set of principles about the goals of language teaching, how learners learn a language, the kinds of classroom activities that best facilitate learning, and the roles of teachers and learners in the classroom' (Richard, 2006: 2), and is, therefore, the current method used for EFL teaching in Burkina.

It should be noted that the authorities' objectives in adopting the CLT approach seem not to have been met. Indeed, when I consider the failure of students to communicate fluently after having learned English for seven years and the answers they give in written and oral exams, many they uncover students' difficulties in communicating in English become obvious. This may be due to the teaching practices (including the lack of listening comprehension, which is essential in learning a foreign language) and/or the teaching and learning conditions, such as the size of the classes¹⁸, the teachers' lack of experience in CLT practices or the limited time allocated to learning English teaching

Thus, it can be seen that the objective of the authorities through communicative language teaching does not seem to be achieved. Indeed, when I consider the failure of students to communicate fluently after learning English for seven years and the learners' responses to written and oral exams, I find, more often than not, the difficulties of students in communicating in English. It may be due to teaching practices (including the lack of listening comprehension, which is essential in learning a foreign language) and/or teaching and learning conditions such as class size¹⁹ or teachers' lack of experience in CLT practices. The perception that this failure is due to teachers' lack of experience is highlighted by (Deckert, 2004, p. 12) in the following terms:

Some reports attribute the approach's failure to the teachers' inadequacies. (Karavas-Doukas, 1996), in her study of 101 local secondary school teachers of English in Greece, concludes that part of the problem stems from the instructors' misunderstanding of the very nature of Communicative Language Teaching (CLT). Thus, she found that teachers tended to revert to traditional teacher-centred routines even when using textbooks designed for communicative activities. (Kumaravadivelu, 1993). Drawing on teaching experience in India as

¹⁸ The official measures limit the maximum number of pupils per class to seventy (70) in the first cycle and to sixty (60) in the second cycle, but many schools exceed these numbers (Gaméné, 2009: 9). As for universities, the number of students turns around six hundred (600) to one thousand (1000), and sometimes more.

¹⁹ The official measures limited the maximum number of pupils per class to seventy (70) in the first cycle and to sixty (60) in the second cycle, but many schools exceed these numbers (Gaméné, 2009: 9). As for the university, the number of students turns around six hundred (600) to thousand (1000) and sometimes more.

well as North America concludes that teacher trainers sometimes simply fail to equip teachers with the skills and techniques they need for implementing CLT in their classrooms.

It is clear that teachers' poor knowledge of the teaching approach can greatly affect the learning process. As a matter of fact, I wonder whether teachers are even trained in the skills needed to use the CLT approach in their classes before starting to teach English. They might need more assistance and adequate material to carry out CLT activities in their classroom appropriately. They might also need training in teaching listening comprehension, which is missing in the teaching program.

2.4. Listening Comprehension in EFL Teaching

The present discussion pertains to my own personal experience and focuses on the topic of listening comprehension in EFL teaching. After completing a bachelor's degree, I enrolled in the Master's program at Félix Houphouët Boigny University, located in Ivory Coast, where I spent two years in the English department. I was initially surprised to see the words 'only English spoken here' written on the doors of the department's administration office. During classes and conversations with fellow students, I was further impressed by the students' excellent command of the English language and their ability to speak fluently. This observation led me to question the difference in English language proficiency between students at Université Joseph KI-Zerbo, from which I had previously graduated.

Subsequently, I came to the realisation that there was a significant gap between the EFL teaching methods used in Burkina Faso and elsewhere. This was a general observation, as all the students I interacted with or heard speaking English exhibited a high level of proficiency and were eager to communicate in English. Further inquiry revealed the presence of a language laboratory equipped with computers and headphones, where students were provided with listening comprehension classes for the first three years of their English language studies. The students further disclosed that passing the listening comprehension class was a prerequisite for progressing to the next level.

A similar observation was made during my stay at Gaston Berger University in Senegal, where students in the English department also demonstrated a high level of English language mastery. Upon inquiring with these students, I received almost identical responses to those obtained from the students at Félix Houphouët Boigny University. From this observation, I concluded that proficiency in the English language cannot be achieved without exposure to and practice in listening to native speakers. Consequently,

I decided that my doctoral research would focus on the teaching of listening comprehension.

2.4.1. Defining listening and listening comprehension

Listening plays a crucial role in our understanding of the world and is essential for successful communication. To comprehend the concept of listening comprehension, it is necessary to first define listening itself. Purdy (1997) describes listening as the process of receiving, understanding, and responding to both verbal and non-verbal messages. Rost (2002) defines it as a complex process that involves interpreting information by connecting it with existing knowledge. Goss (1982) emphasises that listening entails understanding and organising the information heard into meaningful units. These definitions collectively illustrate that listening encompasses active engagement with spoken language to perceive the intended meaning.

Listening comprehension involves the ability to understand and make sense of what is being heard. It goes beyond merely hearing the sounds and words; it involves the processing and interpretation of the spoken language to extract meaning. As individuals listen, they employ various cognitive processes to decode the sounds, recognise words and grammar, and make inferences about meaning.

Purdy's (1997) definition highlights the interactive nature of listening comprehension, as it involves not only receiving and understanding the information but also responding appropriately. Effective listening comprehension enables individuals to engage in meaningful interactions and exchange ideas, contributing to successful communication.

Rost's (2002) definition emphasises the connection between listening comprehension and prior knowledge. To understand spoken language, individuals draw upon their existing knowledge, experiences, and linguistic competence. By connecting the new information to their pre-existing knowledge, listeners can make sense of the spoken discourse and derive meaning.

Listening comprehension is a fundamental aspect of language understanding, referring to the ability to comprehend and make sense of spoken language. Brown and Yule (1983) define listening comprehension as the situation in which a person understands what they hear. Nadig (2013) describes it as a process involving the understanding and interpretation of spoken language, encompassing the knowledge of speech sounds, word meanings, and sentence structures. Chastain (1971) highlights that listening comprehension involves the ability to understand native speakers at an average speed in unstructured situations, emphasising the importance of comprehending spoken language in real-world contexts.

Neisser (1976) views listening comprehension as a temporally extended activity, emphasising that it unfolds over time as the listener anticipates and predicts what will come next in the speech. This highlights the active engagement and continuous processing involved in understanding spoken language. According to Goss (1982) and Samuels (1984), listening comprehension is a process in which the listener constructs meaning from the information provided by the speaker. It involves decoding and organising the auditory input, connecting it with existing knowledge and experiences to derive meaning.

Listening comprehension is a multifaceted cognitive process that has been extensively explored and defined by numerous researchers. These definitions collectively emphasise that listening comprehension encompasses the various mental operations involved in comprehending spoken language in a typical communication setting.

According to (Richards, et al., 2000),

listening comprehension is the process of understanding speech, and it concentrates on the role of linguistic units such as phonemes, words, and grammatical structures and the role of listener's anticipations, the situation and context, previous knowledge, and the subject.

It includes the recognition of the speech sounds, the understanding of the meaning of each word and the understanding of the syntax of the sentences. Moreover, listening comprehension extends beyond the mere decoding of linguistic units. It also incorporates the listener's anticipation, which involves making predictions and inferences based on

contextual cues and prior knowledge. The situational and contextual factors surrounding a communication act, such as the physical environment, social dynamics, and cultural background, also influence the listener's understanding.

According to Barker and Watson (1984), listening comprehension has four aspects: sensing, interpreting, evaluating, and responding. Sensing involves understanding both verbal and non-verbal messages while interpreting refers to the process of understanding. Evaluating involves distinguishing between fact and opinion and agreeing or disagreeing with the speaker. Finally, responding involves verbal and non-verbal cues to react to a message.

2.4.2. The Importance of Listening Comprehension in Learning a Foreign Language.

Listening comprehension holds significant importance in the context of foreign language learning, as it is a key component in the development of learners' overall language proficiency. As a crucial skill, it stands out among the four main areas of communication skills, namely listening, speaking, reading, and writing. Pourhosein and Ahmadi (2011) assert that listening is the most vital skill among these areas. While all the skills are interconnected and contribute to language acquisition, listening comprehension takes precedence due to its foundational nature.

The centrality of listening comprehension can be attributed to several factors, according to Field (2008). Firstly, listening serves as the primary means through which learners are exposed to the target language in authentic contexts. By engaging with spoken language, learners gain exposure to natural speech patterns, intonation, and vocabulary usage, facilitating their understanding of the language in its real-life applications.

Secondly, listening comprehension plays a crucial role in the development of oral proficiency. By actively listening to native or proficient speakers, learners can absorb and imitate correct pronunciation, intonation, and other aspects of spoken language, thereby enhancing their speaking skills. Listening acts as a bridge that connects learners to native

or proficient speakers, enabling them to acquire the necessary linguistic resources for effective communication.

Additionally, listening comprehension helps learners grasp the meaning of spoken texts, including conversations, lectures, interviews, and various audio materials. Through the process of decoding and understanding spoken language, learners acquire new vocabulary, expand their knowledge of grammar and syntax, and gain a deeper understanding of the cultural and contextual aspects embedded within the language.

Furthermore, listening comprehension facilitates the development of other language skills, such as reading and writing. By honing their ability to comprehend spoken language, learners acquire a solid foundation for understanding written texts and can transfer their knowledge of vocabulary, grammar, and discourse structures from listening to reading and writing activities.

Listening comprehension plays a crucial role in effective communication within the context of a foreign language. It serves as a vital component of the overall communication process, as the ability to understand spoken language is essential for successful interaction. Insufficient listening skills can hinder learners' comprehension of spoken language, making communication with native speakers or in real-life situations challenging.

According to River and Temperly (1984), listening accounts for 45% of language communication activities, while speaking constitutes 30%, reading 16%, and writing 9%. This statistic highlights the significant proportion of language learning dedicated to listening. It underscores the importance of listening comprehension as a primary skill for language acquisition and effective communication.

Moreover, listening is a fundamental skill for language learning as it is extensively employed in daily life and tends to develop at a faster rate compared to other language skills. Morley (2001) notes that listening skills are essential because they are predominantly used in normal daily interactions. The fast-paced nature of listening skill development suggests that it can facilitate the acquisition and progression of other language skills.

The interconnectedness of listening comprehension and language acquisition implies that learners need exposure to language input to effectively learn a foreign language. Without language input, there can be no language acquisition. Language input, in the form of spoken language, provides learners with the necessary linguistic and contextual information to develop their understanding and proficiency in the target language.

Extensive research has demonstrated the critical role of listening comprehension in language acquisition, serving as a significant predictor of overall language proficiency. By actively engaging in listening activities and immersing themselves in the spoken language, learners can develop a deeper understanding of the language's sound system, vocabulary, and grammar. These insights gained through listening comprehension contribute to the enhancement of learners' speaking, reading, and writing skills (Vandergrift et al., 2012).

Listening comprehension also plays a vital role in learners' cultural understanding. By actively listening to native speakers of a particular language, learners gain valuable insights into the culture, customs, and societal norms of the community that uses that language. This exposure to authentic spoken language helps learners develop a greater appreciation and understanding of the language as a cultural artefact. Additionally, it equips learners with the social and cultural skills necessary for effective communication within that community (Vandergrift et al., 2012).

Moreover, listening comprehension can also support learners' cognitive development. Research has shown that listening to a foreign language can help to improve memory and cognitive function (Mendelsohn, 1994). This is because listening requires concentration and attention, which can stimulate the brain and improve cognitive performance.

Unfortunately, listening comprehension is often overlooked in language teaching. This is the case in Burkina, where it is not included in the teaching program. This critical skill is necessary for students to achieve communicative competence and to become familiar with the language, especially since understanding speech can be challenging for second or foreign-language learners. Other countries, like Senegal and Côte d'Ivoire, prioritise listening comprehension, and it is time for Burkina's education system to do the same. However, merely exposing students to audio files is insufficient for teaching listening

comprehension effectively. It requires the implementation of appropriate strategies to ensure students' adequate comprehension of spoken language.

2.4.3. Listening Comprehension Strategies

These strategies encompass a range of activities and techniques that promote active listening and comprehension skill development. One effective strategy is pre-listening activities, which involve preparing students for the listening task by activating their prior knowledge, setting the context, and introducing key vocabulary and concepts related to the listening material. This helps students anticipate and make predictions about the content, facilitating their understanding and engagement during the listening process.

During the listening phase, it is essential to provide learners with multiple opportunities to engage with authentic listening materials. These materials can include audio recordings of native speakers, podcasts, interviews, or videos. By exposing learners to a variety of authentic resources, they can develop their ability to comprehend different accents, speech rates, and linguistic features. Furthermore, it is beneficial to scaffold the listening tasks by providing support such as comprehension questions, note-taking guides, or visual aids that assist learners in extracting relevant information from the listening material.

Post-listening activities are equally important as they allow learners to reflect on their comprehension, consolidate their understanding, and reinforce their language skills. These activities can include discussions, summarising the content, answering comprehension questions, and engaging in follow-up tasks that connect the listening material to other language skills, such as speaking or writing.

Integrating listening comprehension into language teaching requires a systematic and intentional approach. It involves incorporating listening activities throughout the curriculum, designing tasks that reflect real-life communicative situations, and providing ample opportunities for students to practise and develop their listening skills.

It is vital to teach listening strategies to students beforehand because listening comprehension is a complex activity that requires special attention. For this purpose,

Vandergrift (1999) emphasised that the development of strategy is significant for the training of listening and that learners can guide and assess their understanding and answers. It is important to specify that, before doing this, teachers should increase learners' knowledge of vocabulary, grammar, and phonology. Moving beyond cognitive strategies, the next category to consider is metacognitive strategies, which involve management techniques used by learners to control their learning through planning, checking, assessing, and changing.

According to scholars (Conrad, 1985; O'Malley & Chamot, 1990; and Rost & Ross, 1991), there are three types of strategies in listening comprehension: cognitive strategies, which is a problem-solving method that learners apply to deal with learning activities and to facilitate the learning of knowledge (Bingol & al., 2014). According to Goh (1998), 'learners utilise cognitive strategies to assist their process, keep, and remember new information'. It implies understanding and gathering input in short-term or long-term memory for later use. There are two kinds of cognitive strategies in listening: (a) bottom-up, which refers to word-for-word translation, arranging the rate of speech, repeating the oral text, and concentrating on the prosodic characteristics of the text (Pourhosein & Banou, 2016, p. 125), and (b) top-down, which involves scripting, guessing, explaining, and visualisation. In general, advanced learners use more top-down strategies than beginners (Conrad, 1985).

Metacognitive strategies deal with management techniques used by learners to control their learning through planning, checking, assessing, and changing. In this strategy, learners learn how to plan, monitor, and evaluate the collected information from the listening part. (Gilakjani & Sabouri, 2016). According to Wenden (1998), learners who use metacognitive strategies can learn faster and integrate the knowledge outstandingly; they can be constant receivers, deal with all situations, have the self-confidence to get help from partners, teachers, or family, and can observe and assess themselves. Shifting my focus from metacognitive strategies, it is essential to explore the role of socio-affective strategies, which encompass the techniques that listeners employ to cooperate with others, to check their comprehension, and to reduce their apprehension.

Socio-affective refers to the techniques that listeners use to cooperate with others, check their comprehension, and reduce their apprehension (Vandergrift, 2003; Abdalhamid, 2012). Among the four strategies of listening comprehension, social and affective strategies had the most effect on the learning context because students can know how to decrease anxiety, feel confident during listening activities, and raise motivation in improving listening skills. For Gardner and MacIntyre (1993), affective strategies are very significant because the learning situation and the learners' social-psychological factors are closely related (O'Malley & Chamot, 1987).

2.4.4. Listening Comprehension Missing in EFL Teaching in Burkina Faso

In the educational system of Burkina Faso, English holds the status of a non-native language, and it is taught to students as part of their academic program. Although efforts are made to incorporate English language instruction into the curriculum, there is a prominent gap, specifically in the development of listening comprehension abilities.

The teaching of English in Burkina Faso primarily focuses on reading, writing, and speaking skills, while listening comprehension often receives less attention. As a result, students may struggle to understand spoken English, comprehend different accents and intonations, effectively engage in conversations, or extract information from audio sources.

The absence of listening comprehension teaching in English as a foreign language (EFL) instruction in Burkina Faso stems from multiple factors, primarily the lack of trained teachers. Many educators lack the necessary training and resources to effectively teach listening comprehension skills. They may be unfamiliar with the latest teaching techniques and lack access to modern teaching materials. Consequently, they face challenges in imparting listening comprehension skills to their students.

Another contributing factor is the limited emphasis on listening comprehension within the curriculum itself, which tends to prioritise reading and writing skills. This leaves

minimal time for dedicated listening instruction, resulting in students who excel in reading and writing but struggle to understand spoken English.

The implications of neglecting listening comprehension teaching in EFL classes in Burkina Faso are significant. Students with inadequate listening skills may encounter difficulties understanding English spoken by native speakers, thereby limiting their ability to communicate effectively in English and hindering their academic and professional prospects. Furthermore, a lack of proficiency in listening comprehension can impede students' learning of other essential aspects of the English language, such as pronunciation and intonation.

To address this issue, various potential solutions can be pursued. One approach involves providing comprehensive training and resources to teachers, enabling them to teach listening comprehension skills effectively. Equipping educators with the necessary tools and techniques can enhance their ability to facilitate listening comprehension development among their students. Additionally, curriculum revisions are necessary to elevate the significance of listening comprehension. This may involve integrating listening comprehension activities into lesson plans and creating opportunities for students to practise their listening skills in authentic, real-life contexts.

On this subject, nowadays, language teaching is more and more favoured by the availability of new information and communication technologies (ICT). The integration of ICT in teaching holds great potential for enhancing students' language skills and transforming the learning experience. The following section explores the impact of integrating ICT in language teaching on students' skills and highlights the benefits it can bring to their language learning journey.

2.4.5. ICT and Listening Comprehension Teaching

ICT has revolutionised the way we teach and learn, and listening comprehension teaching is no exception. What is then the role of ICT in listening comprehension teaching, what are its benefits and how can it be integrated into language classrooms?

ICT have made it possible for teachers to provide students with access to a wide range of listening materials. Teachers can use the internet to find authentic listening materials that are relevant to their student's interests and needs. These materials can be in the form of podcasts, videos, and online radio programs (Hubbard, 2008). This allows students to practise listening comprehension in a variety of contexts, which can help them develop their listening skills more effectively.

Another benefit of ICT in listening comprehension teaching according to Lee (2010) is the ability to use interactive materials. Indeed, interactive materials can help students engage more deeply with the listening materials and provide immediate feedback on their comprehension. For example, students can listen to a dialogue and then answer questions related to the content of the conversation. This type of activity not only helps students practise their listening skills but also helps them develop critical thinking and problem-solving skills.

In addition, ICT can also be used to personalise listening comprehension instruction. Teachers can use learning management systems to create individualised listening comprehension tasks that are tailored to each student's level and learning style. These can help students progress at their own pace and focus on areas where they need more practice. There are several examples of ICT tools that can be used. One example is online dictation tools, which can help students practise their listening and spelling skills. Another is interactive video tools, such as Edpuzzle, which allow teachers to create interactive videos that include comprehension questions and other activities.

Despite the benefits of ICT in listening comprehension teaching, there are also some challenges. In Burkina Faso, for example, one challenge is the availability of resources and infrastructure. Many schools and teachers lack the necessary equipment and internet connection to effectively integrate ICT into their teaching practices. Another challenge is the need for training and support. Teachers may need training and support to effectively integrate ICT into their teaching practices and develop the necessary skills to create and use digital materials.

Conclusion to Chapter Two

Chapter two explores the use of the English language in Burkina Faso, a country with around sixty ethnic groups, each having its language. As a former colonial language, French is the primary language of instruction and is considered a lingua franca. Although English is also taught as a foreign language, it is not widely used like French. However, there are significant reasons why people choose to learn English in this country. Some of these reasons include educational advancement, professional opportunities, global communication, access to Information and Technology and Cultural Exchanges and travel.

Therefore, English is a valued language in Burkina. The purpose of teaching it is to provide students with the skills to communicate fluently in the language, to respect its rules, and especially, to be able to listen and communicate with native speakers. As a compulsory subject for all students, the objectives of English language teaching are expressed in general and ambitious terms, making it difficult to accurately identify the objectives pursued by the language teaching programs and their impact on personal and community development. Nonetheless, English is learned in Burkina Faso due to its international status and its frequent use in various areas, including commercial and industrial enterprises, international development agencies, United Nations peacekeeping missions, and trade. Additionally, it is the official language of many African countries and international institutions, facilitating international exchanges and cooperation and contributing to the country's economic, social, and cultural development through international relations.

Despite the mechanisms in place, students often struggle with English language learning, lack interest and enthusiasm, and tend to forget what they have learned since Form I in Burkina Faso's secondary education system. Exam results show unsatisfactory scores in

English. Teaching methods are teacher-centred. There is also a lack of active collaboration between teachers and learners and insufficient time allocated for English. The lack of adequate teaching tools and methods and a lack of Information and Communication Technologies (ICT) tool also contribute to the difficulties in English language instruction in Burkina Fas's public schools. The situation can be improved with more active collaboration between teachers and learners and better teaching tools and methods. Learners should be encouraged to take more initiatives and to engage in further immersive study or personal work, whether it be traditional or computerised.

Teaching English in higher education aims to improve students' communication skills, to provide access to documents written in English and to enhance their career prospects. English is taught in all fields of study in higher education in Burkina Faso, and some departments offer training programs specifically in English. However, students often have gaps in their English skills due to unclear objectives and inadequate teaching methods. The amount of time allocated to English courses is also insufficient for students to become fluent in the language. The situation is rather worrying in English studies departments, where students are expected to be proficient in English but struggle with oral performance. To improve the quality of English language teaching, the curriculum could be revised to focus on specific types of English relevant to students' future domains of work, and listening comprehension could be taught from the beginning. Moreover, improving the quality of English language teaching in English-speaking departments is essential, as the graduates become English teachers in high schools, colleges, and universities.

However, the communicative language teaching (CLT) approach currently adopted for EFL teaching in Burkina does not seem to have achieved this objective. Students struggle to communicate fluently after learning English for seven years, and their responses to the written and oral exams reveal their difficulties in communicating in English. Poor knowledge of teaching practices among teachers can highly affect the learning process. Therefore, my research suggests that teachers might need more assistance and adequate material to appropriately carry out classroom CLT activities and learners should be encouraged to take more initiatives and engage in further immersive study or personal work, whether it is traditional or computerised (CUQ, 2014: 10). Concerning adequate

material, ICT can be used to teach English. They can be a valuable tool for teaching listening comprehension, as they provide learners with access to a wide range of interactive activities and authentic materials such as audio and video produced in real communication situations, and not for learning purposes (Cuq et Gruca, 2017: 404), that develop their listening skills in a more engaging and meaningful way.

In conclusion, this chapter prompts us to consider the appropriate methodology for English teaching in Burkina Faso. Building upon the exploration of English teaching and learning in Burkina Faso presented in Chapter two, my attention now turns to Chapter 3. This next chapter delves into the utilisation of Information and Communication Technology (ICT) within the higher education context of Burkina Faso. By shifting my focus to this topic, I aim to uncover valuable insights and possibilities that ICT can offer in the realm of English education in Burkina Faso.

CHAPTER 3

INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) IN BURKINA FASO HIGHER EDUCATION

Introduction

This chapter will focus on the use of Information and Communication Technology (ICT) in education in Burkina Faso. I will discuss the history of ICT in the country, its integration into higher education and its role in the education system. I will also examine the challenges faced and opportunities for improvement in using ICT in higher education. Lastly, I will address the issue of the digital divide.

The topic of ‘computers in education’ gained popularity in the early 1980s when affordable microcomputers hit the consumer market. To keep up with technological advancements, many countries developed their own brands of microcomputers, such as BBC, Acorn, and Tomson, and provided them to schools. Initially, ‘computer’ was used instead of ‘information and communication technologies’. In the late 1980s, ‘IT’, which means information technology, replaced ‘computers’ and focused on the ability to store and retrieve information. The term ‘ICT’ (information and communication technology) was introduced in 1992 when e-mail became available to the general public. Therefore, ‘ICT’ was coined in 1992 when e-mail became widely available (Pelgrum & Law, 2004: 9).

3.1 Definition and Importance of ICT in Education

ICT, or information and communication technologies, encompasses various tools and resources that facilitate communication, creation, dissemination, storage, and information management. This includes computers, the internet, broadcasting technologies (radio and television), and telephony (Zainab, 2020, p. 98). The term ‘new technologies’ (NT), ‘new information and communication technologies’ (NICT), and ‘information technologies’ (IT) are often used interchangeably to refer to ICT. These technologies are considered ‘new’ because they allow for unique presentation and transmission of information and provide opportunities for alternative communication channels. While ICT is commonly associated with computers and their peripherals, in this study, the term will mainly refer to technologies used in education.

Many researchers have provided different definitions of the term ICT. According to Toomey (2001, p. 3), as quoted by Lloyd (2005), ICT

generally relates to technologies used for accessing, gathering, manipulating and presenting or communicating information. The technologies could include hardware (e.g. computers and other devices); software applications; and connectivity (e.g. access to the internet, local networking infrastructure, and videoconferencing). What is most significant about ICT is the increasing convergence of computer-based, multimedia and communications technologies and the rapid rate of change that characterises both the technologies and their use.

For Karsenti (2009, p. 35), ICT refers to ‘a set of technologies based on computers, microelectronics, telecommunications, multimedia and audiovisual, whose combination and interconnection: - allow for the retrieval, storage, processing, transmission of

information in the form of data of various types (text, sound, image, video, etc.) and interactivity between people, and between people and machines; - provide access to information; - facilitate and promote the sharing and dissemination of information; - accompany and support educational strategies.

Tiemtoré (2006: 171) defines ICT as technical objects that are associated with specific activities such as work, information processing, communication with others, and learning. This definition emphasises the diverse applications of ICT in different domains of human engagement.

Dahmani (2004), as quoted by Kaboré et al. (2022, p. 56), offers another perspective, stating that ICT refers to technology encompassing computers, mobile phones, the internet, and similar devices that enable information processing and facilitate various forms of communication. This definition underscores the role of ICT in enabling communication between individuals as well as between individuals and electronic systems, utilising digital data.

Furthermore, Kaikai (2004: 35) perceives ICT as technological devices of a digital nature that can serve as pedagogical tools. This definition highlights the potential of ICT to be employed specifically as tools for educational purposes, emphasising their role in supporting teaching and learning activities.

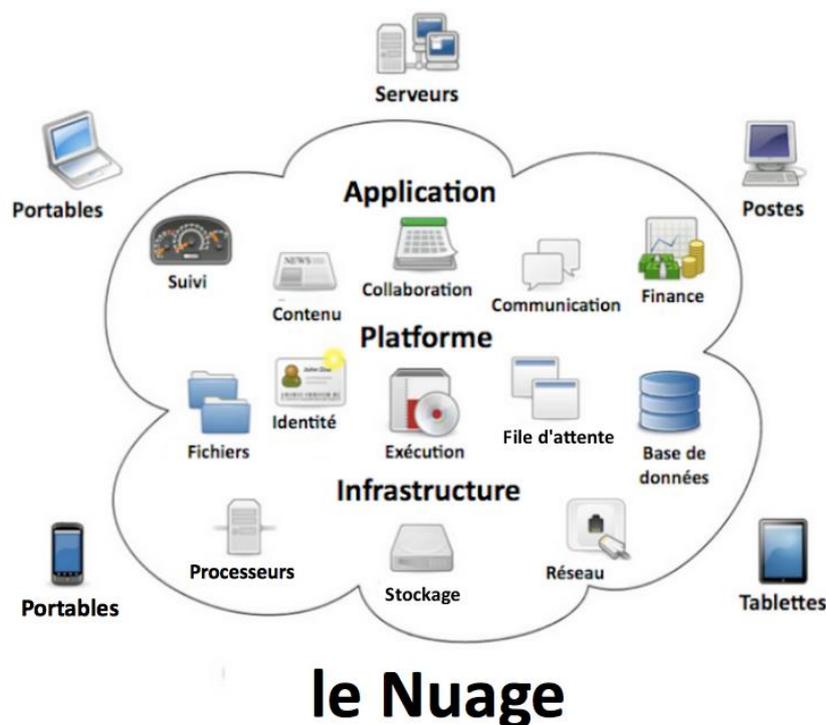


Figure 5: Schematic overview of the major components of Information and Communication Technologies (ICT). Source: Sam Johnston²⁰

As a result, the definitions provided below apply to ICT in general; in this research work, I am interested in using ICT in education as didactic aid in teaching and learning.

There are commonly three distinct roles for ICT in education: ‘Learning about ICT’, which refers to ICT as a subject of learning in the curriculum, such as computer (or ICT) literacy, computer science and information literacy; ‘Learning with ICT’, which refers to the use of ICT, including multimedia, the Internet or the Web, as a means of enhancing teaching or replacing other media without changing beliefs about teaching and learning approaches and methods; and ‘Learning through ICT’ which refers to the integration of ICT as an essential tool in a course or programme, such that teaching and learning in that course or programme is no longer possible without it²¹.

According to UNESCO (2011), ICT in education refers to the utilisation of digital technologies, including hardware, software, and network infrastructure, to support and enhance teaching, learning, and educational management processes. This definition

²⁰ <https://commons.wikimedia.org/wiki/File:Nuage33.png>

²¹ (International Institute for Educational Planning www.unesco.org/iiep)

emphasises the application of ICT specifically in educational settings, highlighting its role as a means to improve the quality and effectiveness of teaching and learning experiences.

In a similar vein, Roblyer and Doering (2013) define educational ICT as the integration of digital tools and resources into educational practices to enhance instruction, promote student engagement and achievement, and facilitate the acquisition of 21st-century skills. This definition emphasises the integration of ICT into educational practices, highlighting its potential to augment instruction and promote student-centred learning experiences.

Legendre (1993, p. 906) defines NTE as encompassing "all the means and computer services that can be used in the field of education." This definition highlights the broad range of technological tools and services that can be used to support educational processes.

Karsenti (2009, p. 9) perceives NTE as the use of ICT by teachers or students to develop skills or promote learning. This definition emphasises the active involvement of both teachers and students in utilising ICT for skill development and learning purposes. Moreover, the pedagogical integration of ICT goes beyond simply teaching how to use computers and software. It involves getting students to use ICT as a tool for learning various subjects, such as science, languages, and mathematics (Karsenti, 2009, p. 9). This definition highlights the importance of using ICT as a means to enhance subject-specific learning experiences and outcomes.

The Superior Council of Education in Quebec (2000) distinguishes three types of technology used in education. Firstly, technology as a learning tool refers to using technology to support and enhance the learning process, such as by utilising educational software or interactive resources. Secondly, technology as a means of learning involves students using technology to actively engage in learning activities, such as conducting research, collaborating on projects, or creating multimedia presentations. Lastly, technology as a support for learning encompasses using technology to provide additional resources, support, and scaffolding to facilitate the learning process.

The incorporation of ICT in the teaching-learning process, as highlighted by Fonkoua (2006), introduces a contemporary and expansive dimension to the educational landscape. Pedagogical practices utilising the internet, video pedagogy, tutorials, and interactive whiteboards further contribute to the complexity of this evolving educational scenario (Karsenti, 2009, p. 17). ICT serves as a potent tool for both teaching and learning, enabling administrative, technical, and pedagogical functions within universities and educational institutions.

One significant benefit of ICT in education is its capacity to expand the training offer and facilitate the production, dissemination, and sharing of educational materials (Fonkoua, 2006). This wealth of resources enhances the learning experience by providing students with a diverse range of materials that cater to their individual needs and preferences. Additionally, ICT plays a crucial role in motivating and developing instructors' abilities, empowering them with innovative teaching methodologies and techniques.

Moreover, ICT acts as a catalyst for student motivation, fostering an environment conducive to enhanced engagement and learning outcomes (Fonkoua, 2006). The interactive and multimedia nature of ICT tools captivates students' attention, encourages active participation, and enables personalised learning experiences. Through ICT, students can access a wide range of educational resources, collaborate with peers, and engage in interactive activities that promote critical thinking and problem-solving skills.

Importantly, the integration of ICT in education contributes to the democratisation of knowledge by facilitating greater access to information and learning opportunities (Ouedraogo, 2021). This democratisation is particularly significant in contexts where access to traditional educational resources may be limited. ICT bridges the gap by offering online courses, virtual libraries, and open educational resources that can be accessed by individuals from diverse backgrounds and geographical locations.

The use of ICT in education has numerous benefits. They enhance the individualisation of learning, encourage informal activities, and collaborative work, facilitate educational community networking, and promote the creation of collective intelligence (Redecker et al., 2011).

According to the World Education Forum's 2015 declaration in Incheon (UNESCO, 2015), 'Information and communication technologies must be harnessed to strengthen education systems, the dissemination of knowledge, access to information, as well as the effectiveness and quality of learning, and to ensure more effective service delivery²².' (UNESCO 2010) recognises that ICT can contribute to improving universal access, equity, the practice of effective teaching/learning, the professional development of teachers, and the implementation of more effective educational management, governance and administration.

As stated by Ait Kaikai, ICTs (Information and Communication Technologies) have become indispensable in our modern society, particularly in professional and academic contexts. It is argued that integrating ICTs into the university curriculum is crucial for students to enhance their digital and informational skills related to the use of these technologies. ICTs are no longer considered mere learning objects but are seen as tools that can improve learning conditions for students, as highlighted by Ngnoulayé (2010).

Karsenti et al. (2008) further emphasise the role of digital tools as didactic instruments that support teaching and learning processes, ultimately leading to improved learning outcomes while also reducing costs. The integration of ICTs in education is viewed as a means to enhance the overall learning experience and provide students with the necessary skills to thrive in a digital age.

Messaoudi and Talbi (2012) add to this perspective by suggesting that ICTs facilitate new ways of acquiring knowledge and skills among learners. They promote qualities such as perseverance, motivation, and the co-construction of knowledge among students. By incorporating ICTs into the curriculum, students' abilities are enhanced, enabling them to learn independently and develop their knowledge and skills, as highlighted by Kaboré (2021: 37).

²² The translation: 'les technologies de l'information et de la communication doivent être mises à profit pour renforcer les systèmes éducatifs, la diffusion du savoir, l'accès à l'information, ainsi que l'efficacité et la qualité de l'apprentissage, et pour assurer une offre de services plus performante.'

3.2. History of ICT in Burkina Faso

In Burkina Faso, the integration of ICTs and the internet has been a gradual process. During the colonial era, the country primarily relied on a filial telephone network that served as the main infrastructure for communication. This network facilitated connectivity between the colonial administration, local government, and the West African postal and telecommunications networks, as highlighted by Ouedraogo (2007).

Starting in the 1970s, Burkina Faso began to develop ICTs through the modernization and transformation of the postal and telecommunications sectors. This transformation led to the establishment of the Post and Telecommunications Office (OPT) and the creation of the national information processing centre known as CENATRIN. According to Ouedraogo (2007), CENATRIN played a significant role in equipping the administration with digital tools, processing administrative data, and providing training for personnel in administrative data management.

CENATRIN's investment in digital infrastructure and administrative data processing aimed to enhance efficiency and effectiveness within the public administration system. The introduction of digital tools not only streamlined administrative processes but also contributed to capacity-building efforts by training staff members on utilising and managing administrative data effectively.

The 1990s saw a regulated liberalisation of the ICT industry, making that decade the most significant in introducing ICT. This led to the creation of small private companies in telephony, 'telecenters', and the installation of large private mobile telephony companies and companies of mobile telephony (OUEDRAOGO, 2007, p. 9). Burkina Faso was first connected to the internet in 1997, during the summit of the '*Francophonie*'.

Burkina Faso showed its political will very early about the challenges of ICTs for development by setting up a five-year national IT master plan that aimed to create an

analytical framework for an actual appropriation of Burkina Faso of Information and Communication Technologies about its capacity for wealth creation. Among the five priority areas selected, it is necessary to note: the modernisation of administration, the development of basic infrastructure, support for education and research, the development of community multimedia centres and the facilitation of trade. The numerous difficulties related to the country's poverty have not allowed for this place to be implemented. Therefore, international organisations such as the World Bank, the United Nations Development Programme (UNDP), and International Institute for Communication and Development (IICD) decided to support the national information and communication infrastructure development plan for 2001 to 2005 (TIC EDUC, 2010).

In 2017, the number of mobile subscribers rose to 17,950,000, representing a mobile penetration rate of 91.04 phones per 100 inhabitants (ARCEP, 2017). According to the Regulatory Authority for Electronic Communication and Postal Services' figures, the number of internet subscribers has increased from 549,997 in 2012 to 5,546,600 in 2017 for 19,632,147 inhabitants. This increase represents an overall growth rate of 51%. For the ARCEP, this strong growth of internet users can be explained mainly by the opening of the 3G network of all mobile operators and by the strong attraction of social networks, notably Facebook, WhatsApp, etc. Despite this strong growth, the penetration rate, 28.25%, is still too low to support economic growth (ARCEP) effectively. (Kabore, 2021, 26).

In almost all sectors, Burkina Faso has been carrying out actions for a long time in the field of ICT, including the educational world. The integration of ICT in the educational system started in 1967 with the broadcasting of educational programs by the radio through the school radio. Then, during the revolutionary period, national television set up literacy sessions in the national language through television to accompany the mass literacy policy. For the first time, politicians showed a real willingness to integrate ICT into the education system by setting as an objective in their political program the integration of computers in schools in 1984.

In the 1990s, with the advent of the internet, several other initiatives to integrate ICT into education were launched at secondary school. At the university level, there are initiatives

such as the tele-education project, which is an initiative of the use of videoconferencing to deliver courses at Université Nazi Boni at its creation, the Close Learning project, the African virtual university, the World Francophone digital university and the Francophone digital campus of the University Agency for the Francophonie²³.

²³ <https://lefaso.net/>

3.3. ICT in Burkina Faso Higher Education

ICT have always been at the heart of the Burkinabe educational authorities' priorities in their efforts to modernise education, to develop the offer and quality of training and to support student success. Indeed, many reforms have been adopted to improve the educational system, including integrating ICT into teaching and research, the main objective of which is to enhance the performance and results of students in learning situations (Kaboré, 2021: 33).

In addition, with the advent of the Covid-19 pandemic, which has disrupted the world, universities are changing, adapting to social demand and building strategies for autonomy to stay on the path of globalisation (Endrizzi, 2012). Burkinabe universities are not on the sidelines.

Experts claim that the pedagogical adoption of ICTs in higher education and research institutions is the critical lever for modernisation in a diagnostic study on Burkina Faso University undertaken by an Ad Hoc Reflection Committee (CAR) in 2012. For them, the expectation of the objectives goes through the pedagogical integration of ICTs in higher education. As so well noted by Kousser and Shilpa (n.d., p. 182), the adoption and use of new technologies in higher education are no longer a matter of choice, but of necessity. Survival in today's rapidly changing technological world depends on it.

In many researchers' opinions, ICT have multiple benefits: it facilitates the individualisation of learning, promotes informal practices, stimulates collaborative work, facilitates the networking of educational communities and encourages the emergence of collective intelligence (Redecker et al., 2011). ICT improves teaching and learning design by creating a new communication model among educators and learners, information exchange, knowledge sharing, and creativity, and removes the challenges associated with

the traditional teaching methodology practised in education (Cha et al., 2020). With ICT, teaching is learner-centred rather than teacher-centred. According to MESSRS (2003), access to the internet and digital applications and tools improve the supply quality of learning and especially that of research in higher education institutions.

Similarly, on the Burkinabe Education Ministry's website (education.gov.bf) website states that ICT promotes universal access to education and the development of teachers' and learners' digital and informational skills. Ait Kaikai (2014) adds that digital workspaces allow students to communicate and interact with their teachers and peers in the context of a co-construction of knowledge. In the same vein, Kabore (2009) and Ouedraogo (2011) stipulate that putting courses and educational resources online offers new learning and teaching opportunities without time or place constraints. Indeed, through distance learning, departments such as English studies in which there is a shortage of teachers²⁴ can use foreign teachers to teach courses using virtual classrooms without moving them and providing transportation and accommodation costs. Altogether, to provide quality education, teaching and learning standards must be changed and supported by ICT resources (Saravanakumar, 2018).

However, despite the long-standing importance of ICT in higher education, it remains clear that the education systems of developing countries, such as Burkina Faso, are not supported by ICT, and student outcomes are poor when compared to those of students in developed countries; in terms of technological and organisational infrastructure, stakeholders' access to digital tools inside faculties is limited, and the availability of the Internet network remains very inadequate and of low quality (Kaboré, 2021).

In this regard, Kaboré (2021: 33) believes that the pedagogical integration of ICTs will make it possible to solve problems related to the educational and university system. This remains an opportunity to transform Burkina Faso's public universities into a pole of excellence in line with its environment and the development challenges of the 21st

²⁴ In some training units where there is a shortage of teachers, the university resorts to foreign teachers who travel to provide courses. This generates transportation and accommodation costs for them.

century. However, a significant component of an educational institution is the availability of an ICT infrastructure.

In 2012, the Burkinabe government committed to enhancing its university services by integrating ICTs into teaching and research over the next ten years. The aim was to create a conducive environment for students and researchers, to improve the quality of education, to increase the accessibility of research results to the public, and streamline administrative management. Furthermore, the university seeks to improve internal and external communication, accelerate application processing and provide better follow-up. The university community is encouraged to embrace ICT, to modernise training offers and to serve as a model university for digital transformation²⁵. The realisation of activities is necessary for the attainment of these goals. Since then, actions have been carried out in this respect.

²⁵ (source DSI)

3.4. State-of-the-Art of Integration of ICT in Burkina Faso's Higher Education

All of the universities' strategy papers refer to the political commitment made by the first authorities in developing ICT in education and research (*Document de Politique Institutionnelle*, 2013–2022; *Plan Stratégique et Opérationnel*, 2013–2022; *Contrat de Performance*, 2021). By appointing a new Director of Information Services, this became official at Université Joseph KI-Zerbo on June 6, 2016 (DSI). The goals for the latter were to move toward a dynamisation of the program and be able to address the connexion issues and software needs the university encounters (Source DSI).

At that time, the Director of Information Services had made significant progress by creating specialised software for the university's central services. Significant learnings have been made in education and research regarding the project to implement a global solution for managing enrollment, academic status, payments and recovery of academic costs, marks, and documents. The primary challenge is the need for qualified human resources personnel. In light of these challenges, Université Joseph KI-Zerbo has set up a 'Support Project for Digital Transformation at Université Joseph KI-Zerbo' (PATD-UJKZ). (DSI). At the institutional level, educational ICT applications are deeply anchored in the university sphere, as evidenced by various advances.

3.4.1. ICT-Related Innovations in Higher Education in Burkina Faso

Burkina's higher education system has undergone remarkable and innovative changes. This is due to the implementation of reforms that aim to improve university services and to enhance the teaching and learning processes through ICT. Some of the most remarkable changes include:

- The Virtual University of Burkina (UV-BF)²⁶: In its commitment to improving access and the quality of higher education, the Burkinabe government created the Virtual University of Burkina in 2018 to make Burkina Faso a pole of digital sciences in Francophone Africa. The reasons that motivated the creation of this university are numerous. Indeed, according to Professor Jean §Marie Dipama, project manager of the UV-BF, this will relieve the existing universities in their training formula. In addition to that, it could also deliver initial, diploma, continuous, certifying training, face-to-face or online. The virtual university offers university training courses in the cycles of technical diplomas, bachelor's degrees, master's degrees, and certification courses. Its main objectives are (a) initial, continuing and certifying training, both onsite and online, so that lifelong learning can take place; (b) the production of digital and innovative educational content based on new pedagogical approaches; (c) capacity building for teachers, trainers and technical staff; (d) the establishment of a secure technological platform to host digital educational content; (e) the provision of information and communication technologies to communities in open digital spaces; (f) the provision of high value-added services to ensure sustainability²⁷.
- Institute of Open Distance Learning (IFOAD)²⁸: created in 2014 by ministerial decree N°02013-284/MESS/SG/UOII, it is the structure responsible for organising and managing, in collaboration with other faculties and institutes, the activities of training (initial, continuing, graduating and certifying) open and distance of the Université Thomas SANKARA. Its objectives are: (a) to develop Distance Education (DE); (b) to train teachers and researchers in the pedagogical integration of ICT and ICTE; (c) to progressively train all students of Université Thomas SANKARA in digital and informational skills; and to (d), expand the influence of Université Thomas SANKARA beyond its traditional geographical area by developing partnerships with other universities in the sub-region.²⁹

²⁶ Université virtuelle du Burkina Faso (UV-BF)

²⁷ <https://uv.bf/>

²⁸ Institut de Formation Ouverte à Distance (IFOAD)

²⁹ <https://ifo2ad-uo2.net/>

- Digital Learning Environment (ENA)³⁰: The Digital Learning Environment (ENA) is a platform created and developed in 2015 by the Agency of Francophone Universities (AUF) in collaboration with the Burkina Faso's Ministry of Higher Education, Scientific Research and Innovation (MESRI). It's objective is to provide a technological solution for distance education and e-learning for universities and higher education institutions in Burkina Faso and to improve the teaching and learning experience for both teachers and students.

The platform offers a variety of features, including the ability to deliver live or recorded lectures, to create discussion forums, to assign and correct assignments, to share teaching resources, and more. Teachers can also use the ENA to communicate with their students and track their progress. It is accessible to all students and teachers in Burkina Faso's universities and higher education institutions and is available online from anywhere with an internet connection. The platform is designed to be easy to use, even for novice users.

The ENA is an important tool to support higher education in Burkina Faso and to facilitate access to education for students, especially in the context of the COVID-19 pandemic and the security crisis that the country is going through.

- The 'Campusfaso' platform is the only platform for managing procedures and processing orientations for new baccalaureate holders from Burkina Faso and abroad. The General Office of Higher Education is the only structure authorised to conduct the orientation process. The Campusfaso platform allows to control the orientation calendar; to manage the availability of places at the national level, to have a unique information portal for students; make orientation choices in the universities of Burkina Faso; to make payments on tuition fees everywhere in Burkina Faso; to have a visibility on the orientation rate at the national level; to have a visibility on the number of students at the national level; and to have reliable statistics in real time on students³¹.
- The Agency of Francophone Universities (AUF) is a worldwide association comprised of French-speaking higher education and research institutions that was created

³⁰ Environnement Numérique d'Apprentissage (ENA)

³¹ <https://lefaso.net/spip.php?article85406>

60 years ago. It brings together 1007 universities located in 119 countries. The AUF acts for a university Francophonie engaged in societies' economic, social and cultural development. It is also the operator for higher education and research of the Francophonie Summit. The creation of the Francophone Digital Campus (CNF) of Ouagadougou was inaugurated on February 25th, 2003, and has its own specialised link at 128 bits rented from the National Telecommunications Office ONATEL. It has several rooms dedicated to training, database consultation and internet browsing. The latter plans to act in areas such as: promoting the mobility of students and researchers, strengthening institutions and scientific poles of universities, supporting scientific associations, and developing the use of new information and communication technologies.

3.4.2. Access to ICT Tools and Their Use by Teachers

According to the strategy implemented by the authorities in Burkina Faso to integrate ICT in education, it is crucial to emphasise the significant role that instructors play in the adoption and implementation of ICT in higher education. Without the active engagement of teachers, the successful integration of ICT becomes unachievable. Teachers are the primary actors responsible for employing ICT in the classroom, and their continuous professional development is essential to ensuring the effective utilisation of technology in education, as highlighted by Ergado et al. (2022).

Teachers must have regular opportunities to enhance their knowledge and skills in using ICT. Professional development programs should be designed to provide ongoing training and support, allowing instructors to stay updated with the latest advancements in educational technology. This training should not only focus on technical skills but also on the integration of technology into the curriculum and pedagogical methods. By exploring the evolving landscape of education and the incorporation of technology, teachers can adapt their teaching practices to leverage the full potential of ICT.

Furthermore, the incorporation of technology in education requires teachers to have access to resources and tools that facilitate the integration of ICT in their teaching. This includes access to appropriate hardware, software, and digital content, as well as technical

support to address any issues that may arise during the implementation of technology in the classroom.

Teachers' roles evolve from that of simple transmitters of knowledge to that of learning facilitators, knowledge guides or navigators, and active co-learners with students. By incorporating ICT into their educational activities, instructors can shift from a broadcast learning model to an interactive one where students become active participants in teaching and learning. Additionally, ICT aids in the transition from teacher-centred to learner-centred education, in which students become independent and self-directed in their knowledge and skill acquisition and application (Chatterjee, 2021).

However, it has been observed that most teachers in African universities, particularly in Burkina Faso, are still reluctant to use ICT (Pelgrum, 2001). This reluctance is due to a lack of skills and knowledge pertaining to ICT functionalities. Their use of ICT is limited to Word, Excel, PowerPoint, instant messaging, social networks and search engines (F. Michelot, 2020). These teachers use Word to create their courses, Excel to manage students' marks and PowerPoint for presentations. It is necessary to note that they are increasingly turning to other uses of ICT, such as videoconferencing, which they use for meetings. It is crucial, then, to change the mindset of these teachers in order to bring about change. To this end, higher education teachers received training on producing Open Educational Resources (OER) in Burkina Faso in November 2019.

The aim was for these teachers to learn how to produce different types of teaching and research materials that will be made available in the public domain with or without restrictions for learners, teachers, and all those interested in this field.³² One of the primary goals of this training, according to education specialist Koutheair Khribi, was to improve the ability of the various actors to integrate these open educational resources into their teaching practices. Following this training, higher education lecturers were invited to post their courses on the Digital Learning Environment (ENA) platform (refer here for more information on the ENA). Further training was supplied to the teachers by the Agency of Francophone Universities (AUF) and Huawei, which gave professional ICT training to over 1000 teachers within the framework of the ICT Academy project in order

³² <https://lefaso.net/spip.php?article93360>

to strengthen their teaching abilities and to help them to be better able to transmit their knowledge to students³³.

However, it is essential to emphasise that despite the training teachers get, they do not use technology in their classrooms. As a result, it is evident that preparing them for these new tasks is a crucial staff development challenge that encompasses both primary teacher education and continuous professional development.

3.4.3. Access to ICT Tools and Their Use by Students

The goal of ICT policy in school education is to prepare young people to engage effectively in establishing, sustaining, and expanding a knowledge-based society, which will lead to the nation's overall socioeconomic development and to international competitiveness. As a result, ICTE is present in students' everyday lives and helps them connect with the rest of the world. Students may study using online resources through ICTE, which will help them grasp all subjects. Students may learn at any time and from any location.

According to academics like Prensky (2001) and Roy et al. (2018), the youth of the 21st century are digital natives'. For Prensky, cited by Kabore (2021: 19), individuals of this generation naturally employ technology in various contexts, including at school. Digital natives can access substantial amounts of knowledge online thanks to digital tools and the dynamic web. Students in the digital era still require practical abilities to succeed in their studies, however (Bhattacharjee & Deb, 2016). Teachers and students are influenced by conventional teaching and learning methodologies that have existed since long before the advent of the digital era.

In a study conducted on the digital skills and uses of students at Université Thomas SANKARA (generalisable to all students in Burkina universities), Kaboré (2021) examined the ICT infrastructure present at the university, the uses of the internet by students, and the extent to which they use ICT for educational purposes. After the data

³³ <https://lefaso.net/>

analysis, the study's results reveal that students regularly use the internet in the course of their learning activities (at their own expense, which is expensive). They master software and computer applications for document design and regularly use communication tools, particularly social networks. This situation can be explained by the fact that learners' computer training has been limited to learning the parts of the computer and using office applications and software (T. Karsenti & S. Tchameni Ngam, 2009). Another study conducted by Ouedraogo (2011) highlights the low accessibility of ICT by students, the poor internet connexion and the absence of open educational resources. However, students and teachers recognise that ICT plays an essential role in the teaching-learning process.

In general, students are inclined to integrate and use ICT in teaching and argue that ICT plays an important role in teaching-learning. However, they faced difficulties such as the unavailability of the internet on campus – in universities in developed countries, once on campus, students have access to a stable internet connexion –, lack of training, etc.

Training students in the effective use of ICT will be necessary to show them its importance and to help them to see what can be done with digital tools and the internet in learning activities. The training offered should align with students' requirements and expectations (Kaboré, 2021). The development of digital skills should therefore be a priority in training programs to provide students with tools to equip them for lifelong learning and to promote their autonomy.³⁴

³⁴ <https://lefaso.net/spip.php?article101421>

3.5. Challenges Posed by the Pedagogical Integration of ICT in Burkinabe Higher Education Institutions

As can be seen from the above research, integrating Information and Communication Technology (ICT) in education is now considered a vital aspect of modern educational systems. However, integrating ICT into Burkina Faso's higher education system has been fraught with challenges which I would like to summarise in a couple of key points.

The first one is the lack of technical infrastructure. Universities and other higher education institutions in Burkina Faso often lack the technical infrastructure necessary to support ICT integration. This includes everything from good computer labs and high-speed internet access to a sufficient power supply and reliable technical support (Diallo et al., 2018). This lack of technical infrastructure can hinder the effective use of ICT in teaching and learning and thus impact the quality of education.

The second challenge is the lack of digital literacy and technical skills among students and faculty in Burkina Faso. Many of them have limited experience with technology and lack the necessary digital literacy and technical skills to effectively use ICT in teaching and learning (Nana & Zougmoré, 2019). This can result in a reluctance to integrate technology into the curriculum or to implement technology in ways that are not aligned with best practices for effective teaching and learning.

The third challenge is the cost of technology and access to resources. The cost of technology can be a significant barrier to its adoption and integration into Burkina Faso's higher education system. Additionally, access to resources such as educational software, e-books, and online educational materials can be limited due to cost or lack of infrastructure, further hindering the effective integration of ICT (Diallo et al., 2018).

The fourth challenge is the lack of training and support for faculty and staff, which they need to integrate ICT effectively into the curriculum. This includes not only technical training but also training on how to use ICT in ways that are pedagogically sound and aligned with best practices for effective teaching and learning (Sawadogo et al., 2019). Such training and support can lead to effective technology integration or a lack of integration altogether.

The fifth challenge, according to Diallo et al. (2018) and Traoré and Ouédraogo (2017) is the need for cultural adaptation, which ICT integration in Burkina Faso's higher education system requires. This includes adapting teaching methods and learning materials to suit local contexts and cultures and ensuring that technology is culturally appropriate and relevant to the needs of students and faculty.

It is fair to say the pedagogical integration of ICT in Burkina Faso's higher education system faces numerous challenges, including the lack of technical infrastructure, digital literacy and technical skills; cost and resource access; training and support for faculty and staff; and cultural adaptation. Addressing these challenges will require a multi-faceted approach that involves collaboration between the government, educational institutions, and other stakeholders. The successful integration of ICT in higher education in Burkina Faso will require a commitment to addressing these challenges and to ensuring that the benefits of technology are accessible to all students and faculty.

3.6. Digital Divide

The digital divide is defined by Diagne and Sakho-Jimbira (2021) as the gap between those who have access to digital technologies and those who do not. It is a problem that affects many parts of the world, including Burkina Faso.

Access to technology is a key factor in education today, and the digital divide in Burkina Faso is a serious issue. According to a report by the World Bank³⁵, only 7% of households in Burkina Faso have access to the internet, and only 14% of the population has a mobile phone. This lack of access to technology affects the education system in several ways. Students who do not have internet access have limited access to online resources and may be at a disadvantage compared to their peers who do have access to the internet. Teachers who do not have access to technology may also struggle to keep up with modern teaching methods, and may therefore be less effective in the classroom. Even though the digital divide is a serious issue in the Burkinabe education system that affects both students and teachers, negatively impacting the quality of education that students receive, there are solutions that can help to reduce this impact, including increasing access to technology and providing more training on how to use technology effectively.

One major impact of the digital divide on the education system in Burkina Faso is that it reveals existing inequalities in terms of wealth amongst the population. Students from poorer families are less likely to have access to technology than students from wealthier one putting them at a disadvantage when it comes to accessing educational resources and using modern teaching methods (Kabore, 2021). This can lead to a cycle of disadvantage, where students from poorer families are less likely to succeed in school and less likely to be able to access good jobs in the future. Similarly, schools and universities that do not have access to technology may struggle to provide modern teaching methods and may be

³⁵ <https://blogs.worldbank.org/opendata/impact-covid->

less able to attract high-quality teachers. This can have a negative impact on the quality of education that students receive.

There are several possible solutions to the digital divide in the Burkina Faso education system. One solution is to increase access to technology by building more internet infrastructure and making technology more affordable. Another is to provide more training to teachers and students on how to use technology effectively in the classroom. This can help to ensure that all students have access to modern teaching methods and can help to reduce the impact of the digital divide on education.

Conclusion to Chapter Three

The chapter begins by discussing the evolution of the term ‘ICT’ and its various definitions and by highlighting the importance of integrating it into teaching practices to enhance teaching and learning experiences. It also discusses the potential of ICT to improve educational practices by providing access to information, facilitating communication, and supporting educational strategies.

Moving on to the gradual development of ICT in Burkina Faso, it is important to note the country’s infrastructure and its commitment to ICT’s role in development. It discusses the integration of ICT into the education system and the importance of higher education in modernisation, development of training, and support for student success. My observations in Chapter Three by emphasising the necessity of ICT adoption in higher education as a survival strategy in today’s rapidly changing technological world.

Regarding the access and use of ICT tools in higher education in Burkina Faso, the text highlights the important role of teachers in adopting and implementing ICT in education. It suggests that changing the mindset of teachers is crucial in bringing about this change. The article also notes the presence of ICTE in students’ everyday lives and the difficulties they face in accessing it.

The government’s commitment to developing ICT in education and research is further reflected in the university’s strategy papers. The papers discuss the significant innovations in ICT in higher education, including the creation of the Virtual University of Burkina, the Institute of Open Distance Learning, and the Digital Learning Environment. Despite these advancements, the it notes the need for qualified human

resources and the establishment of the ‘Support Project for Digital Transformation at Université Joseph KI-Zerbo.’

The digital transformation of universities differs between countries and their specific realities. While many European countries such as France have adopted a gradual approach based on pilot programmes and training, Burkina Faso faces challenges related to its limited technological infrastructure. Other countries like Finland and Norway have developed advanced digital education systems by investing heavily in infrastructure and technology.

Approaches to driving change also vary, with some emphasising rapid adoption and intensive teacher training, while others focus on international partnerships for technical and financial support. It is essential to recognise that the digital transformation of universities is not just about adopting new technologies, but also about changes in teaching, learning and research methods. Universities need to adapt to these changes by training their teachers and by creating an environment conducive to innovation and collaboration.

Ultimately, the digital transformation of universities is a complex and constantly evolving process which requires strategic thinking and adaptation to local realities. The comparison between France, Burkina Faso and other countries highlights university systems’ different approaches and challenges in transitioning to digital. By learning from these experiences, universities can continue to move towards the effective use of digital technologies to improve teaching, research and access to education.

It is therefore essential to promote collaboration and exchange of experiences between different countries to foster a smooth and beneficial digital transformation for universities and their academic communities. By adapting to the new challenges and by exploiting the opportunities offered by digital transformation, universities can play a crucial role in preparing students with the skills needed to succeed in an increasingly digital world.

CHAPTER 4

THEORETICAL FRAMEWORK

Introduction

The theoretical framework is a crucial foundation for scientific research, providing the necessary context and conceptual framework to guide the investigation. In this chapter, we will delve, through Vygotsky's (1978) socioconstructivist and constructivist perspectives³⁶ into the study's theoretical background, exploring key concepts such as distance learning, Challenge-based learning pedagogy (CBL), and Collaborative and peer learning. These theoretical features will serve as the underpinning for the research, offering valuable insights and perspectives to inform the study's objectives and methodology.

The field of educational sciences, specifically language teaching, has witnessed remarkable expansion in recent years. As a result, it has become increasingly important for teachers in Burkina Faso to advance their teaching practices and embrace innovative approaches to enhance the learning experience for their students. The theoretical content presented in this chapter aims to bridge the gap between theory and practice, equipping educators with the necessary knowledge and tools to navigate the evolving educational landscape.

³⁶ Socio Constructivism is an educational theory that emphasises the social and cultural context in which learning takes place. It recognises that knowledge is co-constructed through social interaction and emphasises the importance of collaboration and dialogue in learning processes. Constructivism, on the other hand, posits that individuals actively construct knowledge based on their experiences and existing mental frameworks. It highlights the role of learners' prior knowledge and personal interpretations in the learning process.

4.1. Distance Learning

In the present context, distance learning is spreading faster and faster in all areas of our life, particularly in the educational domain. However, it cannot completely replace traditional learning but has several advantages (Kotrikadze & Zharkova, 2021). The covid-19 epidemic has demonstrated the value of distance learning and virtual classrooms. Indeed, during the pandemic, most educational institutions in developed countries switched from classroom teaching to distance learning, and almost all face-to-face instruction was replaced by online instructional formats. This immediate transition has been called ERT: Emergency Remote Teaching (Hodges et al., 2020; Rapanta et al., 2020). Learning Management System (LMS) as a teaching and learning platform has been fully utilised during this crisis. Whereas in Burkina Faso, for example, those devices have not yet been integrated into the educational system, so they were not able to take the opportunity to continue their pedagogical activities due to numerous restrictions and measures. As a result, schools and universities were shuttered and later resumed face-to-face activities, despite the health situation.

Definition of distance learning

Distance education has a rich history, originating in the mid-18th century, and has evolved significantly with the advancement of technology. This review of literature highlights the various dimensions of distance education, its benefits, challenges, and effective pedagogical strategies.

The definition provided by Marija (2012, p. 2) and Roblyer & Edwards (2000, p.192) both emphasise that distance education focuses on teaching methods and technology to deliver instruction to learners who are not physically present in a traditional classroom setting. Heinich et al. (2002) offer a comprehensive definition, describing distance learning as characterised by physical separation between learners and teachers, organised instructional programs by educational institutions, and the use of various media, including low and high technology.

Distance learning offers several advantages, as pointed out by Ibara (2008, p.118), especially in terms of flexibility. Learners can engage in education at their convenience, balancing learning with work, family, and other responsibilities. This becomes particularly relevant for students in regions like Burkina Faso, where distance learning can bridge the gap between education and geographical limitations.

Scholars such as Shachar & Neumann (2003), Zimmerman (2002), and Lynuch & Dembo (2004) argue that distance education models can be more effective than traditional campus-based models, attributing this to the learner's increased autonomy. The independence of learners in e-learning environments fosters responsibility and ownership of learning outcomes.

Ghilay (2022, p. 94) distinguishes two primary modes of online distance learning: synchronous and asynchronous. Synchronous learning occurs in real-time, allowing instructors and students to interact simultaneously in virtual classrooms, while asynchronous learning permits students to learn at their own pace. Both approaches have been widely implemented, especially during the COVID-19 pandemic, offering opportunities for interactive discussions and engagement (Kayalar, 2021).

Despite the advantages, distance education also faces challenges. Researchers like Picciano (2017) and Zhu & Kaplan (2019) point out concerns about decreased student engagement and motivation in online settings compared to face-to-face interactions. Issues related to technological infrastructure and digital literacy skills may also hinder access for some learners, particularly in underserved areas.

To overcome these challenges, effective instructional design and pedagogical strategies are essential. Blended learning models, learner-centred approaches, and the use of multimedia resources have been explored to enhance learning outcomes (Anderson & Dron, 2011; Salmon, 2013). Additionally, maintaining instructor presence, clear communication, and timely feedback are crucial for creating a supportive and engaging online learning environment.

4.1.1. Synchronous Distance Learning

Synchronous distance learning, also known as real-time online education, has emerged as a popular mode of remote instruction in recent years. As mentioned above, it involves online real-time learning. That is, gathering learners and teachers in the same virtual room at the same time to have class. It focuses on interaction through virtual classrooms such as Zoom, Google Classroom, Microsoft teams, etc. and Blackboard (with content posted on Blackboard) (Bin Dahmash, 2021, p. 95).

Instructors' role and pedagogical strategies are crucial in synchronous distance learning environments. Studies have emphasised the importance of instructors' facilitation skills, clear communication, and active engagement with students. Effective instructional design that promotes interactivity, encourages student participation, and incorporates active learning strategies can enhance the effectiveness of synchronous distance learning (Murphy & Rodríguez-Manzanares, 2020; Picciano, 2017).

Researchers like (Hung et al., 2019; Rovai & Jordan, 2004) have found that synchronous distance learning allows for immediate feedback, real-time discussions, and collaborative activities among learners. These interactive elements foster a sense of community, promote active participation, and enhance the overall learning experience.

Furthermore, researchers have examined the benefits of synchronous distance learning for learners from diverse backgrounds. Synchronous instruction allows for the participation of students who may have limited access to physical classrooms due to geographical, time, or mobility constraints. It promotes inclusivity by providing equal

opportunities for engagement and learning regardless of location. Additionally, synchronous learning can support the needs of students who thrive in interactive and structured learning environments (Nordmann et al., 2018; Zhu & Kaplan, 2019).

The benefits of synchronous education include real-time interpersonal communication with the teacher, who provides students with immediate feedback, and learners can interact with one another, ask questions, and take exams through this medium. It also helps to reduce the distance in online learning and makes students feel more involved and motivated in the classroom. (Toker Gökçe, 2008, McBrien et al., 2009). In studying English as a foreign language, for example, the synchronous form of education allows students to discuss in live with native speakers, and the pressure of speaking in front of others is removed so students can put their questions and comments into the chat box, which give them enough time to think about them before asking. Hrastinski, (2008) and Picciano, (2017) have shown the effective integration of technology in synchronous learning environments. For them, it can enhance student learning outcomes, promote critical thinking skills, and facilitate meaningful interactions.

Moreover, synchronous settings offer learning management through group work or video chats, which by definition promote social contact as well as student-teacher or student-student interaction. (Ghilay, 2022, p. 94).

While synchronous distance learning offers numerous benefits, challenges have also been identified in the literature. One key concern is the need for effective time management and scheduling. Synchronous classes require learners to be available at specific times, which may pose challenges for those with conflicting commitments or different time zones. Additionally, technical issues, such as internet connectivity problems or software compatibility, can disrupt the smooth delivery of synchronous sessions (Hew & Cheung, 2013; Means et al., 2013). Another major disadvantage of synchronous learning is that technological problems such as poor internet connection can hinder synchronous learning (so this type of learning requires a better internet connection). On the other hand, since the pace is set by the instructor, not by the students, in case the learners miss something during the course or misunderstand a concept, they will probably not have the opportunity to go back and listen to the course again.

In response to the challenges posed by synchronous learning, it is necessary to explore alternative solutions. A practical approach involves recording synchronous sessions and providing access to learners who experience internet connectivity issues. The adoption of this strategy consequently necessitates a consideration of the advantages offered by asynchronous learning.

4.1.2. Asynchronous Distance Learning

Asynchronous learning, also known as self-paced or independent learning, has gained significant attention in recent years as an alternative mode of education delivery. This approach allows learners to access course materials and complete assignments at their own convenience, without the need for real-time interaction with instructors or peers.

According to (Van der Keylen et al., 2020), it is a method of online learning that is conducted in such a way that learners can start and finish the training whenever they want, independently of the training provider. Likewise, the Glossary of Education Reform defines it as ‘the forms of education, instruction, and learning that do not occur in the same place or at the same time’ . Basically, in asynchronous learning, learners and instructors are not face-to-face or in real-time; they achieve learning in their own time, without direct interactions with peers and teachers.

Asynchronous learning is characterised by its flexibility and adaptability to diverse learner needs. It emphasises the use of technology-mediated communication tools, such as discussion forums, email, and learning management systems, to facilitate interaction and collaboration among learners and instructors (Bonk & Zhang, 2020). This mode of learning promotes self-regulated learning, as learners take responsibility for managing their time, accessing resources, and engaging in online discussions (Bannan-Ritland, 2012). As students have limited class time, it’s essential for them to learn how to learn efficiently. This equips them with the skills to prepare for self-directed learning in the future. Additionally, managing their learning time outside the classroom is crucial. This involves effectively choosing, measuring, organising, and allocating time to maximise knowledge production. (CUQ, 2014: 10).

Numerous studies have highlighted the benefits of asynchronous learning. Firstly, it provides flexibility, allowing learners to balance their education with work, family, or other commitments (Cleveland-Innes & Campbell, 2012). Secondly, asynchronous learning promotes learner autonomy and independence,

as students have the freedom to set their own learning pace and explore topics of interest (Perraton, 2010). Additionally, asynchronous learning supports reflective thinking and deeper engagement with course content, as learners have more time to process information and formulate thoughtful responses (Jaggars & Xu, 2016).

Learning is generally conducted through activities such as watching pre-recorded lectures, reading assigned materials, and participating in discussion boards. (sabbott, 2013). In the meantime, indirect interactions can occur through email, discussion forums and social media groups. The advantage of this type of learning is that: learners are not limited to a specific schedule or timetable for learning, which allows for flexibility and the ability to balance work, school and family life. They have more time to think and plan since an immediate response is not required, leading to more clarification and an in-depth understanding of the learning content. Another advantage is that learners can work at their own pace and according to their requirements and can also go back and review lessons as many times as they wish³⁷ (Abuseileek & Qatawneh, 2013).

Therefore, the asynchronous learning mode has drawbacks: One of the main concerns is learner isolation and the lack of immediate feedback from instructors and peers (Lowenthal & Hodges, 2015).The inability to ask questions and receive immediate feedback because one must email the teacher or post a question in a discussion forum and wait for a response, which can take a while, the lack of interaction and collaboration, Additionally, maintaining learner motivation and accountability can be more challenging in asynchronous settings, as learners must possess self-discipline and time management skills (Moore, 2013). Technological issues and access disparities can also hinder the effectiveness of asynchronous learning, particularly in resource-constrained environments (Leask, 2019).

³⁷ (*Synchronous Learning*, 2022)

However, Asynchronous learning requires more self-learning skills to stay on track, including adequate motivation and a desire to achieve learning goals (Hartnett, 2015). From the teacher's perspective, it requires much planning with collaborative tools such as discussion boards, interactive activities, script writing, and storytelling. Students also need solid digital skills to complete academic assignments and learning activities (Kim et al., 2019).

To enhance the effectiveness of asynchronous learning, various strategies have been proposed. One such strategy is the use of multimedia resources and interactive learning materials to promote learner engagement (Dennen & Burner, 2008). Another effective approach is the incorporation of collaborative activities, such as online group projects or peer assessments, to foster social interaction and peer learning (Palloff & Pratt, 2007). Clear and structured communication guidelines, as well as prompt and constructive feedback from instructors, are also crucial in asynchronous learning environments (Wang et al., 2020)

The analysis of synchronous and asynchronous learning reveals that both modes of instruction have advantages and disadvantages. To this end, researchers such as (Xie et al., 2018) suggest that a combination of synchronous and asynchronous modes is more desirable for online learning than each one separately.

4.1.3. Hybrid Distance Learning

Hybrid distance learning, also known as blended learning, combines face-to-face instruction with online learning components, creating a flexible and interactive educational experience. This mode of learning has gained prominence in recent years as it seeks to leverage the benefits of both traditional classroom settings and online learning environments.

(Rukayah et al., 2022, p. 620) Defined Hybrid learning as online learning that is combined with face-to-face learning. Also called blended learning, it consists of combining both synchronous and asynchronous learning modes. In the hybrid learning process, face-to-

face lessons are taught with in-class activities, while some activities and practices continue outside the classroom. For (Pesen, 2014), hybrid learning is an approach for combining the strongest aspects of classroom and online learning and developing the knowledge and communication skills necessary for success. Concerning (Bersin, 2004), he considers it to be ‘the combination of different training media (technologies, activities, and types of events) to create an optimum training program for a specific audience’ . This implies that the objective is to contribute to students’ learning by making the most effective and efficient use of the educational environment established by integrating face-to-face learning with technology-supported teaching (Kazu, 2022, p. 250). Some researchers, like (Plailek et al., 2022, p. 251), see hybrid learning as a method of learning that focuses on fostering interactions in the classroom between students and instructors with the help of current technology and educational innovations.

The approach of hybrid learning is well illustrated in the figure below:

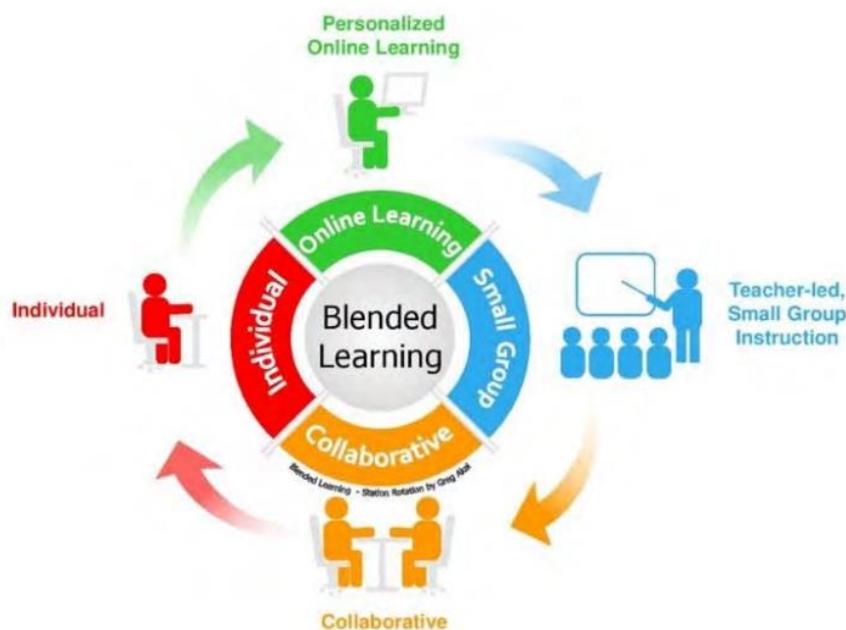


Figure 6: Blended learning. Source: Rosita, 2020: 37

Hybrid distance learning involves a thoughtful integration of in-person classroom instruction and online learning activities (Garrison & Vaughan, 2018). It typically utilises a learning management system (LMS) or other online platforms to deliver instructional content, facilitate interaction, and provide opportunities for collaborative learning. The

face-to-face component may consist of lectures, discussions, group work, or hands-on activities, while the online component may include multimedia resources, online discussions, and self-paced modules (Graham, 2019).

Arising from the above, I understand that hybrid learning integrates face-to-face meetings with online or offline media and learning methods and modalities that consider three essential elements: explain, explore, and design. This is done with six elements such as (a) face-to-face that are synchronous, (b) independent learning, (c) applications, (d) tutorials, (e) collaboration, and (f) process-based evaluation and results. (Graham, 2014).

In order to carry out these practices outside the classroom in an appropriate way, some web-based tools such as Moodle, Blackboard, Edpuzzle, blogs, online learning platforms (VIA, ZOOM), Google Docs, learning management systems, Prezi, Storyline, and Youtube are used to present and manage learning materials and course content. (Kazu, 2022: 250) in blended learning and open educational resources made available to teachers and learners.

Hybrid learning allows more time for students to explore and engage with the material and learn through content delivered online and accessed anytime and anywhere (Dwigustini et al., 2021; Rad, 2021). It also allows access to a more comprehensive range of students. It offers the possibility of including a broader learning experience, as the interaction between students in collaborative situations creates a good learning experience, as was the case with the VEC project, where students coming from different areas had to work together to learn and complete tasks (Raes et al., 2020).

In language learning, for example, hybrid learning can be used to help students continue learning outside the classroom. In my study, I used Wooclap to teach listening comprehension. With this tool, students have the opportunity to pursue listening activities at their own pace and time.

This study focuses on using blended learning with collaboration and peer tutoring to promote students' potential to produce innovation in English language learning by promoting three areas of performance based on developing students' digital literacy, interdisciplinary project management skills and language learning (McClelland, 1973).

However, despite these advantages, distance learning also has its downsides that should be considered. For example, it does not facilitate social interaction, and as stated by (Bijeesh, 2017), the chances of getting distracted and losing track of deadlines are high because there is no faculty around for face-to-face interaction and no classmates who can help with constant reminders about pending assignments. One of the main concerns of hybrid learning according to Parker et al. (2013) is ensuring a seamless integration of online and face-to-face components, as well as effective time management for both instructors and learners. Hybrid learning also requires careful planning and instructional design to ensure that learning activities align with intended learning outcomes and maximise the benefits of each modality (Garrison & Vaughan, 2018).

Technological issues and access disparities can also affect the implementation and effectiveness of hybrid learning (Pape & Prosser, 2017). To optimise the benefits of hybrid distance learning, various strategies have been suggested. Clear communication and expectations are essential to help learners navigate the blended learning environment (Bonk & Graham, 2012). Providing opportunities for active learning and collaboration, both in the face-to-face and online components, can enhance learner engagement and promote deeper understanding (Picciano, 2017). Incorporating formative assessments and timely feedback can also support learner progress and address any misconceptions (Garrison & Kanuka, 2004).

Given the importance of distance education, Burkinabe universities should have unique teaching management systems that reflect their characteristics and meet their requirements, adapt quickly to technological innovations that will emerge in the medium and long term, and integrate synchronous, asynchronous and blended teaching possibilities into distance education practices (Baki et al., 2009).

4.2. Challenge-Based Learning Pedagogy (CBL)

Challenge-based learning (CBL) is defined by (Perez-Sanches et al., 2020, p. 6) as a pedagogical approach that ‘actively involves students in real-life, meaningful and context-related situations’ . It is an engaging and multi-disciplinary teaching and learning approach where students work collaboratively and solve authentic problems (Apple, 2008).

It has its roots in the evolution of experience-based learning practices originated from the work of John (Dewey, 1938) and later developed in pedagogical approaches such as problem-based learning (PBL), action learning, adventure education and simulation and gaming (Malmqvist et al., 2015), (Kolb & Kolb, 2017).

The definition provided on the European Consortium of Innovative Universities (ECIU) website states that ‘CBL is a learner-driven method, where learners take ownership of their challenge, define the problems they want to work on and acquire the necessary knowledge and skills to solve the challenge. Teachers guide and facilitate team culture, help students manage the tasks and move towards innovative thinking’³⁸.

The literature review on this approach showed that Challenge-based learning refers to a multi-disciplinary approach whereby students learn to solve real-life challenges or problems and build new understanding, meaning and knowledge.

Therefore, the definition of (Nichols & Cator, 2008) that CBL is a multi-disciplinary approach to education that encourages students to leverage the technology they use in their daily lives to solve real-world problems by allowing students to focus on a challenge of global importance and apply themselves to developing local solutions (Nichols &

³⁸ <https://www.eciu.org/for-learners/about#cycle>

Cator, 2008) fits well with our study (the virtual environmental challenges) in which students worked together, using open educational resources to come up with ways to make their university, more environmentally friendly.

CBL is interesting as it offers a robust framework that empowers students to learn effectively and retain knowledge for both the present and the future. It provides flexibility to allow students agency in selecting problems they choose to solve, the questions they choose to investigate and methods to do so, and how they choose to solve the problem they identify. (Apple, 2008) indicates that it enables 21st-century skills and creates active learning and motivation in the classroom. In addition, in CBL, the students' motivation is high because of the connection to the real-world problems they solve (Lackéus,2020). The review of the literature revealed that three different stages constitute CBL.

4.2.1. Stages in Challenge-Based Learning

The CBL framework is divided into three interconnected phases, including activities preparing the learners to move to the next phase.

- The 'Engage' stage is the one that begins with a 'global concept' or 'big idea'³⁹, presentation. In this stage, learners have to clarify expectations for the participants, brainstorm, formulate questions to be answered by the participants. Learners are encouraged to ask questions to assist them in clarifying their thoughts and deciding on a specific direction for developing their solution (Nichols et al., 2016).

After that, crucial inquiry helps them to contextualise and personalise the big idea. The final result is a single fundamental question that is relevant to the team. The key questions have been answered to become a call to action or challenge, charging learners to learn about the issue and develop a solution. This leads learners to the next stage.

³⁹ A big idea is a broad subject or notion that may be investigated in a variety of contexts and is significant to the students and the larger community. It may be environmental issues, ecology, energy, transportation, and sustainability.

Subsequently, a critical inquiry process facilitates the contextualisation and personalisation of the overarching concept. As a culmination of this process, a solitary, fundamental question about the team is generated. Once the critical questions have been addressed, they are transformed into a call to action or challenge that motivates learners to gain knowledge about the topic and devise a resolution. This progression serves as a catalyst for the subsequent stage of learning.

- In the ‘Investigate’ stage, the learners begin with formulating guiding questions that include everything that needs to be learnt to really understand and analyse the actionable challenge and develop an informed solution. So, they go further into the defined notion and ask more questions to clarify the additional information necessary to complete the task. (what they need to know and know how to do in order to solve their challenge). The learners determine the activities and resources to help successfully complete the challenge. Guiding activities and resources are used to answer the guiding questions developed by the students. (Ibid, 2016)

- In the third stage, ‘Act’, the learners use the analysis data to find the solution to the challenge. They create prototypes, experiment, and consult with teams, businesses, society, etc. When an appropriate solution is found, the action plan is developed. After proper preparation, the solution is implemented. Finally, the results and success of the implementation are analysed.

In some cases, this interactive design cycle will raise new guiding questions requiring further research and swing them back to engage stage.

Learners share their experiences using voice, video, pictures, and photography throughout the challenge. The continual accumulation of information provides tools for reflection, informative evaluation, and learning process documentation.

Challenge-Based Learning Cycle

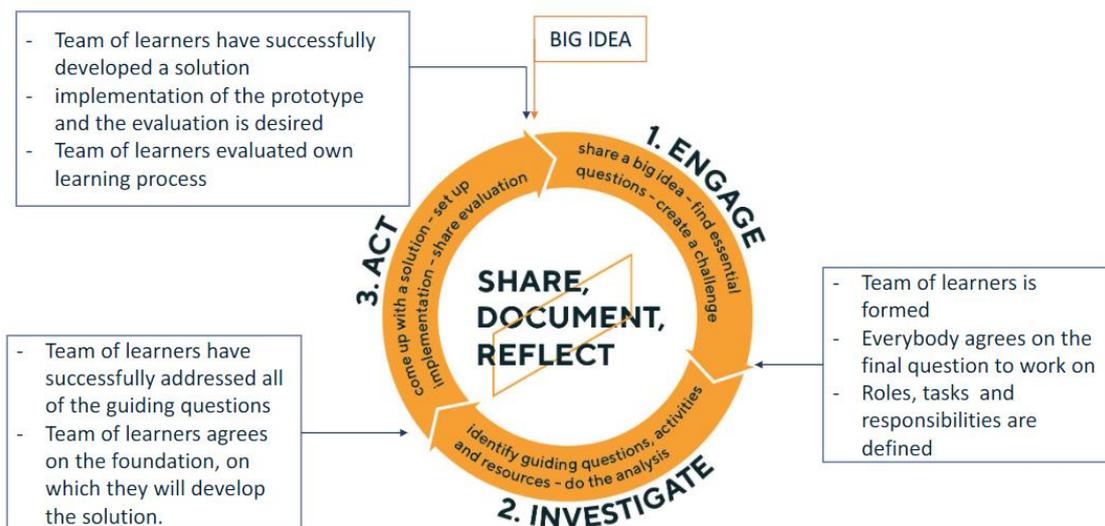


Figure 7: Challenge-Based Learning stages⁴⁰

4.2.2 Defining the Key Roles in CBL

In order to better understand the role of stakeholders in the challenge-based approach, it is necessary to define some fundamental notions inherent to this concept. Indeed the CBL has developed a concept of teamcher.

A teamcher is defined as an individual who, on his own or as part of a team, arranges, leads, and supports CBL activities. He takes and often also slides between the roles of teacher, coach and organiser of CBL activities (Eldebo et al., 2022). For challenge-based learning to work, I find from the previous definition that three prominent roles are required:

- The academic teacher and examiner role includes course creation and development of formal course plans, including formulation of learning goals and clear assessment criteria. This role also includes being the examiner of the

⁴⁰ <https://tuhh.padlet.org/c00zll01/basic-principles-in-challenge-based-learning-sevs9o3ybrqkcx01/wish/2247435336>

CBL course. This role is mainly oriented towards enabling the students to acquire knowledge.

- The role of the facilitator or coach, which includes matching students to projects, coaching the students in their development project, support in group dynamics and support to overcome problems along the way, is mainly oriented toward enabling students to acquire skills.
- The role of the organiser includes finding challenge providers, creating challenge briefs that suit the CBL course's purpose and benefit the challenge provider, and handling immaterial property rights issues and contracts (if used) between challenge providers and students. (Ibid, 2022: 11).

In the framework of my study on the VEC, we have adopted the term 'teamcher' for the role of Master 1 in the VEC, who will be responsible for liaising with their team of learners, accompanying them and guiding them towards the success of the challenges. We have also developed the concept of team, mentor and participants, based on the principle of challenge-based learning, which is gathering a team of learners to work on a real-life problem to develop a solution useful for the entire community. Below is the challenge-based cycle adapted to the VEC.

VEC CBL & IAH

Teamcher Input 3

- guide the participants towards the final production
- act as a cheerleader during the VEC presentations
- help teams debrief

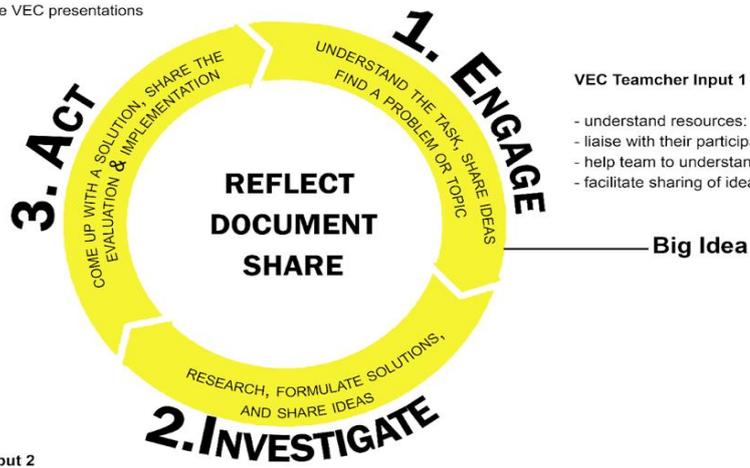


Figure 8: CBL pedagogy applied to the VEC. Source: Moore, 2022⁴¹

All in all, the analysis of the CBL shows us that this model is adapted to my study both in the structure and in the steps followed to reach the goal.

⁴¹ <https://tuhh.padlet.org/c00zll01/basic-principles-in-challenge-based-learning-sevs9o3ybrqkcx01/wish/2247435336>

4.3. Collaborative and Peer Learning

The approach of collaborative and peer learning has been adopted in this research. It is an instructional approach that involve students working together in groups to construct knowledge and solve problems. Collaborative learning emphasises the interaction and shared responsibility among learners, while peer learning focuses on the exchange of knowledge and support among peers. (Johnson & Johnson, 2009; Vygotsky, 1978). These approaches promote active engagement, social interaction, and the development of higher-order thinking skills.

The term Collaborative Learning refers is an instruction method which requires students to work together in small groups toward a common goal at various performance levels leading learners to be responsible for one another's learning as well as their own (Gokhale, 1995). It has also been found that collaborative learning is the process of two or more students working together to find a shared solution to an existing group task (Asterhan & Schwarz, 2016; Dillenbourg, 1999). According to (Blasco-Arcas et al., 2013: 105)

Collaborative learning encompasses any learning activity that a group of learners performs with a common goal who create meaning, explore a topic, or even want to improve skills. Each learner is a source of information, motivation, interaction and mutual support. In collaborative learning, knowledge, experience and authority are shared. Through this process, learners learn from each other and develop a positive interdependence'.

For (Dillenbourg, 1999, p. 8), Collaborative learning is an educational approach where learners are gathered into small groups to work together to solve a problem, complete a task, or create a product. In collaborative learning, learners negotiate and coconstruct the meaning of new knowledge 'together'. It typically refers to an activity where students

collaborate to accomplish a common learning objective (Barkley, Cross, and Major, 2014). As far as (Lebrun, 2015) is concerned, ‘Collaborative learning involves group work, but not all group work is necessarily collaborative learning. A collaborative task needs to be formulated in such a way that a single student cannot solve it, i.e., that it forces a real collaboration of the group members’⁴². Hence, collaborative learning implies a positive interdependence of goals.

It is generally considered a more effective pedagogical approach than passive forms of learning (Johnson, Johnson, & Smith, 2007; Terenzini et al., 2001), as having students work collaboratively on an academic task can be more powerful than traditional methods of pedagogy. It motivates students to become more active and involved participants in the learning process’ (Astin, 1993, p. 427). In addition, two or more students working together can learn more than one student working alone - ‘two heads are better than one’ (Bruffee, 1995).

Moreover, previous meta-analyses show that collaborative learning is highly effective and often superior to individual learning regarding academic achievement (Huang et al., 2013). Indeed, students working in small groups achieve higher learning outcomes than students working individually.

Therefore, collaborative learning is built on techniques for setting up processes and strategies to accomplish group learning objectives. According to (de JESUS & Silveira, 2021), these methods constitute peer tutoring, a jigsaw and group Investigation.

- Peer Tutoring that consists of forming pairs of students with asymmetric relationships (one tutor and another tutored) and with a common goal of knowing and sharing. It consists of the responsibility to teach each other.
- Jigsaw: The central idea of the Jigsaw strategy is to investigate a theme from individual explorations that bring to the group the ‘pieces’ for the assembly of

⁴² The translation: Un apprentissage collaboratif suppose un travail en groupe, mais tout travail en groupe ne signifie pas nécessairement apprentissage collaboratif. Une tâche collaborative nécessite d’être formulée de telle manière qu’un étudiant seul ne puisse pas la résoudre, c’est-à-dire qu’elle contraigne à une réelle collaboration des membres du groupe.

the ‘jigsaw.’ The sense of belonging to a team that must achieve a goal is emphasised in this method.

- Group Investigation: this approach understands the class group as a social community researching a particular topic. It relies on the possibility of participating in the choice of the theme and having a goal to be faced. Thus, the class group acts as the scientific community, in which a theme of mutual interest is divided by teams into subthemes.

However, in collaborative work, some learners can be brought to guide and assist others in realising a task, which leads to the concept of peer learning.

Peer learning can be defined as ‘the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions. It involves people from similar social groupings who are not professional teachers helping each other to learn and learning themselves by so doing’ (Topping, 2005, p. 631). Arenas, (2012) argues that doing peer learning allows participants to practise collaborative sharing of power, responsibility, meaning, and knowledge with co-responsible others. Research literature concerning peer learning also uses expressions such as ‘peer mentoring’ and ‘peer tutoring.’ (Zhou, 2020, p. 62), both referring to peer learning. In our study’s scope, we adopted the term peer tutoring.

The distinction between peer mentor and peer tutor made by (Zamberlan & Wilson, 2017) refers to the former as voluntary while the latter is contracted. According to (Townsend et al., 2011 p. 41), ‘peer mentoring was that mentors took on a supportive role offering general assistance and advice and referring mentees to appropriate university support services,’ while peer tutoring ‘was seen as more of a teaching role where mentors assist with very specific curriculum assistance’.

Peer learning is essential because ‘whilst teachers may be experts in their subject area, students are experts at being students, and thus are arguably better placed to lead novice students towards becoming expert students’ . (Longfellow et al., 2008, p. 95). Collaboration in pairs or small groups facilitates learners’ learning and development.

Besides, In collaborative peer learning, the focus is more on learning than on teaching. The teacher is no longer the magister, the sole holder of knowledge, but rather a facilitator who helps students build their knowledge (Deaudelin et al., 2005; Tardif, 1998). He or she accompanies them so that they can take ownership of the project.

It is noteworthy that, in both face-to-face and online courses, learners work collaboratively with their peers and the instructor(s) to explore questions, critically analyse issues, synthesise their understandings, actively construct meaning, and apply their learning to a practical context (Garrison & Anderson, 2003). This is clearly in line with the virtual environmental challenge project, where participants had to work collaboratively and virtually using online resources to find new innovative ways to promote, connect and find ways to improve their skills and their campus environments. (Evain et Zigani, 2021, p. 340).

Therefore, collaborative and peer learning can be fruitfully combined due to several key reasons. First and foremost, combining these two approaches fosters active engagement among students, promoting a deeper understanding of the subject matter. By working together in a collaborative environment, students can actively participate in discussions, share ideas, and learn from their peers' diverse perspectives. They are actively involved in the learning process, discussing ideas, sharing perspectives, and constructing knowledge together (Dillenbourg, 1999). Learners share responsibility for their own learning as well as the success of the group, promoting a sense of accountability and collective effort (Webb, 2009). This contributes to fostering both cognitive development (e.g., critical thinking, problem-solving) and social development (e.g., communication, empathy) (Roseth et al., 2008).

Furthermore, collaborative and peer learning encourages the development of important interpersonal skills. When students work together in groups, they learn how to effectively communicate, cooperate, and solve problems collectively. This provides opportunities for them to interact, communicate, and learn from one another through dialogue and negotiation (Mercer, 2000). These skills are invaluable in real-world scenarios where teamwork and collaboration are essential.

Additionally, the combination of collaborative and peer learning enhances critical thinking and problem-solving abilities. Through interactions with their peers, students are exposed to different viewpoints and alternative solutions, which challenges their thinking and encourages them to analyse and evaluate various options. This process strengthens their analytical skills and enables them to approach complex problems from multiple angles.

Moreover, collaborative and peer learning provides an opportunity for students to teach and learn from one another. By explaining concepts to their peers, students reinforce their own understanding and gain a deeper mastery of the subject matter. Simultaneously, students who receive explanations from their peers may find it easier to relate and grasp the information, as they can benefit from explanations that are tailored to their level of understanding.

Finally, the combination of collaborative and peer learning creates a supportive and inclusive learning environment. Students feel more comfortable seeking help and guidance from their peers, which can boost their confidence and motivation. This sense of belonging and mutual support promotes a positive learning atmosphere and encourages active participation from all students. The social interaction and shared responsibility in collaborative and peer learning contexts increase student motivation, engagement, and ownership of learning (Johnson et al., 2014).

In Burkina, it is particularly useful to combine collaborative and peer learning because there is such a large number of students and an insufficient number of teachers. The country faces significant challenges in providing quality education to its vast number of students, and this situation calls for innovative strategies such as collaborative and peer learning to address the learning needs of all learners and effectively support the education system in Burkina Faso. By fostering active engagement, peer support, and inclusive learning environments, these approaches have the potential to enhance the quality of education and promote the development of essential skills among students.

In the context of my study, a collaboration between learners is necessary since the project brings together participants who are expected to work collaboratively with the help of a remote peer to accomplish assigned tasks.

Conclusion to Chapter Four

The chapter discusses the theoretical background for this dissertation. Firstly, the concept of distance learning refers to the acquisition of knowledge and skills through mediated information and instruction that involves teaching methods and technology to deliver teaching to students who are not physically present in a traditional classroom setting. Although distance learning cannot replace traditional learning, it has several advantages such as flexibility, access to a wide range of resources that may not be available locally, personalised learning through online platforms offering online assessments and feedback mechanisms, and the opportunity to connect with a diverse community of fellow students from around the world.

During the Covid-19 pandemic, educational institutions worldwide faced unprecedented challenges in ensuring continuity of education while prioritising the health and safety of students and staff. In response to the crisis, many developed countries swiftly transitioned from traditional classroom teaching to distance learning as a temporary solution. This shift brought forth several notable developments and considerations such as adaptability and continuity through digital technologies and online platforms, remote accessibility allowing students who faced physical barriers to attending school, flexibility and personalisation so that Students could access pre-recorded lectures, digital learning materials, and interactive resources at their convenience.

Furthermore, the chapter discusses three modes of distance learning: synchronous, asynchronous, and hybrid. Asynchronous distance learning allows learners to start and finish the training whenever they want, and it is done through activities like watching pre-recorded lectures, reading assigned materials, and participating in discussion boards. This mode allows learners to work at their own pace and has the advantage of flexibility. However, it also has drawbacks like the lack of interaction and the requirement of self-

motivation to complete the assignment. On the other hand, synchronous distance learning happens in real-time, where learners and instructors interact in real-time through tools like video conferencing. This mode allows learners to ask questions and receive immediate feedback but has limitations such as internet connectivity issues. Hybrid distance learning is a combination of synchronous and asynchronous learning modes, which allows learners to attend face-to-face lessons with in-class activities while continuing some activities and practices outside the classroom. It integrates face-to-face meetings with online or offline media and uses web-based tools to present and manage learning materials and course content. This mode allows learners to explore and engage with the material and learn through content delivered online, accessed anytime and anywhere. It also allows access to a broader range of students and creates a good learning experience through interaction between students in collaborative situations.

The chapter also discusses the Challenge-Based Learning (CBL) pedagogy, which is a multi-disciplinary and learner-driven approach that engages students in real-life problem-solving. The CBL framework has three stages: Engage, Investigate, and Act. In the Engage stage, students brainstorm and formulate questions to develop a single fundamental question relevant to the team. In the Investigate stage, students formulate guiding questions and determine the activities and resources to complete the task. In the Act stage, students use the analysis data to find the solution to the challenge, create prototypes, experiment and consult with teams, businesses, society, etc., and implement the solution after proper preparation. The CBL approach provides flexibility for students to choose the problems they want to solve, the questions they want to investigate, and the methods they want to use to solve the problem. It also fosters 21st-century skills, creates active learning and motivation in the classroom, and provides long-lasting learning. The chapter also defines the key roles in CBL and introduces the concept of teamcher, which is an individual who arranges, leads, and supports CBL activities.

Having explored the theoretical framework of distance learning, challenge-based learning, collaborative learning, and peer learning, understanding the principles and concepts underlying these approaches, I can now delve into a practical application of these ideas in the Virtual Environmental Challenge project. This following chapter will introduce the project, its partners, and the key actors involved. Additionally, I will

examine the characteristics of the project, including the innovative use of open educational resources (OERs) that support the learning process. Through this case study, we will see how the theoretical foundations discussed earlier are translated into a real-world educational initiative, fostering active engagement, collaboration, and the effective utilisation of digital resources.

CHAPTER 5

VIRTUAL ENVIRONMENTAL

CHALLENGE

Introduction

The Virtual Environmental Challenge (VEC) is an international collaborative virtual classroom project based on challenge-based learning (CBL) and virtual exchanges (VE). It is multilevel, involving competition and mostly international university student competitors on one hand and on the other hand University Rennes 2 Master 1 and Master 2 language education students. (Evain & Moore, 2022). It is a project of Rennes 2 University, in collaboration with European university partners of the EMERGE Alliance and the University of Complutense in Madrid, initiated and led by one of Rennes 2 University's professors, responsible for the language didactics program. According to her:

The idea just came from a desire to launch an original program with our partners or other willing institutions that would foster international collaborative work between students and help them find innovative and environmentally-friendly ways to improve their campuses. We worked with the University's SUP office (the Pedagogical Service) and Dr. Catrin Bellay to develop the idea of building a 'virtual campus' into the idea of building a 'green virtual campus'. Another main aim of the project for us as teachers is to help our students become comfortable collaborating with peers virtually and help them to hone their interdisciplinary project management skills all at once.

The VEC initiated and coordinated by Rennes 2 University is a collaboration of partner universities who joined together to create the European Margins Engaging for Regional and Global Empowerment (EMERGE) alliance. They are working together on a program funded by ERASMUS+ designed to strengthen the competitiveness of European higher education by adopting a challenge-based approach under which students, academics and

external partners can cooperate in interdisciplinary teams to tackle the most significant issues facing Europe today. These partner universities are Université Rennes 2, Europa-Universität Flensburg, Inland Norway University Of Applied Sciences, University of Limerick, Matej Bel University, and Université Bretagne Sud). They have been working together on the VEC since 2020 with the first edition. For the second edition, they were joined by the University of Complutense of Madrid and, eventually, intend to expand the partnership to other institutions for future editions.

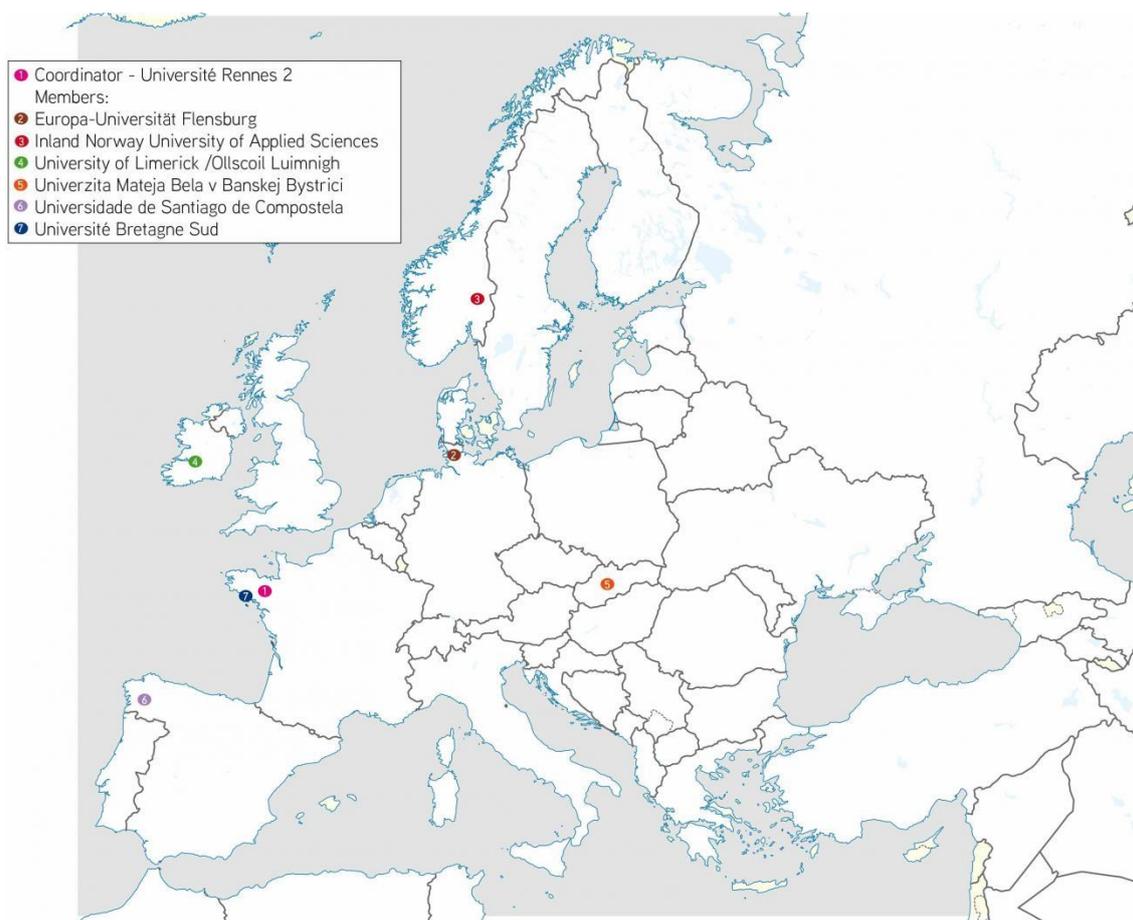


Figure 9: EMERGE partner universities.

The VEC is also an extension of an innovative project of Rennes 2 University called *DisTutoLang*, which is a Pedagogical Innovation Project in which student teachers lead virtual classroom activities at the Master’s level (Evain et al., 2020; Evain & De Marco, 2020).

The VEC started in the first semester of the 2020-21 academic year with an English language version for the first edition. That first edition was successful, so the French

version, called Défi Environnemental Virtuel (DEV), was added in the second edition. It was held in the first semester of the 2021-22 academic year. In the next editions, new versions of the DEV such as the ‘DEV-LS’ on sign language and the ‘Petit-DEV’ (small DEV) with elementary school pupils was added.

5.1. Objective of the Virtual Environmental Challenge

The Virtual Exchange Classroom (VEC) is an initiative that promotes environmentally friendly projects and facilitates the exchange of best practices among universities. It does so through a virtual classroom format, where peer-to-peer presentations are conducted. The primary objectives of the VEC are to foster peer-to-peer education on an international scale and utilise open educational resources (OER) in two specific areas: teaching and learning languages for specific purposes, as well as challenge-based projects. One of the key components of the VEC is the involvement of M1 students who act as coaches. These students work with teams of international students online, guiding and supporting them in completing challenges based on an ecolinguistics Massive Open Online Course (MOOC). By engaging in this process, the M1 students not only enhance their own understanding of the subject matter but also develop important coaching and mentoring skills. (Evain, 2021).

In addition to facilitating knowledge exchange and peer-to-peer education, the VEC also aims to enhance students' digital literacy and interdisciplinary project management skills. By utilising open online resources, the initiative ensures that students have access to a wide range of educational materials and tools that can support their learning and project development.

Overall, the VEC provides a platform for international collaboration and cooperation among students, enabling them to explore environmentally friendly projects and share best practices. By incorporating OER and challenge-based learning, the initiative promotes active learning, critical thinking, and interdisciplinary approaches to problem-solving. It contributes to the development of students' skills in various areas, including digital literacy, project management, and effective communication in specific languages for academic and professional purposes.

5.2. VEC Stakeholders and Their Role in the Project

The VEC stakeholders refer to all people involved in the project. The first two editions of the project (VEC 2020-21 and VEC 2021-22) brought together students and teachers from eight different universities. Specific terms such as ‘manager’, ‘country coordinators’, ‘teamchers’, ‘mentors’ and ‘participant’ are used to identify them. The figure below show the structure of the interaction between stakeholders. In the following lines I will define the role of each of them.

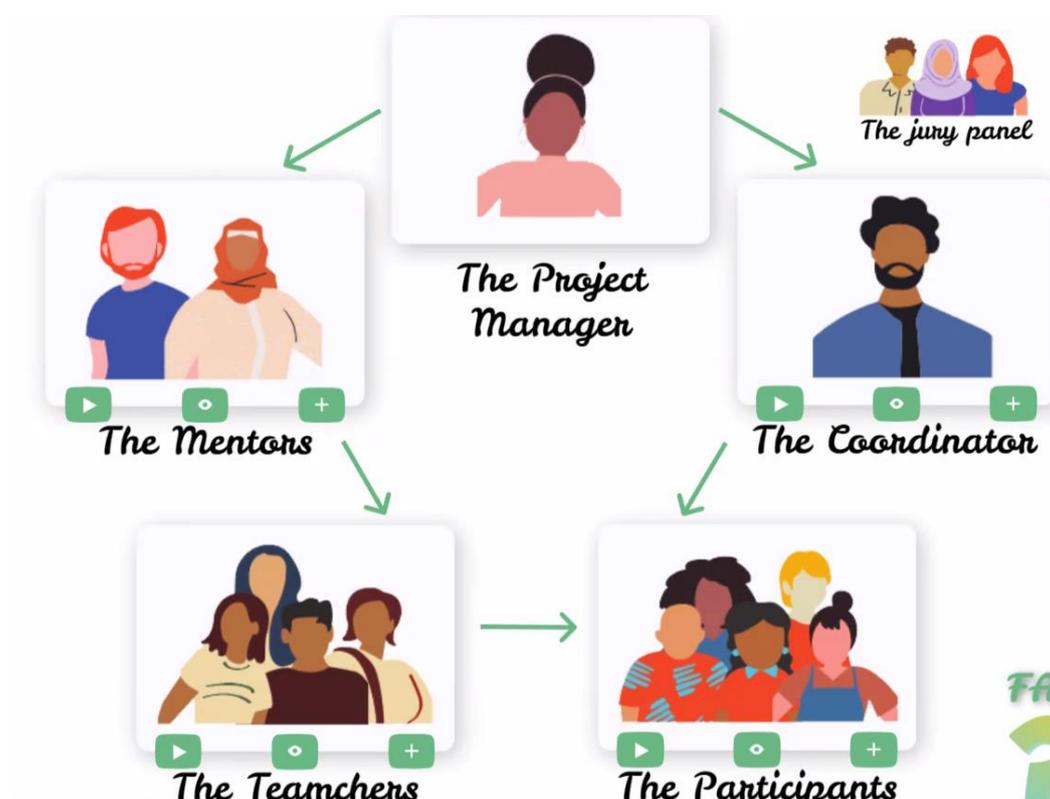


Figure 10: VEC stakeholders. Source : <https://vecp.hypotheses.org/a-propos>

5.2.1. The VEC Manager

The VEC project is an original idea initiated by a teacher-researcher from the University Rennes 2 who serves as the VEC ‘manager.’ Her responsibilities include defining the roles of all actors involved and providing instructions for coaches to effectively lead their team to meet challenges. Additionally, the manager oversees the project by organising meetings with the country coordinators, the SUP department, the coaches, and the super coaches. The manager is also responsible for scheduling the competitions to accommodate all participants’ availability and providing support to the coaches via discussion groups to track their progress. Finally, she is the one who supervises and evaluates the project, and identifies improvements for future editions.

5.2.2. Country Coordinators

The country coordinator is a key member of the VEC, serving as a crucial link between the project and its participants. Their primary responsibilities encompass active participation in project preparation meetings, enabling them to comprehend the project’s objectives and their anticipated contributions. In addition, the coordinators have the role of building their university team(s). They can bring more than one team whenever they have many students available to participate in the project. They must also convey the project’s scope and their role as participants to their respective team(s) while providing general information. Advising, supporting, and encouraging their team(s) to accomplish the challenges is also part of their remit. The coordinators must ensure payment for their team’s participation in the VEC, amounting to three European Credit Transfer and Accumulation System credits (ECTS). The coordinators must integrate the project into a future call for proposals within their institution.

5.2.3. Teamcher

The term ‘teamcher’ is a combination of ‘team’ and ‘teacher’. It refers to the role assigned to Master 1 in Language Didactics (M1DDL) students at the University of Rennes 2 within the context of the VEC. This term emanates from the challenge-based learning

(CBL) approach. In first two editions of the VEC, these students were referred to as coaches. However, the VEC has adopted terminologies from the CBL approach, and as such, these students are now called teamchers. Their specific role involves guiding teams of international students participating in remote competitions, using open educational resources. The teamchers work in groups of two or three to guide the participating teams and are in return supervised by mentors. They undergo two weeks of training and participate in VEC workshops to facilitate their task (see figure 11).

The role of the teamcher is to establish contact with their team via email, communicate the project’s purpose and the expected tasks, hold weekly meetings with their team through their preferred means of communication (e.g., WhatsApp, Discord) and set clear objectives for each week. Additionally, the teamchers support their teams in selecting themes and preparing assignments and they liaise with teams and organisers regularly in order to assess the student’s potential to guide them toward successful participation in the VEC.

Votre mission de “teamcher” C

1er objectif

préparer votre équipe au défi

6 livrables intermédiaires
3 livrables pour les 3 “rounds” du défi
(voir diapo sur l’échonnelage du travail)

2ème objectif

Préparer et animer, à tour de role, une séance par semaine.

1 ressource didactisée
Voir feuille de consignes pour la préparation H5P.

Pour accomplir votre mission, vous serez aidés par des vos mentors (M2) M2

Avec le soutien de 2 étudiantes + une doctorante

Respecter le calendrier.

Février			Mars				Avril		
7-11	14-18	21-25	28-04	7-11	14-18	21-25	28-01	4-8	
Lancement			¼ finale du 15 au 31 mars				½ finale : 1 ^{er} avril	Finale : le 5 avril à 18h30(heure Fr)	11
calendrier & inscriptions			rdz-vs sur notre google sheet						

Figure 11: instructions given to the mentors during the VEC preparation workshop. Source: Cusseau, 2021

In this figure, during the VEC preparation workshop, the teamchers were presented with the project’s objectives, the calendar to be respected, and their duties as teamchers.

5.2.4. Mentor

In the first two editions of the VEC, the term ‘super coaches’ was used to refer to the ‘mentors’. These mentors are students who have participated in previous VEC edition as teamchairs and are tasked with assisting in the general organisation of the VEC. Their role involves organising competitions, meetings, and events, as well as supervising and defining the roles of teamchairs. The mentors also facilitate the participants’ and teamchairs’ teams and communicate general information to coordinators and teamchairs. Additionally, they identify, implement, and promote useful information and communication ICTE tools to be used within the VEC. The mentors create resources such as tutorials, email templates, and assist teamchairs in personalising their emails. They establish evaluation criteria for the events and ensure that the instructions are correctly followed.

5.2.5. Participants

The participants of the VEC are students from universities participating in the VEC. They are recruited by the country coordinators and divided into university teams. As the VEC project stems from the ERASMUS program and is based on the Internationalization@Home policies, participation is considered part of their initial training. In the first and second editions of the VEC, there were eight teams (Burkina Faso, Ireland, Slovakia, and France) and four teams (Burkina Faso, Ireland, Slovakia, and France), respectively. The participants are expected to undertake the following tasks to read instructions in order to understand what is expected of them, and work collaboratively with their team members to complete all the steps of the challenge, such as the creation of their team logo (see figure 15), the presentation of their environmentally friendly ideas, the creation of a trailer and the Ted talk presentation, if they are among the two winning teams.

Each week, the participants teams hold an online meeting with their teamchair through a virtual platform of their choice, with goals set for each week (for the VEC we use an eight week model – see below).

During these meetings, they received instructions from their team leaders and assignments and discussed the presentations to prepare for the competition. They use practical ICTE tools to complete the challenge and at the end of the project, they participate in the feedback session.

The figure below is a summary of the VEC timeline for participants. It indicates what they need to do and when to do it.

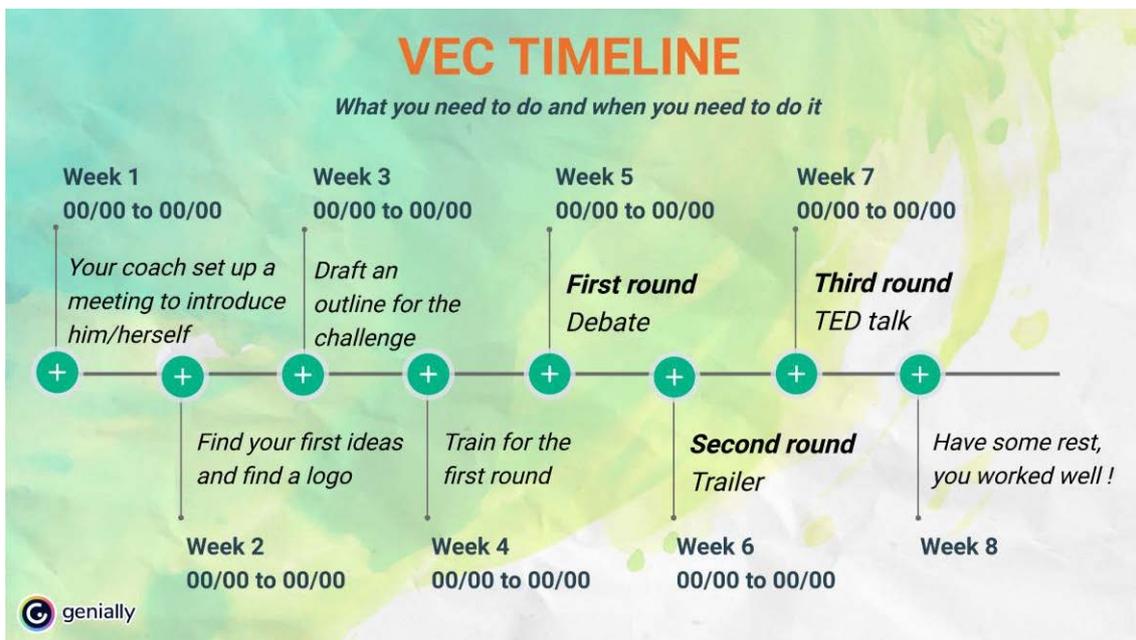


Figure 12: VEC timeline for participant

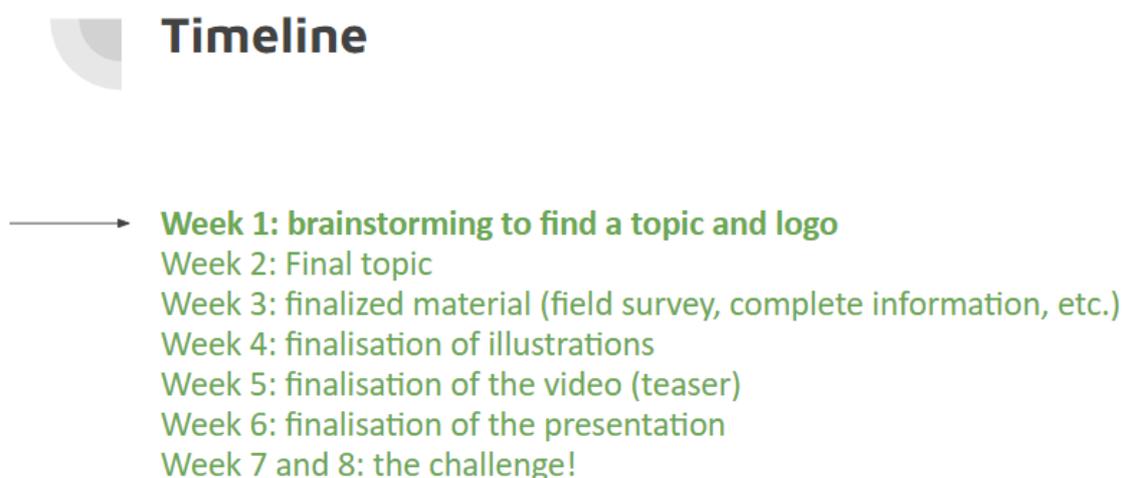


Figure 13: a screenshot of goals set for the eight weeks of competition

Here is an example of one team weekly meeting (figure 14):

Next meeting and “to do”

- a logo
- a topic/an idea
- you can start doing research for interesting and relevant material
- fill in the authorization form: <https://form.jotform.com/22001634214103>
- can we stick to the day and time? Thursdays at 8pm? Is Zoom okay for meetings?

- week 2: 24th of February
- week 3: 3rd of March
- week 4: 10th of March
- week 5: 17th of March (possible ¼-finals)
- week 6: 24th of March (possible ¼-finals)
- week 7: 31th of March (deadline of trailer)
- week 8: 7th of April (FINAL)

TEAMWORK

Together
Everyone
Achieves
More

Figure 14: Example of a team weekly meeting

5.3. Characteristics of the VEC

The VEC is characterised by multiple pedagogical activities related to environmental protection (ecology), language for a specific purpose (LSP) learning, project management and enhancement of students' digital skills, offering a variety of open educational resources (OER). It includes a course based on an Ecolinguistics MOOC called '*Stories We Live By*' and a competition between international teams held in three stages.

The first stage consists of a 20-minute presentation on eco-campus ideas that the teams developed to make their campus environmentally friendly. The presentations are made on the Zoom virtual classroom platform, and the team presentations are followed by a 5-10 minute question and answer session. The second round, in which each team is asked to create a trailer in which they present their eco-campus ideas; the videos are posted on a dedicated YouTube channel for voting. A final in which the two winning teams, present their eco-campus ideas in a Ted talk format.



Figure 15: Team logos of VEC edition 2021 (left) and of VEC edition 2022 (right)

5.4. Digital Tools Used in the VEC

The VEC has a directory of published open educational resources (OER) created directly through each edition. I will present in this section the tools used by the organisers of the VEC for the preparation and realisation of the project, the tools provided to the participants and those that they themselves took the initiative to use, and those used to collect and analyse the data.

5.4.1. Tools Used by the VEC Organisers

The digital tools used by in the framework of the VEC are:

VIA: Rennes2 e-learning virtual platform that offers many opportunities such as the organisation of sessions with up to 300 participants, the possibility of inviting people from outside Rennes 2, management of participants' rights (microphone, webcam...), chat system, screen sharing, document sharing, whiteboard, poll, sharing and remote control, creation of sub-groups (workshops), session recordings, creating sessions from a Moodle course space. It was used to launch the first edition of the VEC in 2021.

Zoom: a cloud-based video conferencing service that is used to meet with others virtually, be it by video or audio-only or both, all while conducting live chats and allowing recording of those sessions to view later. It was used for the presentations during the VEC, such as the first round, where participants competed by presenting their eco-campus ideas. It was also used for the final vote, during which the winning team was designated.

P-MOOC: '*Stories We Live By*' is a free online course in Ecolinguistics produced by Arran Stibbe, Professor of Ecological Linguistics at the University of Gloucestershire (Arran, 2020). The course is based on the Routledge book *Ecolinguistics: language, ecology and the stories we live by*. It describes eight ways that language encodes the stories that society is based on: ideologies, framings, metaphors, evaluations, identities, convictions, erasure, and salience.



Figure 16: Screenshot of the Ecolinguistics Mooc ‘Stories We Live By’⁴³

YouTube Channel was created for the VEC where all the productions are posted, such as the team’s productions (first-round presentations on their eco campus ideas and trailers) and the final Ted Talk presentation between the winning teams. All the meeting sessions were recorded and posted on the YouTube channel to allow those who could not follow the live session to have a look later.

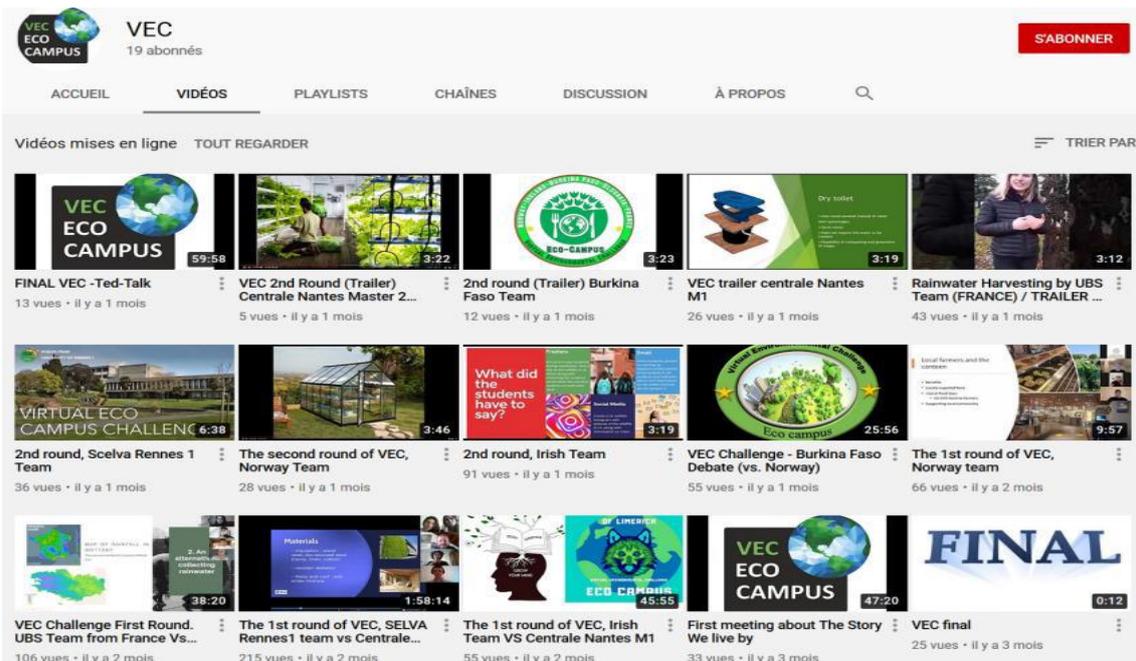


Figure 17: VEC YouTube Channel (<https://www.youtube.com/@vec7865>)

⁴³ (Ecolinguistics | Stories We Live By. <https://www.storiesweliveby.org.uk/>)

Padlet: an online bulletin board that can be used to display information, course, images, links, videos, and documents all collated on a digital wall that can be made public or private. The project’s padlet was created by the project pilot, Mrs Evain, in the VEC first edition, where all information about the forum, teams, coaches and meeting rooms, the VEC guidelines and authorisation, the VEC logo competition, links and youtube channel, and a column dedicated to each team were displayed.

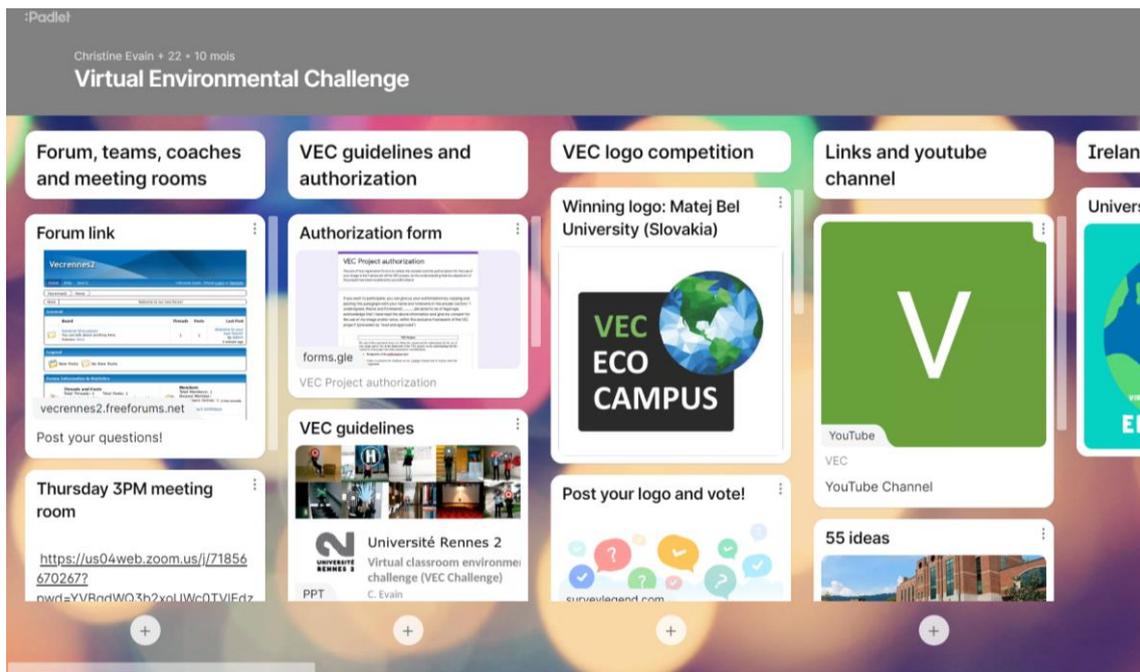


Figure 18: VEC 2021 padlet (<https://padlet.com/evainchristine1/VEC>)

H5P: a plugin used to create interactive videos and images, full course presentations, question sets, multiple-choice questions, drag and drop, board games, flashcards, etc., were used in the VEC to create the MOOC for the VEC French version.

GoogleDocs: an online word processor used to create and edit documents online while collaborating with other users in real-time, was used for all the documents concerning the VEC. It included Excel files containing the general organisation of the VEC, information about coaches, and country coordinators, lists of tasks to achieve and columns containing

information about each team. (Google Docs - Wikipedia.
https://en.wikipedia.org/wiki/Google_Docs)

Vecp.hypothèses: the website created for the VEC project where all information, productions, events, and news can be found on the project.

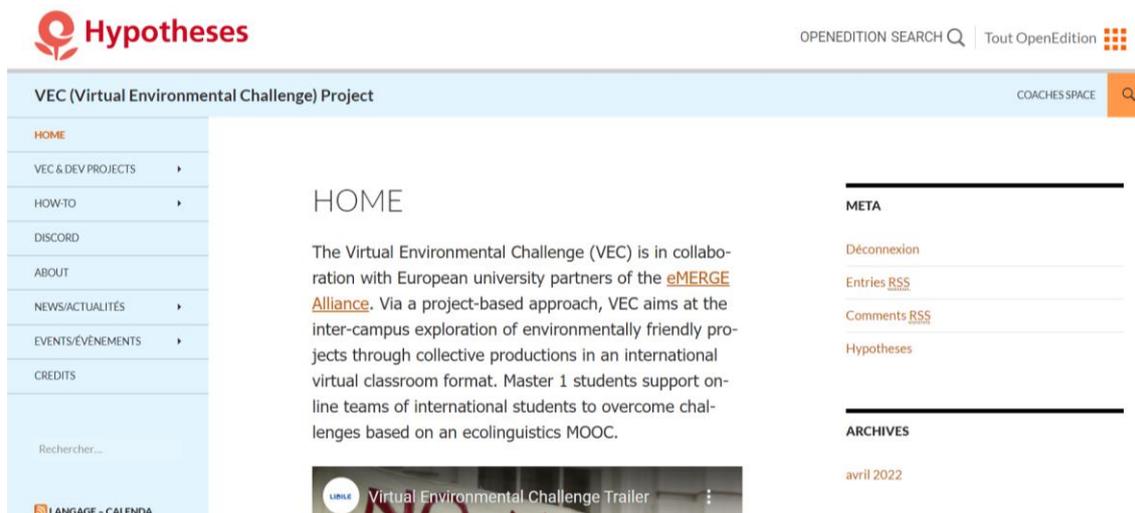


Figure 19: Screenshot of the VEC project's website (<https://vecp.hypotheses.org/>)

5.4.2. Tools Provided by the VEC Organisers to the Participants

One of the primary objectives of the VEC is to develop students' digital skills. To this end, it provides participants with open educational resources that they are required to use to fulfil the assigned tasks, such as presenting ecological ideas relevant to their university and creating a trailer explaining these ideas. The resources proposed to the participants are, among others:

- Images or resources free of rights through websites like pixabay;
- PowerPoint, Genially, and Prezi for their presentation;
- Pecha Kucha: an exactly 6-minute, 40-second method of oral presentation, of a PowerPoint support of 20 slides which scrolls one slide every 20 seconds, with the possibility of recording a voice. For the semi-finals, teams had to make

a Pecha Kucha trailer to present their ideas for eco-friendly universities. For the VEC, the Pecha Kucha had to be no longer than 3 minutes.

5.4.3. Tools Used by the Teams to Achieve the Challenge

In the VEC, participants not only had access to the resources proposed by the organisers but were also encouraged to explore and use a wide range of open educational resources (OER) to successfully complete their assigned tasks. This approach empowered the teams to take a creative and innovative approach to problem-solving and project execution. One striking example of this was demonstrated by the Burkina team, who demonstrated remarkable ingenuity in leveraging various tools to conquer the challenges set before them.

The Burkina team's resourcefulness and adaptability were on full display as they expertly harnessed an impressive array of tools to accomplish their assigned challenge. They made astute use of collaborative platforms, turning to Google Docs which they discovered thanks to the VEC, to collaboratively draft and refine their project plans, research findings, and presentation materials. With the help of Genially, they crafted visually captivating and interactive presentations that effectively communicated their ideas and solutions.

In pursuit of seamless communication and coordination, the team seamlessly integrated WhatsApp into their workflow. It served as a real-time communication channel, allowing team members to exchange ideas, share progress updates, and resolve any challenges they encountered swiftly. This efficient communication played a crucial role in maintaining the team's cohesion and driving their project forward. The Burkina team's commitment to delivering high-quality multimedia content was evident through their adept use of multimedia editing tools. They skillfully employed Capcut to edit and refine their video materials, ensuring they conveyed their message concisely and effectively. Adobe Photoshop came in handy when they needed to design stunning visuals and infographics, enhancing the visual appeal of their presentations.

Additionally, the team showcased their audio editing prowess with DaVinci and Audacity, fine-tuning their audio components to add depth and professionalism to their final project.

It is important to note that the use of digital tools in the learning process was a novel experience for the participants of the Burkina team, and it was through their involvement in the VEC that they had the opportunity to explore and discover these tools. The VEC played a pivotal role in introducing them to a diverse set of digital resources and technologies that they might not have encountered otherwise. With the guidance and support of their dedicated teacher, the Burkina team members were able to navigate and leverage these tools effectively to accomplish their challenge.

5.5. Joseph Ki-Zerbo University's Participation in the VEC

Burkina Faso has had the opportunity to participate in the VEC since the first edition. What are the conditions that favoured this participation? What is Burkina Faso's objective in participating in this project?

During the Covid-19 pandemic, educational institutions worldwide faced closures as a result of lockdown measures. In response, schools and universities in Europe pivoted to distance learning, offering a variety of online experiences to their students. Conversely, in Burkina Faso, schools were closed temporarily, but resumed face-to-face teaching despite the prevailing health situation. This approach presented a challenge for implementing social distancing protocols in the often-crowded classroom settings. Nevertheless, a transition to distance learning, as was the case in developed countries, would have been preferable under the circumstances.

Following discussions with my two thesis directors, it was agreed that the lockdown situation had underscored the importance of digital tools in Burkina Faso. The need for such tools was highlighted in the third chapter of my work, which identified a significant demand for virtual educational environments (VECs) in the country. Consequently, we proposed that Joseph Ki-Zerbo University participate in the VEC initiative, which relied exclusively on digital tools, in order to evaluate its impact on education in Burkina Faso.

The decision to participate in the VEC project was primarily motivated by my desire to integrate information and communication technology (ICT) into higher education at University JKZ. This undertaking represents an ideal opportunity to assess the adoption of ICT by students at the university.

Currently, students at University JKZ do not have access to distance learning facilities. To address this, the university is taking advantage of the VEC project, which offers online

language learning resources, to assess the integration of ICTE in its higher education. The primary goal of the university's involvement in the VEC project is to evaluate its impact on language learning using digital technology and how it can be integrated into the university's curriculum. Additionally, UJKZ aims to investigate the effectiveness of the VEC tools on language learning and the extent to which non-native English speakers can improve their English skills through ICTE.

Conclusion to Chapter Five

In conclusion, the Virtual Environmental Challenge (VEC) is an international collaborative project that aims to explore environmentally friendly projects, exchange best practices, and foster peer-to-peer education in an international context. The project is based on challenge-based learning and virtual exchanges, involving university students from different institutions.

The VEC project is an extension of the innovative DisTutoLang project at Rennes 2 University, which focuses on pedagogical innovation and virtual classroom activities led by student teachers. It builds upon the success of the English language version in the first edition and introduced the French version called Défi Environnemental Virtuel (DEV) in the second edition. The project continues to evolve with new versions such as DEV-LS on sign language and Petit-DEV with elementary school pupils.

Various stakeholders play essential roles in the VEC project. The VEC Manager, a teacher-researcher from Rennes 2 University, is responsible for coordinating and overseeing the project. Country coordinators serve as crucial links between the project and participants from their respective universities, while teamchers (coaches) guide international student teams and mentors provide overall organisational support. The participants, recruited by the country coordinators, actively engage in the project's activities, complete challenges, and participate in online meetings and competitions.

The VEC project is characterised by its focus on environmental protection, language learning for specific purposes, project management, and the enhancement of digital skills. It uses various open educational resources (OER), such as VIA, Zoom, P-MOOC, YouTube Channel, Padlet, H5P, Google Docs, and Vecp. hypothèses, to facilitate project preparation, realisation, and data collection.

Joseph KI-Zerbo University's participation in the VEC project was motivated by the need to integrate ICT in higher education and assess its impact on education in Burkina Faso. The university aims to evaluate the adoption of ICT by students, improve language learning through digital technology, and explore the potential integration of VEC tools into the university's curriculum.

Overall, the VEC project offers a collaborative and innovative platform for students from different universities to engage in environmentally focused challenges, develop digital skills, and foster peer-to-peer education in an international context. It holds the potential to enhance language learning, project management, and interdisciplinary collaboration while contributing to the overall competitiveness of European higher education.

CHAPTER 6

RESEARCH METHODOLOGY

Introduction

This chapter serves to present the approach undertaken to address the research questions and test the hypotheses within the study. A comprehensive exposition of the methods employed to collect, analyse, and interpret data will be provided. In order to establish conceptual clarity, it is imperative to define the terms ‘Research’ and ‘research methodology.’ According to the Oxford Dictionaries, scientific research is described as ‘the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions.’ Additionally, Grinnel (1993) characterises it as ‘a structured inquiry that utilises acceptable scientific methodology to solve problems and create new knowledge that is generally applicable.’ Based on these definitions, it becomes evident that research serves as a means of identifying problems, posing questions, and seeking answers to those inquiries (Mackey & Gass, 2016, p. 1). Consequently, the primary objective of all research endeavours, regardless of their scope, is to develop explanatory concepts that facilitate the understanding of the social processes under analysis (Boutillier et al., 2017, p. 162).

Research methodology, as defined by Boutillier et al. (2017, p. 162), encompasses the procedures and techniques employed to obtain answers to the research questions posed. Therefore, engaging in research necessitates the adoption of appropriate methods, investigation, and active pursuit of answers to the questions posed.

Consequently, the selection of an appropriate methodology becomes an integral aspect of the research strategy, taking into account the research question and formulated hypotheses (Boutillier et al., 2017, p. 162). In this study, the aim is to answer the following question: What is the impact of integrating Information and Communication Technology (ICT) in language teaching and learning, specifically within the context of listening comprehension instruction at University JKZ? In order to obtain answers to this critical

question, the researcher employed action research, utilising a mixed-method approach that combines qualitative methods involving experimental implementation and quantitative methods based on a questionnaire. This chapter provides a detailed description of the research type, the conducted experiments, and the ethical considerations associated with the research.

6.1. Type of Research

To explore in depth the integration of information and communication technologies into higher education in Burkina Faso, the present study adopts a multi-faceted research approach, drawing upon a combination of qualitative and quantitative methodologies. This hybrid methodological framework allows for a comprehensive examination of the complex dynamics at play within the educational context while shedding light on both the theoretical underpinnings and practical implications of ICT integration.

6.1.1. Action Research

The present study falls within the realm of action research, also known as experimental research, which entails the systematic process of addressing questions by employing diverse forms of evidence in a logical manner. It is a type of research conducted by practitioners or stakeholders within a specific setting, with the objective of enhancing practice or resolving practical problems (Kemmis & McTaggart, 2005). Action research follows a cyclical pattern involving planning, action, observation, and reflection, aimed at achieving continuous improvement. According to Reason and Bradbury (2008), action research is guided by several principles that distinguish it from other research forms, including its participatory nature, which involves collaboration and co-creation of knowledge between researchers and participants, its cyclical nature that seeks ongoing improvement, its contextual grounding in the realities and complexities of the specific context, and its empowering nature.

Similar to most research endeavours, action research typically originates from a question or problem and involves data collection, analysis, interpretation, and ultimately, a resolution to the research problem (Mackey & Gass, 2016, p. 269). Practitioners often undertake action research to address immediate classroom concerns or needs (Allwright & Bailey, 1991).

The aim here is to identify the reasons why English as a Foreign Language (EFL) students at Joseph KI-Zerbo University continue to face difficulties in mastering the English language, despite undergoing various courses. Consequently, the goal of this action research is to assess the impact of integrating Information and Communication Technology in English language learning. The focus is on enhancing the learning conditions, efficiency, and ease for EFL students, as well as facilitating teachers' instructional practices through the utilisation of new technologies dedicated to language learning and teaching. Action research incorporates various methods of analysis, including qualitative approaches such as interviews, observations, and case studies, as well as quantitative methods like questionnaires and surveys.

As stated by Narcy-Combes and Jean-Paul (2005, p. 112) in 'Didactique des Langues et TIC vers une recherche-action Responsable,' action research, regardless of its degree of scientific rigour, necessitates thorough preparation, organisation, follow-up actions, possible reconfigurations, assessment, and dissemination of findings. Hence, action research is intended to be rigorous, stringent, and respectful of the ethical principles governing scientific research.

6.1.2. Mixed Method Approaches for Enhanced Data Gathering

This empirical⁴⁴ research draws on Vygotsky's (1978) work on constructivism and socio-cognitivism, to measure the impact of the integration of ICT into language teaching and learning at University JKZ through challenge-based learning (CBL) pedagogy and collaborative distance learning approaches. The main focus of this study is on the impact that teaching listening comprehension using ICTE can have on the oral proficiency of students learning English as a foreign language (EFL).

⁴⁴ An empirical study is a research technique that relies on observation and experience. It collects information called 'empirical data'. After analysis, this data must allow the researcher to test and answer one or more initial hypotheses. The source can be found (<https://www.scribbr.fr/methodologie/etude-empirique>).

Therefore, the methodology used is the mixed type concerning my research questions and the variables from my theoretical approach. The mixed-methods, also called: multi-method, triangulation, integrated, mixed research, multi-methodology, etc. [knowing that the more commonly used in social science research is *mixed-methods*] is the ‘*research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches in a single study or program of inquiry.*’ (Tashakkori and Creswell 2007: 4). Mixed methods research involves the use of both quantitative and qualitative research methods to collect and analyse data. The goal of mixed methods research is to use the strengths of both quantitative and qualitative methods to produce a more comprehensive understanding of the research topic (Johnson & Onwuegbuzie, 2004). It is often used in fields such as education, social sciences, and health research.

In the context of my study, the qualitative method studies students’ behaviour in a learning situation, using digital tools, in a distance, collaborative and challenge-based learning context. This allows us to collect: written data, including exercises carried out by students, survey data taken from the students who participated in the experiment, and observational data collected by the researcher. This data will be analysed by statistical interpretation using Excel and SPSS.

The quantitative method includes a questionnaire taken by students of University JKZ to collect their opinions on the integration of ICT in language teaching/learning and the impact these technologies can have on EFL students’ oral proficiency and teachers’ pedagogical activity.

My choice in adopting a mixed-methods approach in this study is guided by the search for greater efficiency in the understanding of my research problem; so combining both qualitative and quantitative data will allow me to gather a more extensive numerical and a richer contextualised database.

Using both approaches competently and responsibly gives the best possible world when attempting to conclude data (Mackey & Gass, 2016, p. 278). As (Hornberger, 2006) pointed out, mixed-method research provides ‘*a greater triangulation of findings and helps identify and interpret ‘rich points’ in research.*

This approach, combining both the advantages of the quantitative method and those of the qualitative method, makes it possible to obtain a complete understanding of the phenomenon studied. (Agbobli, 1943, p. 56). In so doing, the questionnaire will allow us to collect students' opinions on the impact of integrating ICT in teaching and learning, on the one hand, and on the other hand, the experiments I conducted will allow us to measure and evaluate practically the contribution of ICT in teaching/learning on the student's English skills.

According to (Mays and Pope, 1995, p. 43), the qualitative approach enables concept development that helps to understand social phenomena in natural contexts, focusing on the experiences and perspectives of all participants. It is descriptive and based on interpretations. It was used in this study to assess the use and the impact of ICT in listening comprehension teaching/learning on University JKZ students' oral production and perception.

The quantitative approach is interpretative and aims to produce statistically measurable conclusions. It allows us to describe, explain, control and predict based on the observation of 'positive' facts and events⁴⁵. It relies on data collection instruments whose reliability and validity are assured (Agbobli and Maurille, 1943, p. 56). It was used in this study to collect students' perceptions of the use of ICT in language teaching.

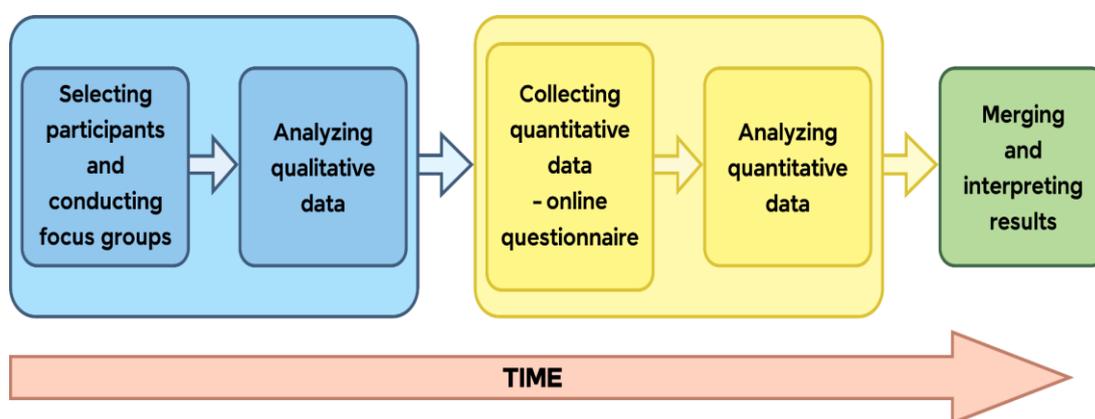


Figure 20: A visual model of the exploratory design used in a mixed methods study. Source: Oven, 2016.

⁴⁵ i.e. those that exist independently of the researcher

The table below presents the link between research questions, theories, variables, participants, and data collection and analysis tools through the mixed-methods approach.

Main research question	Subsidiary objective of the research	Subsidiary questions of the research	Theoretical frameworks and selected variable	Data collection tools	Study subjects	Techniques and methods of data analysis
Analyse the effectiveness of listening comprehension teaching on EFL students' proficiency and the pedagogical integration of ICT in higher education in Burkina Faso	Identify difficulties encountered by students in oral comprehension and the factors hindering students' oral comprehension;	What are the main difficulties EFL students encounter in oral comprehension, and what factors hinder their ability to comprehend spoken English?	<ul style="list-style-type: none"> • Project-based pedagogy • Use of ICT • Language teaching and learning 	VEC: <ul style="list-style-type: none"> • pre-test and post-test • questionnaire • observation 	First and second-year Master's students	Descriptive statistics: <ul style="list-style-type: none"> • SPSS • Excel
	Evaluate the impact of listening comprehension instruction on EFL students' proficiency and the impact ICT has on its teaching	How effective is listening comprehension instruction in improving EFL students' proficiency, and to what extent does the use of ICT enhance the impact of this instruction?	Teaching listening comprehension: impact on students oral proficiency	Listening comprehension <ul style="list-style-type: none"> • pre-test and post-test • written data (exercises) • questionnaire survey study 	Questionnaire: Undergraduate students	Descriptive statistics: <ul style="list-style-type: none"> • SPSS • Excel
	Assess the integration of ICT in higher education in Burkina Faso using the Virtual Environmental Challenge (VEC) project	To what extent the VEC project can facilitate the integration of ICT in JKZ higher education and what the effects this integration can have on student learning outcomes?	<ul style="list-style-type: none"> • Degree of appropriation of ICT by students • Impact of ICT on the content of the teachers' lessons 	Survey	Survey: Teachers and students of JKZ University	Quantitative analysis: <ul style="list-style-type: none"> • SPSS
	Evaluate teachers' implication in the pedagogical integration of ICT as JKZ university	How are teachers involved in integrating ICT into higher education in Burkina Faso?				

Table 2: Link between data collection tools, research objectives, theories and data analysis techniques and methods

This table offers a holistic view of the study's essential elements, creating a valuable visual aid that enhances the understanding of the research design and methodology: Let us delve further into how this table provides a comprehensive overview and how its components intertwine to support the research.

Three data collection tools were used: VEC (pre-test and post-test), questionnaire, and observation. These tools are carefully chosen to capture both quantitative and qualitative data, providing a well-rounded understanding of the research topic. The VEC assesses students' listening comprehension proficiency before and after the intervention, enabling the measurement of improvement. The questionnaire delves into students' perceptions and experiences, shedding light on the effectiveness of teaching methods and the integration of ICT. The observation method allows for an in-depth exploration of student behaviour and engagement during the intervention.

The research objectives focus on analysing the effectiveness of listening comprehension teaching and ICT integration in Burkina Faso higher education. The table then identifies three pertinent theories and models that underpin the study: project-based pedagogy, the use of ICT in education, and language teaching and learning theories. These theoretical frameworks provide a lens through which the research topic is analysed, offering context and depth to the findings.

To draw meaningful insights from the collected data, the table points to the utilisation of various data analysis techniques and methods. These include quantitative analysis, such as statistical tests on pre-test and post-test scores, enabling the assessment of improvement in listening comprehension proficiency. Additionally, qualitative analysis, like thematic analysis of questionnaire responses and observational data, helps to uncover valuable insights into students' experiences and engagement during the intervention.

6.2. Overview of the Experiments

The introduction of listening comprehension into English language teaching and the pedagogical integration of ICT are subjects of great relevance and growing interest in higher education. This research aims to investigate the challenges and perspectives of using information and communication technologies in teaching English listening comprehension at the UJKZ. The research problem and questions led me to conduct three experiments, each accompanied by a pre-test and a post-test, to gather relevant data. The first experiment involved teaching listening comprehension using the ICT tool Wooclap with an experimental group and a control group. The second experiment was carried out as part of the VEC project, in which students from Joseph KI-Zerbo University took part in collaborative distance learning exchanges. Finally, the third experiment consisted of a training seminar on optimising online course spaces for university teachers. In this section, I will describe the various experiments carried out, highlighting the objectives, the participants, the methods used and the results obtained.

6.2.1. Virtual Environmental Challenge Experiment

The initial study undertaken within the scope of this thesis centred on the integration of the international VEC project into the higher education system of Burkina Faso. As delineated in Chapter Five, the VEC represents an international collaborative initiative that utilises challenge-based learning and virtual exchanges to facilitate interactive and cooperative distance learning experiences. Specifically, this study sought to evaluate the impact of the VEC project on language acquisition for specific purposes through the employment of digital technology. Additionally, it aimed to examine the potential integration of the VEC project into the existing university curriculum while investigating

the efficacy of VEC tools in enhancing language learning outcomes. Furthermore, the study aimed to gauge how non-native English speakers can improve their English proficiency by employing information and communication technologies (ICT).

6.2.1.1. Participants and sampling procedure

In the academic year 2019/2020, the English Department at JKZ institution exhibited an enrollment of 5,252 students across various academic levels. These levels encompassed Bachelor 1, which enrolled 3,200 students, Bachelor 2, with 1,018 students, Bachelor 3, with 952 students, Master 1, with 73 students; and Master 2, with nine students. Subsequently, in the subsequent academic year of 2021/2022, the English Department experienced an enrollment of 4,900 students. The distribution of students was categorised by academic level as follows: Bachelor 1 with 3,357 students, Bachelor 2 with 947 students, Bachelor 3 with 531 students, Master 1 with 31 students, and Master 2 with 34 students.

Année académique	Niveau	Effectif des Femmes	Effectif des Hommes	Effectif total
2019-2020	L1	1155	2045	3200
	L2	300	718	1018
	L3	222	730	952
	M1	6	67	73
	M2	5	4	9
2021-2022	L1	1123	2234	3357
	L2	253	694	947
	L3	133	398	531
	M1	3	28	31
	M2	2	32	34

Table 3: Distribution of English Studies Department students by grade and gender 2021-2022.
Source: English Studies Department

The sample for this study was obtained by accessing data from the English department through a formal data release request submitted to the department's chief academic officer (refer to Appendix A). The table presented in this study encompasses data collected from two consecutive academic years, specifically 2019/2020 and 2020/2021, facilitating a comparative analysis across distinct graduating classes.

The research population of interest comprises Master's students enrolled in the Department of English Studies at the UFR/LAC of Joseph KI-Zerbo University in Burkina Faso. While the primary focus lies within the Department of English Studies, the findings of this study have the potential to contribute to the broader understanding of language studies departments across Burkina Faso.

The sample selected for this study consisted of a representative group of 17 Master's students from the English department at University JKZ. Among the participants, one individual identified as female, while the remaining 16 identified as male. The selection of participants was accomplished through a random sampling method from the Applied Linguistics, African Literature, and British Civilization Master's classes. These individuals were chosen based on their availability and expressed interest in participating in the study, aiming to adequately represent the entire population of 82 Master's students within the department (Boutillier et al., 2017, p. 149).

The specific focus of this study centres around Master's students, as they are perceived to be the student category with the most immediate need for distance teaching/learning tools. This arises from the fact that a significant portion of Master's students are employed in cities far from the university, rendering face-to-face attendance challenging. Moreover, the scarcity of instructors further contributes to the prolonged duration of Master's training. Consequently, the hypothesis posits that the provision of online courses taught by foreign teachers may offer advantages in terms of cost-effectiveness and convenience.

6.2.1.2. Data collection tools

This section aims to elucidate the selection of appropriate data collection tools and instruments employed to accomplish the research objectives. Each instrument will be delineated in accordance with its relevance to the corresponding research questions. The data collection process in this study encompasses the utilisation of pre-tests, post-tests, questionnaires, and observations as primary tools for gathering empirical data. The subsequent sections will provide a comprehensive overview of each instrument, including its design, administration procedures, and intended purposes within the research framework.

Pre- test and post-test

Pre- and post-tests are tools commonly used in scientific research to measure changes or progress in a group of participants before and after an intervention or experiment. They are used to assess the impact of a specific intervention, treatment or independent variable on participants (Lassoued, 2010).

The pre-test is administered before the intervention or experiment and is used to collect data on the participants' initial state. This enables a baseline to be established and their level of skill, knowledge or behaviour to be measured before the intervention. The pre-test also helps to identify any baseline differences between participants, which can be important when analysing results later.

The post-test is administered after the intervention or experiment, generally at the end of it. It is used to measure the effects of the intervention by comparing the results with those of the pre-test (Abdou, 2015). The post-test is used to determine whether the intervention has significantly impacted the participants by measuring the changes or progress observed in the variables of interest.

The usefulness of pre-and post-tests lies in their ability to provide quantitative data for evaluating the effectiveness of a specific intervention or treatment. By comparing the pre-and post-test results, researchers can measure the differences or improvements observed in participants. This data is used to assess the impact of the intervention on the variables of interest and to determine whether the results are statistically significant.

Within the framework of the VEC, a pre-test and a post-test were administered to participants to measure their progress in terms of language skills and knowledge of ecology. The tests were designed as data collection instruments to assess the effectiveness of collaborative distance learning.

The tests took the form of a quiz consisting of 100 questions, each with a score of 1 point, specifically on ecology. The questions, designed to assess participants' understanding and knowledge of the subject, were administered before the start of the project and at the end

to measure participants' starting level in terms of language skills and knowledge of ecology. Participants answered the quiz questions without knowing that the same test would be administered again at the end of the project.

The results obtained from the pre-test and post-test will help to provide reliable quantitative data for evaluating the effectiveness of the VEC project and its impact on teaching, both in terms of language skills and ecological knowledge. These data-gathering instruments have made it possible to objectively measure participants' progress throughout the project and analyse the results obtained from this experiment.

Questionnaire

The questionnaire is an essential tool in scientific research, providing a systematic and structured method for collecting participant data (Blais et Durand, 2009). It is designed to gather specific information on participants' variables of interest, opinions, attitudes, behaviours or experiences. The importance of the questionnaire lies in its ability to provide quantitative and qualitative data on a large scale. It allows information to be collected from many participants, enhancing the validity and generalisability of the study results. The responses obtained from the questionnaire can be analysed statistically, enabling objective conclusions to be drawn and trends or correlations to be identified within the data.

The questionnaire also offers a degree of flexibility in terms of design. Researchers can formulate open-ended or closed-ended questions, allowing for qualitative or quantitative responses (Millerand, 2003). Open-ended questions allow participants to express themselves freely and provide unique details and perspectives, while closed-ended questions allow for structured responses and facilitate statistical analysis of the data.

The questionnaire survey technique and design will be presented in the following sections while highlighting all the themes covered by the questionnaire and the other sources of information that will be used in this study.

As part of the VEC, a questionnaire was submitted to the participants to gather their opinions and impressions of the project to impact the pedagogical integration of information and communication technologies in Burkina Faso's higher education. The questionnaire was designed as a data collection tool to obtain qualitative information on the participants' experience and perception of the VEC project. The questionnaire consisted of open and closed questions covering different aspects of the VEC project. Participants were asked to give their views on intercultural exchanges, communication activities in English, the use of information and communication technologies, and the overall impact of the project on their learning and integration of ICT. Open questions allowed participants to freely express their ideas, feelings and suggestions about the VEC project. They were encouraged to share their personal experiences, mention the project's strengths and identify possible improvements.

The closed questions were designed to elicit specific and quantifiable responses. Participants were asked to rate their satisfaction with different aspects of the project and to assign scores or Likert scales to assess their perception of the project's impact on their language skills, intercultural awareness and commitment to using ICT.

Using this questionnaire, it was possible to collect the opinions and reactions of the participants in a systematic and structured way. The responses made it possible to obtain qualitative and quantitative data on the participants' experience, their impressions of the VEC project and their perceptions of its impact on the pedagogical integration of ICTE in higher education in Burkina Faso.

Analysis of the questionnaire responses provided valuable information for assessing the effectiveness of the VEC project from the participant's point of view to identify the aspects that were perceived as most beneficial and those that require improvement. The data collected through this questionnaire complemented the other data collection instruments. They contributed to a deeper understanding of the impact of the VEC project in the context of higher education in Burkina Faso.

6.2.1.3. Data analysis tools

In a scientific research study, the data analysis tools refer to the techniques, software, or methods used to analyse the collected data and draw meaningful conclusions. This section describes the specific tools and approaches employed to process, interpret, and present the data in a way that addresses the research questions or objectives.

Data analysis plays a crucial role in research as it allows researchers to uncover patterns, relationships, and trends within the collected data. It involves transforming raw data into meaningful information, identifying key findings, and making evidence-based interpretations. The data analysis tools serve as a means to facilitate this process and ensure that the data is effectively analysed and interpreted. In order to facilitate the collection and analysis of data a range of tools were employed. These tools included LimeSurvey, Google Forms, the EWAP method, and Excel.

LimeSurvey was used as a platform to host a questionnaire that was administered to participants, teachers, mentors, and country coordinators. The questionnaire aimed to gather feedback on various aspects of the project, including the impact on the pedagogical integration of ICT in higher education in Burkina Faso. LimeSurvey allowed for the efficient collection of responses and provided a structured format for data analysis.

Google Forms was used to administer a language test to members of the Burkina Faso team during both editions of the VEC. The test aimed to assess the participants' language proficiency and was administered both before and after the project. Google Forms provided a user-friendly interface for test administration and allowed for automated data collection.

The EWAP method, short for 'Extraction des échanges WhatsApp au sein d'un groupe Projet', was used in the VEC project to collect student interaction data. It involved extracting discussions from WhatsApp groups formed by student teams during collaborative project work. The primary goal was to assess individual students' group work by analysing data generated from their interactions on WhatsApp, which served as a communication platform for student teams in the VEC project, providing valuable qualitative data for researchers to gain deeper insights into participants' experiences and interactions. To ensure ethical considerations, students agreed to have the teacher as part of the group to observe; they provided informed consent before joining the project,

understanding that their discussions would be used for research purposes. Moreover, steps have been taken to anonymize and code the data during extraction, protecting the participants' privacy by removing personal information and identifiers.

Excel: Excel was used as a tool for data analysis, enabling the generation of graphical representations and statistical analyses. The collected data from LimeSurvey, Google Forms, and EWAP were imported into Excel for further processing. Excel's functionalities allowed for the organisation, manipulation, and visualisation of the data, which aided in identifying patterns, trends, and correlations within the dataset.

By utilising these tools, I was able to effectively collect and analyse data from various sources. LimeSurvey and Google Forms provided quantitative data through structured questionnaires and language tests, while EWAP allowed for the extraction of qualitative data from WhatsApp discussions. Excel served as a versatile tool for organising and analysing the collected data, enabling the generation of visual representations and statistical analyses to support the research findings.

6.2.2. Listening Comprehension Experiment

The second experiment I conducted in this study concerned strategies for listening comprehension teaching with a digital workspace, including the ICT tool Wooclap. In the following section, I will present the objective I aimed at by conducting this experiment, the characteristics, the participants, the data collection and analysis tools.

I have designed an experiment using a digital workplace with the ICT tool Wooclap. Nowadays, an unlimited number of digital tools exist that can be used to teach language and listening comprehension as well, so it was my prerogative to select one for my study. Since I could not assess all those tools, I chose Wooclap to undertake the experiment. The overall objective of this study was to evaluate the impact of integrating ICT in teaching in the Burkina Faso education system, more precisely, the impact of teaching listening comprehension using ICT on students' oral proficiency and the contribution of those tools to the content of teachers' lessons.

I have chosen Wooclap for three main reasons. First of all, the Wooclap tool is already set up on the Rennes 2 Moodle platform, which allows us to use it easily as a student in this university, and it has already been explored and used by teachers. Secondly, the university JKZ is now developing its own Moodle platform, on which I can find some 'options' excluding Wooclap, so hopefully, the results of this study could be an opportunity for the university JKZ to integrate Wooclap in the platform, which would be a great help both for teachers and students. Finally, the tool was created to allow students to use their mobile phones to attend classes and sit their evaluations. Knowing that in the context of Burkina, at least all the students have a smartphone and cannot all afford to buy a computer; therefore, the use of a tool like Wooclap could be beneficial to students in that they will be able to use their phone to attend classes and do their evaluation online.

The experiment was based on a strategy to teach listening comprehension with ICT. The ICT tool I used for this study is Wooclap. Before starting the experiment, I divided the participants into an experimental and a control group. The experimental group participants had to complete weekly listening exercises using mobile phones. Then, I administered a pre-test at the beginning and a post-test at the end of the experiment. The experiment lasted three months, from December to February.

Three times per week (Tuesday, Thursday and Sunday), I used Wooclap to create exercises and send the link to the exercise I created on Wooclap for the experimental group participants to complete. The exercises consisted of an audio file they listened to, a text of the audio on which they filled in blank spaces and multiple-choice questions on the text they answered. After completing an exercise, the following day, I imported the correction of the previous exercises on Wooclap. Using the same link they used to complete the exercise, the participants could access the downloadable correction directly on the platform. In addition, before submitting the following exercise, I deactivated the previous one so that no one could submit an exercise on the previous exercise any more.

From December to February, the participants of the experimental groups completed 22 exercises on listening comprehension using the tool Wooclap. It is worth mentioning that the control group participants took only the pre-and post-tests and did not complete any exercises the experimental group participants completed. Their role served to compare

the progression of those participating in the experiment and to measure the efficiency of the tool and strategy used.

6.2.2.1. Participants and Sampling Procedure

This study aimed to investigate the integration and teaching of listening comprehension using ICT in students learning a foreign language, as well as examine how this integration can impact their oral proficiency. Thus, the area of this study was the University JKZ, and the target population was undergraduate (the first and second year 2021/2022) students of the English department at University JKZ.

The sample for this study consists of 83 participants, 53 in the experimental group and 30 in the control group. All participants were enrolled in their second or third year in the Department of English Studies at the Joseph KI-Zerbo University in Burkina Faso. The sample was predominantly female, with 61% female and 39% male. The average age of the participants is 21, with a range of 19 to 26 years. Most participants are full-time students, but some also work part-time or are involved in extracurricular activities.

In terms of English level, most participants are at an intermediate level, with only a few at an advanced or beginner level. All participants have taken classes in phonetics, grammar, syntax, and phonology, but still struggle to express themselves properly in English. For this reason, this study focuses on teaching listening comprehension using ICT. Finally, participants were randomly selected and gave informed consent to participate in the study. The data collected from the participants were treated confidentially and anonymously in accordance with ethical research standards.

I selected this student category for the experiment because it has been noticed that, after graduating, students in this department still have trouble mastering the English language and understanding native speakers. So I considered that if they were taught listening comprehension from the first years of university, they would have a better chance of mastering English, as is the case for some students in this region of Africa, such as Senegal and Ivory Coast. Hence, they are the group who are concerned by this emphasis

on the teaching of listening comprehension. It is worth noting that for all the participants, English is considered a foreign language they are learning.

The participants were selected following the simple random sampling procedure, knowing that it is impossible to get the whole population. The advantage of this method is that each and every member of a population has an equal and independent chance of being selected for the research. (Mackey & Gass, 2016, p. 172). I resorted to Gill et al.'s (2010) sample size table to determine the sample size representing the whole population. This sample size table provides a formula for calculating the sample size required to estimate a population parameter with a desired level of confidence and margin of error. The formula is as follows:

$$n = (Z^2 * p * (1 - p)) / (E^2)$$

Where: n = required sample size Z = Z-score corresponding to the desired level of confidence p = estimated proportion of the population with a particular characteristic E = margin of error (expressed as a proportion). Thus, for an initial population size of 4,304 students 'corresponding to the total number of undergraduate students' 1st and 2nd year 'in the 2020/2021 academic year', with a 95% confidence level and a 5% margin of error, the sample size was estimated at 38 participants.

6.2.2.2. Tools for data collection and analysis

To comprehensively assess the effectiveness of digital tools in teaching listening comprehension, a multifaceted data collection approach was adopted. The following methods were employed to gather relevant information and insights:

Pre- and post-tests

Before starting the experiment, the participants were randomly assigned to experimental and control groups. Given that the experiment was to be conducted online, I created two WhatsApp groups (one for the participants of the experimental group and another one for the participants of the control group). I proceeded this way in order to facilitate the communication between the researcher and the participants, the transfer of the exercises, and to prevent the participants of the control group from having access to the exercises that the experimental group should complete.

After setting up groups, I administered a pre-test to all the participants (of both the control and experimental group). At the end of the experiment, I administered a post-test to both groups again by repeating the same test for the reliability of the results. Concerning the experiment itself, only the experimental group participants completed it. Those in the control group did not receive any treatment and nor did they complete any exercises.

The objectives of conducting pre- and post-tests were threefold: (a) to assess the oral comprehension levels of all participants, (b) to establish comparability between the two groups, with the control group not receiving the treatment, and (c) to measure the effects of the treatment (Mackey & Gass, 2016).

Therefore, the experiment was carried out in an online format, while the administration of pre-and post-tests necessitated the physical gathering of all participants in a classroom at the beginning and end of the study. The pre-and post-tests involved playing an audio recording twice, followed by a comprehension assessment wherein participants were required to fill in the blank spaces based on their understanding of the audio content.

Exercises completed by participants

As previously indicated, the primary focus of the experiment was on employing educational technologies to enhance strategies for teaching listening comprehension. Among the diverse array of digital tools available, the Wooclap tool was selected for implementation. Data collection primarily revolved around exercises completed by the participants in the experimental group. These exercises were custom-designed, and an

account was established on the Wooclap application through the Université Rennes2's Moodle platform. Throughout a three-month period, spanning from December to February, participants engaged in a total of 22 exercises. Each exercise consisted of an audio recording to be listened to, followed by a gap-filling task to complete based on the audio content, and multiple-choice questions related to the audio.

The exercises collected in this study provided valuable data for identifying and analysing variables related to the difficulties encountered and types of errors made by students learning English as a foreign language in listening comprehension. Notably, all the audio materials presented to the participants were sourced from the same group of native speakers. This deliberate choice was made to investigate the extent to which students become familiar with the native speakers' communication style and their level of comprehension while listening to them.

 **2. Fill the gap in this text, after listening to the audio.** 52 répondants

Text : College graduation

Man: Yahoo! Alright **freedom** (44 ) at last.
Woman: Hey, why are you so happy? Did you **win** (36 ) a million dollars?
Man: What? No!
Woman: Well, did you finally move out of your parents' house? I mean you **weren't** (9 ) paying rent.
Man: No. not at all I just found out that I only need to take three more classes to finish, so I'm **graduating** (31 ) in the summer.
Woman: Whoa. That's so cool. What classes do you have **left** (35 ) ?
Man: I have two business classes and a Spanish class.
Woman: That sounds great. So, what are you going to do with your finance degree after you graduate?
Man: Well, that's still **up in the air** (7 ) , but I'm thinking about working for my dad. He **owns** (10 ) a computer software company, and he needs help in their accounting department. And if I don't do that, I might go back to school and get an MBA.
Woman: And how are you going to pay for that?
Man: I'm not sure you, but I might have to take out a **loan** (14 ) . We'll see.

Figure 23: a sample of exercises completed by participants of the experimental group

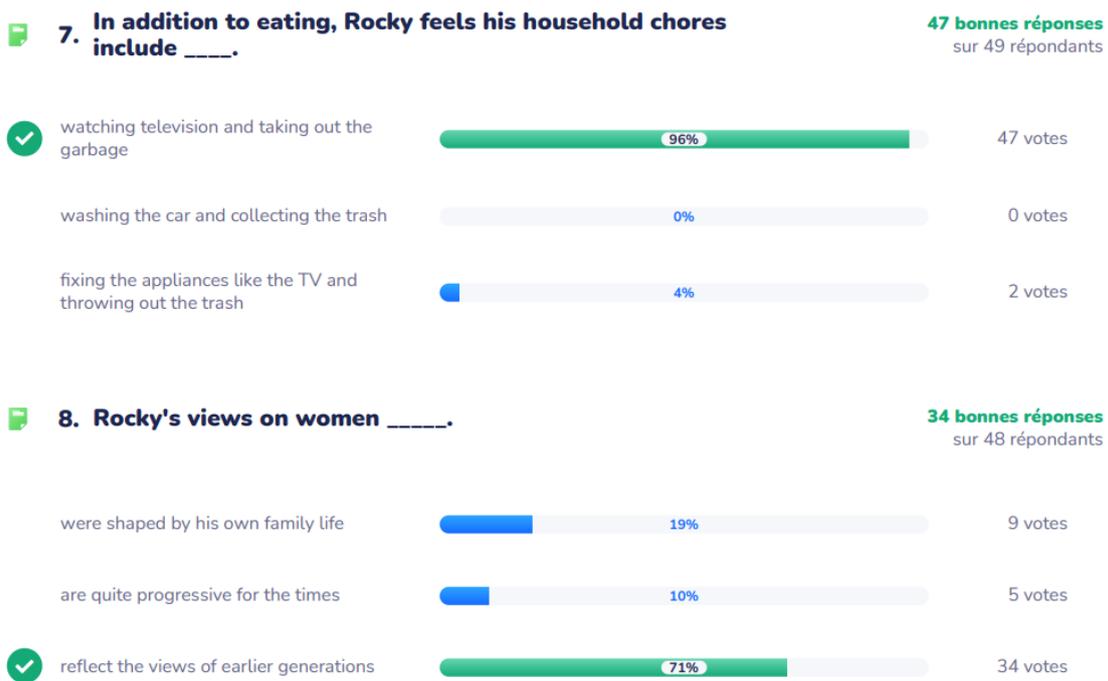


Figure 24: Example of a listening comprehension exercise with the number of correct answers

As depicted in Figure 24 of the Wooclap application, users can access valuable insights into the number of correct answers received for each question during interactive presentations or quizzes. Wooclap is an interactive platform designed to engage audiences during live presentations, lectures, workshops, and events.

Questionnaire

The questionnaire, according to (Blais, A. et C. Durand, 2009) is ‘*an instrument for collecting and formatting information, based on the observation of responses to a set of questions asked to a sample of a population*’. In the present study, it was assigned to the participants of the experimental group in order to collect quantitative data on the one hand and collect the participants’ opinions on how the experiment went. In fact, at the end of the experimentation, I created a questionnaire from Google Forms. I proceeded as I did for the exercises, that is, by sending the link to the WhatsApp group and asking the

participants to fill it in. In the questionnaire design, I considered my research question's aspects. The questionnaire includes the following:

- A section identifying the respondents;
- A section evaluating the digital tool used for the experiment (Wooclap);
- A section noting the students' difficulties in oral comprehension;
- A section evaluating the impact of the integration of ICT in language teaching;
- A section measuring the impact of teaching listening comprehension using ICTE and its implications for students as well as for teachers.

The full set of questionnaire questions can be found in Appendix B. As mentioned above, the questionnaire was administered to the treatment group participants immediately after the post-test, marking the conclusion of the experiment. Out of the total 53 participants, 42 successfully completed

6.2.2.3. Data analysis tools

Once all the required data for the research was collected, I proceeded to extract and code it, organising the information into an Excel database. This step enabled the presentation of standard descriptive statistics for each variable before conducting any frequency analysis. For the data related to the (VEC), particularly the results of the pre-and post-tests of language proficiency, statistical analysis was performed using both Excel and SPSS software.

6.2.3. Teachers’ Implications in the Pedagogical Integration of ICT in Burkina Faso Higher Education

The third experiment carried out in this thesis is based on a training seminar focusing on the optimisation of online course spaces for JKZ university teachers. The training focused on optimising online course spaces since students in Burkina Faso face numerous challenges in their learning journey, such as overcrowded classrooms, geographical limitations, and high repetition rates. Innovative solutions are necessary to improve the educational experience, and learning management systems can play a crucial role in reducing the workload of students and teachers while promoting engagement and academic success. However, integrating educational technologies faces several obstacles, including a lack of IT skills, teacher training requirements, and connectivity issues. Considering these challenges, a seminar was designed to provide training on ‘Creating, organising, and maintaining a Moodle online learning space.’ The information relating to this training that I will present comes from Mr. GEER’s dissertation, with whom I organised and carried out the training in February 2022.

6.2.3.1. Objective of the training

It is important to note that, initially, we planned to develop a learning management system for JKZ University regarding the challenges faced by burkinabe higher education, when we discovered that a similar system called ‘Environnement Numérique d’Apprentissage⁴⁶’ (ENA) was already available for all universities in Burkina Faso. Therefore, we conducted a training seminar to teach teachers how to create, organise, and maintain a Moodle online learning space. This training aimed to help teachers in dual-mode classes and provide them with the necessary pedagogical support and experience to inspire confidence and promote student success (Geer, 2022).

We conducted this training to explore how teachers can utilise ICT to enhance their teaching and improve students’ skills. The objective was to evaluate the impact of this

⁴⁶ Digital Learning Environment

training on teachers' perception of integrating ICTE, their understanding of best practices, and their ability to design engaging and interactive online teaching activities. By prioritising the professional development of teachers, we aimed to investigate the crucial role of teachers in adopting and effectively using educational technologies and how this can help strengthen teaching at Joseph KI-Zerbo University.

6.2.3.2. Participants

Profile of Participants

The training seminar held in the context of this study brought together a diverse group of individuals, consisting of both teachers and students from JKZ University. Their backgrounds and skill levels in using ICT varied, resulting in a conducive environment for sharing knowledge and ideas.

In order to reach the greatest number of participants possible, it was necessary to understand the most used channels of communication, which ended up being WhatsApp, a free, international texting and calling service that functions with an internet connection. At the same time, posters, posts on social media, even e-mails and offers to students were created and circulated across campuses in Ouagadougou. Communication was constant, almost daily, to ensure the maximum amount of interest and participation in the training seminar. (Geer, 2022)

The training seminar was originally intended for fifteen or twenty teachers who would attend in person and online. However, the number of participants surpassed expectations, with 134 teachers and students joining the training, with over 90 attending in person. This unexpected turnout resulted in the need to find a new training room.

Setting of the training

The seminar took place in the video conference room of the ‘pôle d’excellence africain, Africa Multiple’. However, given the high number of participants in face-to-face sessions, the room could not hold all the participants. So we had to find a new training room, and we quickly transformed a large classroom into a vertical conference space. At the front of the room, we set up a 110-centimetre diagonal TV screen on two adjacent desks. The screen displayed the Zoom conference, online participants, the online training organiser, and his shared screen.

6.2.3.2. Data collection tools

Data collection for this study was carried out using several specific instruments. These instruments included a pre-questionnaire administered before the training, a post-questionnaire administered after the training, and other tools used during the training itself. These instruments were designed to gather relevant information about the participants, assess their commitment, evaluate the effectiveness of the training and gather their opinions and suggestions. This section will detail the different data collection instruments used and explain their importance in gathering valuable information for this research. More than 90% of the data was created by B. Geer.

Pre-questionnaire

For this training, we used a pre-seminar questionnaire to collect participant data. The questionnaire consisted of several sections to understand the participants’ profiles, their experience with learning platforms and their knowledge of Moodle.

The first part of the questionnaire focused on participants' personal information, such as their professional status and age range. This gave us an overview of the target audience for the course and enabled us to tailor our strategies accordingly.

The second section focused on participants' experience of learning platforms, particularly Moodle. We asked participants whether they had ever used or created a course space on Moodle or a similar platform. In addition, we sought to assess the effectiveness of the learning platforms they encountered by asking them to give a rating and explain their assessment.

The third part was devoted to the participants' knowledge and perception of about Moodle. We asked them what features of Moodle they used in their course space, so their comfort level with creating, organising and maintaining a course space on Moodle. We also sought their views on what makes an excellent online course space and what features they would like to see or use in their own course space.

Using this pre-seminar questionnaire, we gathered valuable data on the participants' profiles, previous experience with learning platforms, and specific knowledge of Moodle. This data enabled us to understand the participants' requirements and expectations better and adapt our training seminar accordingly.

Post- questionnaire

We administered a post-training questionnaire to the participants to collect data after the training. The questionnaire was created with Google Forms by Mr Geer. The purpose of this questionnaire was to evaluate their participation in the training, their commitment, and their opinion on different aspects of the training.

The first part of the questionnaire focused on participants' involvement after the course. We asked them whether they had created their own course space on Moodle since the course. In addition, we sought to understand how they had attended the training course to assess the different ways they had participated.

The second part focused on the participant's experience of the course. We asked them to share their impressions of how inclusive and active they felt in the discussions and how well the trainers prepared and answered their questions. Specific questions were asked about maintaining a course space on Moodle, such as meaningful naming and folders.

The third part was devoted to participants' opinions on different parts of the course. We asked them to evaluate the course brainstorming, presentation, and evaluation part of the course space. We also asked for their suggestions for improvements and additions to make the presentation more interactive and valuable.

Using this post-training questionnaire, we collected data on applying the knowledge acquired, the participants' commitment, their perception of the training and their suggestions for improvement. This data enabled us to assess the impact of the training and to gather valuable information for improving our future training seminars.

Other data collection tools used during the training

During the training course, various tools should be used to collect data. These include photos representing the teachers' course on the platform. We asked teachers to bring a photo representing the platform's home page. These photos were to be used to create a well-constructed online classroom.

In addition, before and after photos of the online space were to be used to show the evolution of the classroom before and after the training.

A collaborative document was also used to organise all the information throughout the process, and a video of the seminar was recorded for transcription and analysis.

6.2.3.2. Data analysis tools

In this study, multiple data analysis tools were employed to comprehensively examine and interpret the research results. The primary analysis tools encompassed Excel, SPSS, and descriptive statistical techniques.

Initially, Excel was utilised to organise and manipulate the data obtained from the pre- and post-training questionnaires. This versatile tool facilitated the creation of tables, efficient sorting of data, performing essential calculations, and generating graphs to visually represent the results. Moreover, Excel's capability to group data based on various studied variables allowed for a more thorough and systematic analysis.

Subsequently, SPSS was employed for more advanced statistical data analyses. This powerful software enabled the application of sophisticated statistical tests and methodologies, allowing for a deeper exploration of the relationships and patterns within the data.

Finally, descriptive statistics were employed to succinctly summarise and present the main characteristics of the collected data. Through the use of charts and graphs, these statistics effectively illustrated the outcomes, providing visual insights into the patterns and trends observed. By employing these data analysis tools, the research findings were thoroughly scrutinised and comprehended, yielding valuable information to address the research objectives. Moreover, they facilitated the identification of meaningful patterns and trends, ultimately leading to well-founded conclusions regarding the impact of the training on the participants' performance.

6.3. Reliability and Validity of the Study

Validity and reliability are essential concepts in scientific research, and they are particularly important in the context of this study. However, it is necessary to consider the limitations related to the representativeness of the sample due to financial constraints that restricted the participation of a large number of participants. Despite these limitations, measures have been taken to ensure the validity and reliability of this study.

To ensure the validity of this study, special attention has been given to the design of the data collection instrument, namely the pre- and post- questionnaires. These questionnaires were developed based on a thorough review of the existing literature, which helped identify relevant variables and ensure that the questions asked were aligned with the research objectives.

Regarding the representativeness of the sample, efforts were made to strategically select participants among the teachers at JKZ University to ensure sufficient diversity in terms of professional status, experience, and teaching levels. Although this may not represent the entire population, it still allows for obtaining more general and representative data of the target population.

Regarding the reliability of the measures, several measures have been implemented. Pilot testing of the questionnaires was conducted with a small group of participants to detect and correct any issues related to question comprehension or formulation. The pre- and post-training questionnaires were administered at two different time points with an appropriate interval to measure changes reliably

6.4. Integrity and Scientific Ethics of the Research

Scientific integrity and ethics play an essential role in the conduct of high-quality research. In this section, we will detail the principles of integrity and ethics followed in this study to guarantee the credibility and validity of the results obtained. Integrity and scientific ethics in research refer to the fundamental principles that guide researchers in the conduct of their work. It involves a set of ethical guidelines, principles, and values that ensure the quality, accuracy, and trustworthiness of scientific research. Integrity and scientific ethics are critical for maintaining the integrity of research and ensuring that it serves the public good.

Integrity in research involves being honest, transparent, and accountable in all aspects of research. This includes ensuring that the research design is sound, the data are collected and analysed accurately, and the results are reported truthfully. Researchers should also disclose any potential conflicts of interest and ensure that their work is not influenced by personal biases or external pressures.

Scientific ethics in research involves ensuring that research is conducted in a manner that respects the dignity, rights, and welfare of research participants. This includes obtaining informed consent, protecting the privacy and confidentiality of participants, and minimising any potential risks or harm to participants. Scientific ethics also involves being mindful of cultural differences and recognizing that research must be conducted in a way that is respectful of diverse populations.

Integrity and scientific ethics are crucial aspects of research that ensure that the research is conducted in a trustworthy and responsible manner. It refers to the quality of being honest, transparent, and responsible in one's actions. In the context of research, integrity involves being truthful about the methods used to collect data, the sources of funding, and any conflicts of interest that may exist. It also means being accountable for one's actions and taking responsibility for any mistakes or errors.

Scientific ethics refers to a set of principles that guide the conduct of research. These principles include respect for human dignity, informed consent, confidentiality, and minimising harm to research participants. Other important principles of scientific ethics include transparency in reporting results, avoiding bias, and maintaining the integrity of the research process.

Researchers must adhere to these principles to maintain the public's trust in the scientific process and to ensure that research is conducted for the greater good. Following a decree dated 25th May, 2016⁴⁷, all doctoral schools in French universities must include training in research ethics and scientific integrity in training given to doctoral students, given the importance and sensibility of the issue. According to H el ene Merlin-Kajman:

*Ethics, deontology and scientific integrity are essential for academic life in that they aim to ensure research honesty, integrity and responsibility and the quality of its practices. They also consider the implications of scientific activities for society.*⁴⁸

Indeed, all scientific research must ensure full compliance with these principles, avoiding violating scientific integrity, which can take different forms, such as plagiarism, using data without permission or reference to the author, falsifying data, and hiding conflicts of interest.

First, it is essential to emphasise that this study was conducted following the fundamental ethical principles of scientific research. The rights and welfare of the participants were protected throughout the study. Before taking part, participants were informed of the research objectives, the data collection procedures, and the potential benefits and risks.

⁴⁷ The decree of 25th May, 2016 setting the national framework for training and the procedures leading to the delivery of the national doctorate diploma can be found here: <https://www.legifrance.gouv.fr/loda/id/JORFTEXT000032587086/>

⁴⁸ <http://www.univ-paris3.fr/ethique-deontologie-et-integrite-scientifique-459625.kjsp?RH=1506526933387&RF=1506526933387>

They were invited to give informed consent, and their participation was voluntary. Purposely, I respect the ethics of scientific research, which I had the opportunity to learn about during my doctoral training. Moreover, a work of this type requires ethical caution, particularly during the publication of the results (anonymity, etc.) (Narcy-Combes Jean-Paul, 2005, p. 113).

All data collected was treated confidentially and anonymously to protect participants' privacy.

In addition, measures were taken to ensure data integrity. Data was collected rigorously and accurately using validated and reliable instruments. All relevant information was recorded entirely and accurately without manipulating or falsifying the data. Data collection, storage and analysis procedures were carried out following good scientific practice, avoiding any bias or distortion of the results. Thereby, concerning the ethics of the present study, before collecting data, I explained to the participants the objective of the present study and the critical role they would have in the study's success. I reassured them that their answers to the exercises, questionnaires, and messages in the WhatsApp groups would be anonymised and that I would use codes to identify each person with their answers. I had them fill out and sign an authorisation form to disseminate the images (videos). At the end of the study, I will share the results with them.

The study also respected the principles of fairness and respect in the treatment of participants. All participants were treated equally and without discrimination, regardless of their professional status, gender, ethnic origin or other personal characteristics. The study's results were presented objectively, avoiding biased or tendentious interpretations.

The participants of the listening comprehension experiment signed a letter of commitment (which can be found in Appendix A) in which they agreed to follow the listening comprehension experiment from December 2021 to February 2022; to respect the program, the guidelines, and all the procedures of the experiment; and to fill out the survey form at the end of the experiment. I provided them with my contact information so they could reach us if necessary.

CHAPTER 7

ANALYSIS AND RESULTS INTERPRETATION

Introduction

In this chapter, the analysis and interpretation of the research findings will be presented. The outcomes of the study are based on a combination of qualitative data obtained through experimentation and quantitative data derived from a questionnaire. The data were analysed using statistical measures such as mean, percentage, and frequency distribution. To compare the means of the experimental and control groups, the Mann-Whitney t-test was employed. The results will be presented systematically and organised into the following parts.

The first part of the chapter will examine students' difficulties in listening comprehension and the factors that impede their understanding. This section aims to shed light on the challenges students face in this particular area of language learning, providing valuable insights into the underlying issues.

Moving forward, the second part will centre on the impact of teaching listening comprehension on students' competence. It will analyse the results obtained from the teaching interventions aimed at enhancing students' oral comprehension skills. This section will provide a comprehensive evaluation of the effectiveness of these teaching strategies, highlighting the improvements observed in students' competence through the utilisation of various instructional approaches and the integration of ICT.

Furthermore, the third part of the chapter will critically evaluate the integration of ICT in language teaching at UJKZ from a pedagogical perspective. This assessment will consider the benefits and challenges of incorporating ICT into the language learning process. It will explore how integrating ICT tools and resources can enhance students' engagement, motivation, and language proficiency.

Lastly, the fourth part of the chapter will delve into the implications of the findings for UJKZ teachers regarding the pedagogical integration of ICT in higher education. This section will highlight the role of teachers in effectively integrating ICT tools and techniques into their instructional practices, addressing the challenges they may encounter and exploring potential strategies for overcoming these obstacles. It will provide insights into the level of engagement and readiness among teachers to embrace innovative pedagogical approaches supported by ICT.

Analysis of Students' Perception and Difficulties in Listening Comprehension

This section provides information about the students' perception of listening comprehension, their difficulties in listening situations, and how they cope. The data was collected through exercises and a questionnaire administered to the experimental group. Before analysing this data, it is essential to consider the sample characteristics. The study involved 83 participants, 53 in the experimental group and 30 in the control group. All participants were enrolled in their second or third year in the Department of English Studies at Université Joseph KI-Zerbo in Burkina Faso. The majority of the sample was female, making up 61% of the group, with an average age of 21. Most participants were full-time students, some working part-time or participating in extracurricular activities.

Regarding their English proficiency, most participants have an intermediate level, with only a small number having beginner or advanced levels. Despite having taken phonetics, grammar, syntax, and phonology classes, participants still struggle with expressing themselves accurately in English. That is why this study concentrates on using ICT to teach listening comprehension.

Since the samples are independent, comparing the results of the two groups is suitable to find out if the difference in their means is significant. I will use IBM SPSS Statistics version 26 to conduct these statistical analyses.

7.1. Comparison Between the Experimental and Control Groups in the Experiment

To rigorously evaluate the impact of integrating Information and Communication Technologies (ICT) in teaching English listening comprehension, a comparative analysis between the experimental and control groups was conducted. The study employed a pre-test and post-test design to assess the students' proficiency levels before and after the intervention, shedding light on the effectiveness of the ICT-based pedagogical approach

7.1.1. Result of the Pre-Test for Both Groups

Table 4 presents the statistics of the results obtained by the subjects of the control and experimental groups in the pre-test. In this table, I can see for each group, the experimental group and the control group, the size of the sample (30 participants for the control group and 50 participants for the experimental group). The average of the participants in the control group is 7.40, and that of the participants in the experimental group is 8.88. We can see that this difference is minimal. The standard deviation of the participants in the control group is 3.238, and that of the participants in the experimental group is 4.127. There is little variability in the distribution of the means of the participants in the experimental group. The standard deviation of the error mean is slightly lower for the experimental group than for the control group.

Group Statistics					
	participant code	N	Mean	Std. Deviation	Std. Error Mean
Pre-test	Participant (control grp)	30	7.400	3.2388	.5913
	participant (experiment grp)	50	8.880	4.1275	.5837

Table 4: descriptive statistics of pre-test for experiment group and control group

However, the histograms of the means obtained (Figure 29) do not indicate a clear trend. They follow normal distributions, which were confirmed by Kolmorov-Smirnov tests.

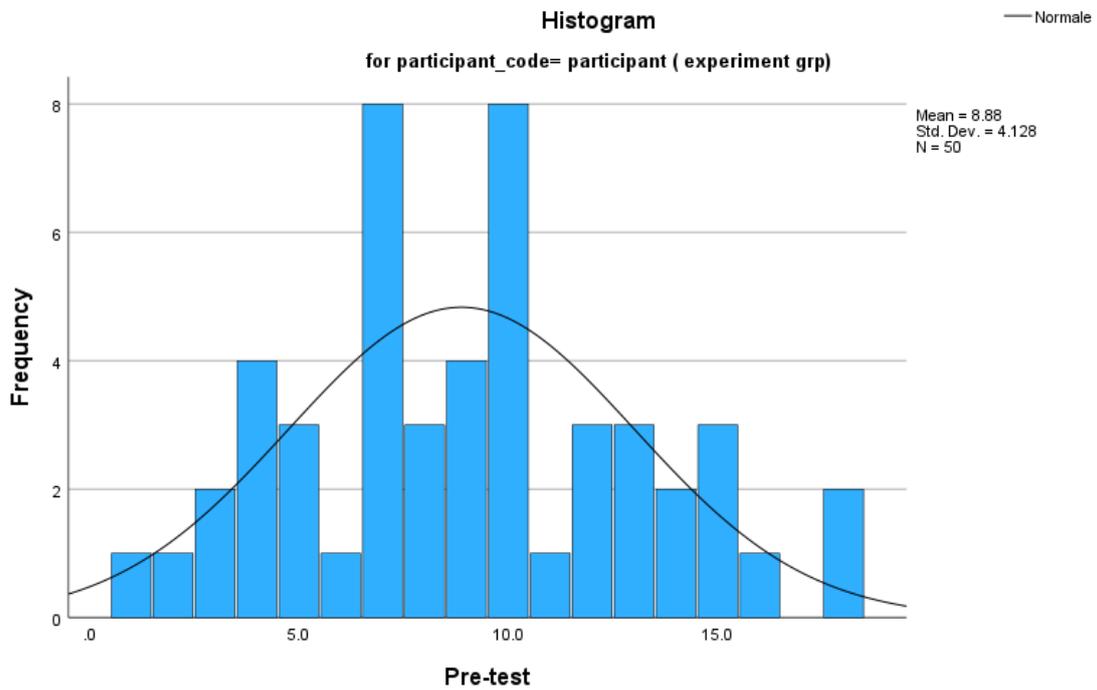
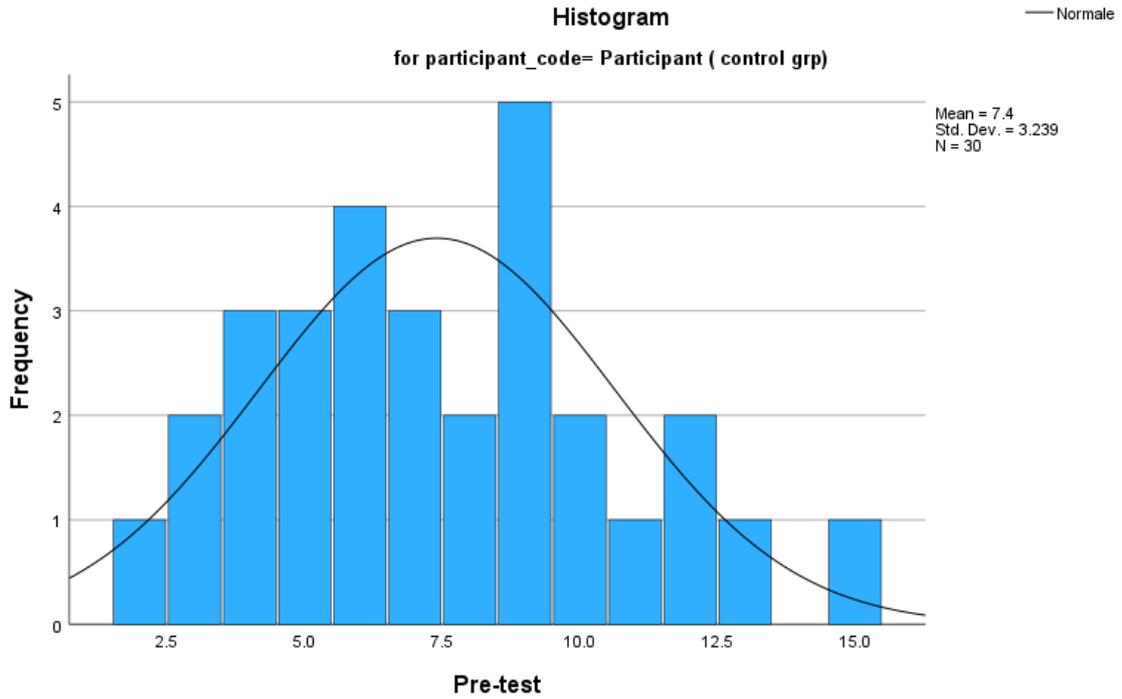


Figure 23: Histograms of pre-test means of both control and experimental groups

7.1.2. Post-Test Results for Both Groups

Table 15 presents the results of the post-test analysis of the two study groups. The sample size is 30 for the control group and 47 for the experimental group, with a missing value of three. This means that three participants in the experimental group did not take the post-test. The control group’s mean is 9.21, and the experimental group’s mean is 13.80. This difference is very significant because the experimental group’s mean is significantly higher than that of the control group. The standard deviation of the participants in the control group is 3.20, and that of the participants in the experimental group is 3.70. Thus, there is high variability in the distribution of the means of the participants in the experimental group. The standard deviation of the error mean is lower for the experimental group than for the control group.

	participant code	N	Mean	Std. Deviation	Std. Error Mean
post-test	Participant (control grp)	30	9.217	3.2047	.5851
	participant (experiment grp)	47	13.809	3.7030	.5401

Table 5: Descriptive statistics of post-test for experiment group and control group

After examining the histograms of both groups, it seems evident that there is a normal distribution present.

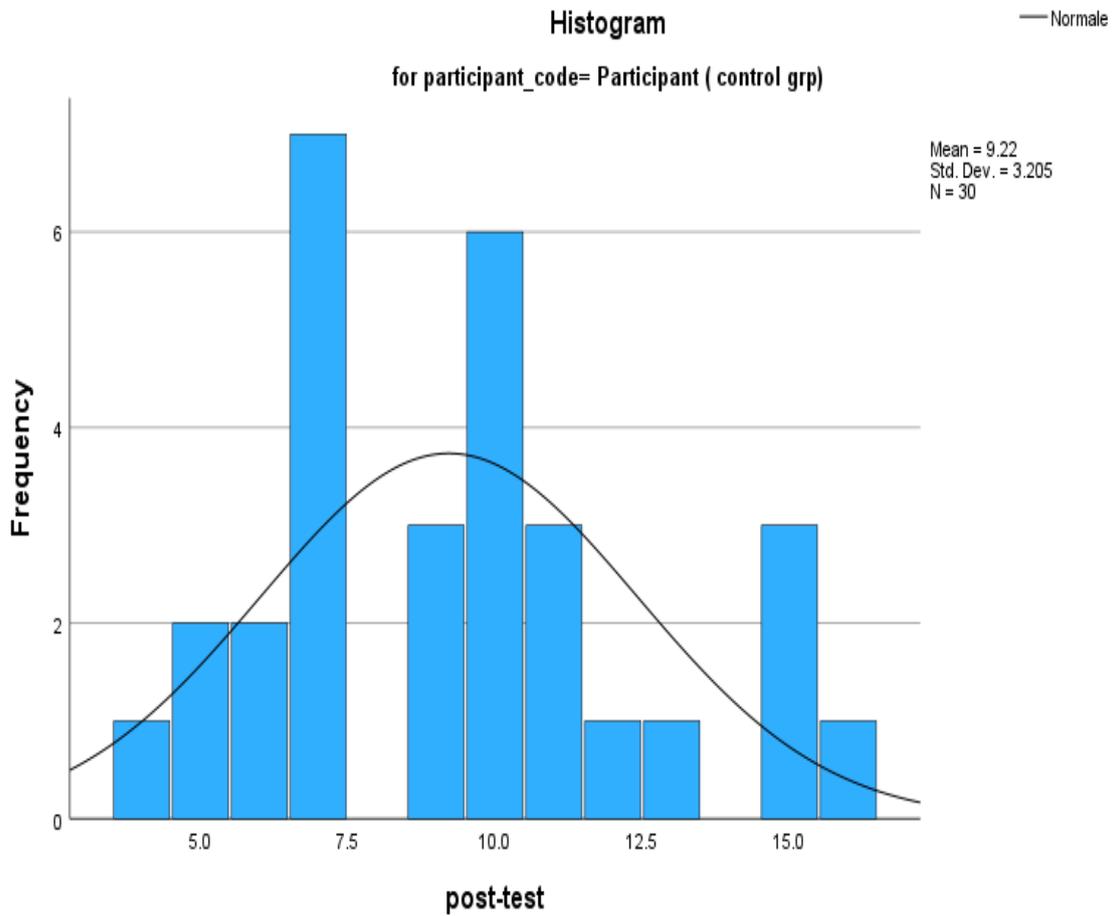
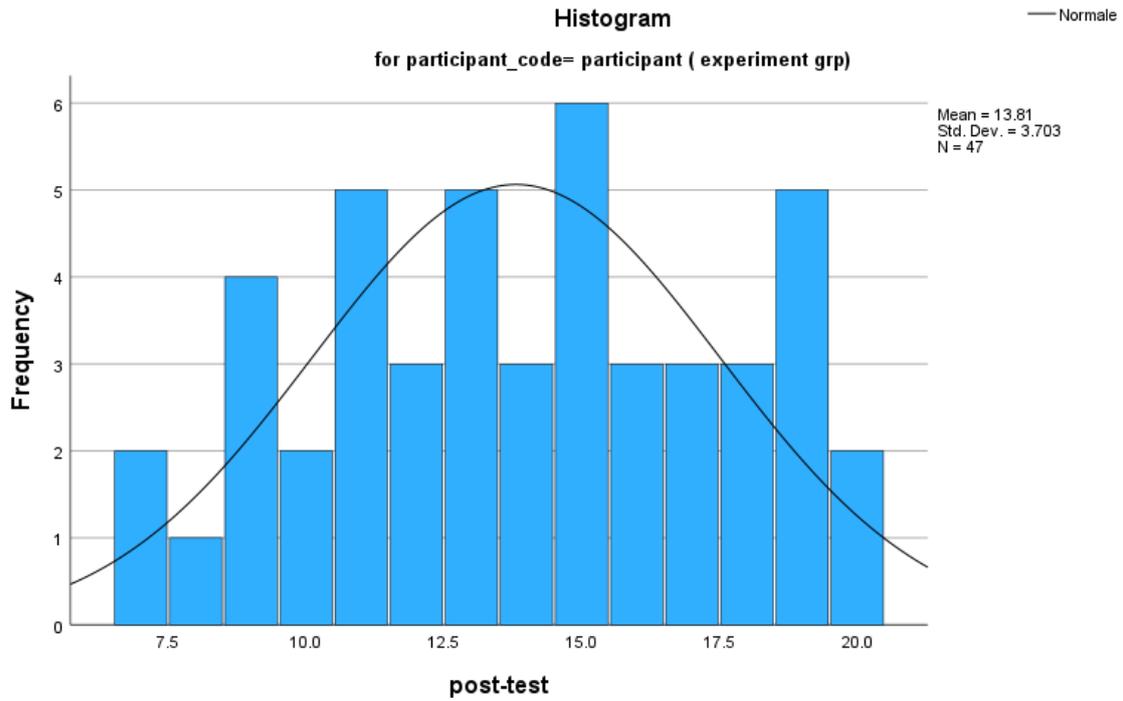


Figure 24: Histogram of post-test means of both control and experimental groups

To verify the significance of the difference in means, a two-tailed extreme means comparison test was applied considering the null hypothesis H_0 against the following alternative hypothesis H_1 :

H_0 : The means of the two groups are equal.

H_1 : The means of the two groups are different.

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 \neq \mu_2$$

Therefore, each of these groups was subjected to the Kolmogorov-Smirnov normality test in SPSS to check the normal distribution of the means obtained in the tests. This gave the following results presented in the table below:

	participant code	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Pre-test	Participant (control grp)	.101	30	.200 [*]	.973	30	.636
	participant (experiment grp)	.104	47	.200 [*]	.980	47	.585
post-test	Participant (control grp)	.155	30	.062	.947	30	.144
	participant (experiment grp)	.094	47	.200 [*]	.962	47	.126

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 6: Kolmogorov-Smirnov tests of normality

The normality test for both the pretest and posttest data was conducted using the Kolmogorov-Smirnov test, and the results revealed insightful patterns in the distribution of scores for the experimental and control groups.

In the pretest analysis, the p-value obtained for both the experimental and control groups was 0.2, indicating that the distribution of scores followed a normal pattern. This finding suggests that, in the broader reference population, the pretest mean scores for both groups exhibit a normal distribution. This normality in the pretest data lays a solid foundation for the subsequent comparative analysis and lends credibility to the study's outcomes.

Moving on to the posttest analysis, the p-value for the control group was calculated to be 0.06, while for the experimental group, it was 0.2. In both cases, the p-values exceeded the significance level of 0.05, confirming that the null hypothesis of normality is credible. Consequently, it is reasonable to accept the assumption of normality for the posttest data in both the experimental and control groups.

Having ensured the normality of the data and verified homogeneity between the groups, the study proceeds to employ the parametric Student's t-test. This statistical test is well-suited for comparing the means of two independent groups and serves as a robust method to determine the significance of the difference between the observed means.

By applying the Student's t-test to the posttest data, the study aims to rigorously examine whether the ICT-based pedagogical intervention led to a statistically significant difference in the English listening comprehension proficiency between the experimental and control groups. This analysis would provide valuable insights into the effectiveness of the ICT integration in enhancing language learning outcomes and its potential impact on students' listening comprehension skills.

7.1.3. Comparison of Both the Experimental and the Control Groups' Means

The t-Student test was conducted to determine if there was a significant difference in means between the experimental and control groups. The results of this analysis are presented in Table 7 below:

		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
post-test	Equal variances assumed	1.875	.175	-5.584	75	<.001	<.001	-4.5918	.8223	-6.2299	-2.9538
	Equal variances not assumed			-5.766	68.244	<.001	<.001	-4.5918	.7963	-6.1807	-3.0029

Table 7: Comparison of both experimental and control groups' mean

The t-test for equality of means has yielded compelling results, providing valuable insights into the impact of ICT integration on English listening comprehension proficiency among students learning English as a foreign language.

The calculated t-value of 5.584 was obtained with 345 degrees of freedom, and the significance level was found to be 0.01. As a result, the null hypothesis (H₀) which posited no significant difference between the mean scores of the experimental and control groups, is firmly rejected. This rejection signifies that the difference between the mean scores of the two groups is statistically significant, with an exceedingly low risk of less than 0.1% of reaching an erroneous conclusion.

These results indicate that the use of ICT in the teaching of listening comprehension has a substantial impact on the oral competence of students in the experimental group. The experimental group, benefiting from the ICT-based pedagogical approach, has displayed significantly improved English listening comprehension proficiency compared to the control group, where traditional teaching methods were employed.

The significance of this finding cannot be overstated, as it highlights the potential of ICT integration to positively influence language learning outcomes, especially in the domain of listening comprehension. By leveraging technology to design interactive and engaging learning experiences, students in the experimental group have reaped the benefits of enhanced auditory skills and a deeper understanding of spoken English.

7.2. Difficulties Students Encountered in Oral Comprehension and the Factors Hindering Students' Oral Comprehension

Students learning English as a foreign language can face various difficulties in oral comprehension, which may vary according to their language proficiency level, experience as learners, training environment and cultural context. The complexity of studying students' difficulties has led me to study a number of different aspects of the phenomenon. On the one hand, I considered the types of errors and their frequency of occurrence as indicators that can help me identify students' difficulties in oral comprehension.

The findings from the questionnaire administered to the participants shed light on the specific challenges faced by students in oral comprehension, providing insights into the areas that need particular attention and improvement.

As shown in Figure 25, an overwhelming majority of the respondents (100%) identified two main difficulties in oral comprehension: the speed of the speaker and unfamiliar vocabulary or expressions. This indicates that students frequently encounter challenges in keeping pace with the rapid delivery of spoken English, as well as grappling with unfamiliar words or idiomatic expressions commonly used in conversational language.

Additionally, a significant percentage of the participants (31.3%) reported facing difficulties in understanding regional accents or dialects. This finding underscores the importance of exposing students to a diverse range of accents and dialects during their language learning journey, as this exposure can better prepare them to communicate effectively in various real-life contexts.

Remarkably, a minimal proportion of the students (only 4%) expressed that background noise or other distractions could potentially interfere with their understanding when listening to a native speaker. This suggests that the students are generally adept at

focusing on the speaker's voice, indicating a level of concentration and attentiveness that bodes well for their language learning progress.

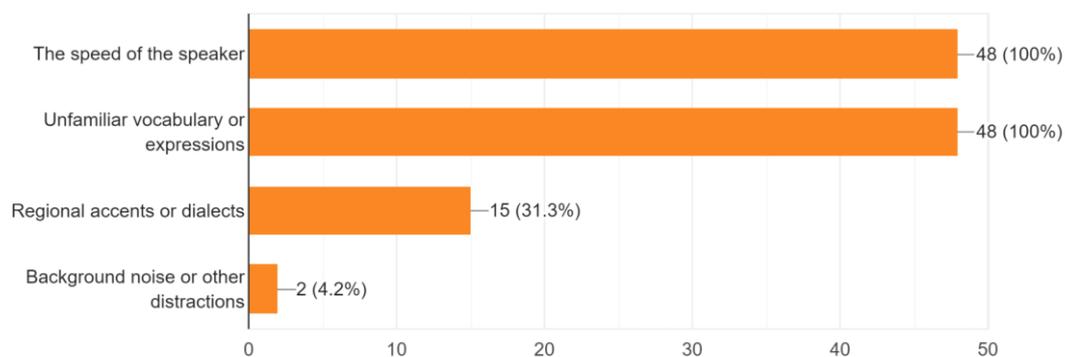


Figure 25: Challenges faced by EFL students when trying to understand spoken language

Table 9 serves as a crucial indicator of the significance of this phenomenon, providing a comprehensive overview of the errors recorded during the listening exercises conducted by the participants in the experimental group. The analysis classifies these errors into distinct categories, namely grammar, pronunciation, and vocabulary, enabling a focused understanding of the areas that demand attention and improvement.

Out of the total 522 errors observed, 46 errors were categorised as grammatical errors, representing 4.5% of the total errors. This relatively lower percentage suggests that participants in the experimental group demonstrated a reasonably solid grasp of English grammar. However, these findings still emphasise the importance of continued reinforcement and practice to minimise grammatical errors further.

A noteworthy finding is that pronunciation-related errors constituted the most substantial portion of the observed errors, accounting for 271 instances, which equates to 26.5% of the total errors. This underscores the significance of focusing on pronunciation skills, as accurate pronunciation is crucial for effective communication and comprehension. The prevalence of pronunciation errors in listening exercises highlights the need for targeted instruction and practice to enhance participants' ability to comprehend spoken English accurately.

Errors associated with vocabulary usage represent 184 instances, comprising 18% of the total errors. Vocabulary plays a pivotal role in language acquisition, and these findings emphasise the necessity of developing a robust and diverse vocabulary repertoire. By expanding their lexical knowledge, participants can enhance their listening comprehension and effectively navigate real-life communication situations.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	522	51.0	51.0	51.0
	GRMR	46	4.5	4.5	55.5
	PRNCT	271	26.5	26.5	82.0
	VCLR	184	18.0	18.0	100.0
	Total	1023	100.0	100.0	

Table 9: Frequency of errors from listening exercises by category NB: GRMR: Grammar; PRNCT: pronunciation; VCLR: vocabulary

Figure 26 provides a compelling visual representation of the participants' initial experiences with understanding native speakers at the beginning of the experiment. The data highlights the prevalence of difficulties encountered in this regard and underscores the potential impact of the experimental intervention.

An overwhelming majority of 79.5% of the participants reported facing challenges in comprehending native speakers at the outset of the experiment. This significant percentage indicates that a substantial portion of the participants initially struggled to grasp spoken English when exposed to authentic native speaker interactions. This finding mirrors the common challenges faced by language learners when encountering real-life language use, characterised by natural speech patterns, idiomatic expressions, and varying speech rates.

Additionally, 20.5% of the participants admitted to having some level of difficulty understanding native speakers, signifying that a notable proportion had experienced partial difficulties but were not entirely fluent in their comprehension.

In contrast, a mere 2.3% of the participants claimed to have had no difficulty understanding native speakers at the beginning of the experiment. This small minority indicated that they were comparatively adept at comprehending native speaker interactions, likely owing to their prior exposure to authentic language usage or advanced language proficiency.

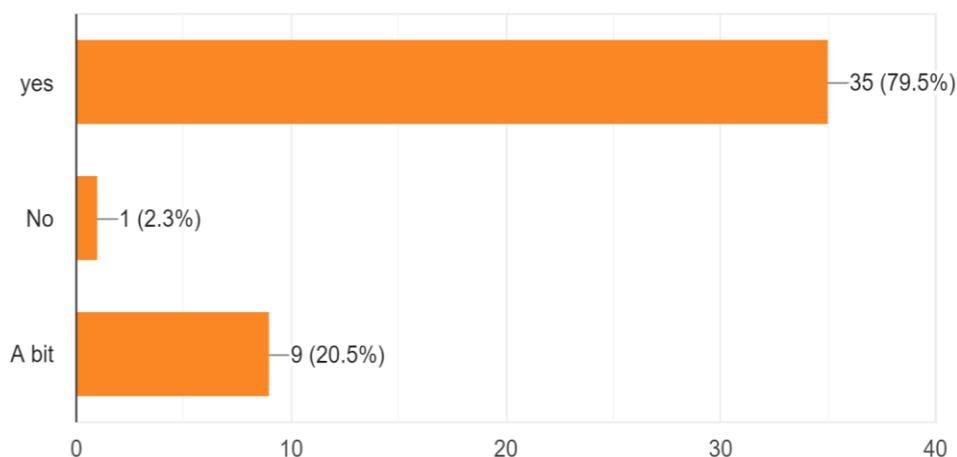


Figure 26: Difficulty in understanding native speakers at the beginning of the experiment

In light of the identified difficulties in listening comprehension, it was crucial to explore the strategies employed by students to improve their understanding. Figure 27 presents valuable insights into the types of activities and approaches the students adopt in response to challenging listening situations.

A notable 18.8% of the students indicated that when they encounter difficulties in understanding, they make a concerted effort to listen for familiar words or phrases. This strategy allows them to leverage their existing vocabulary knowledge and linguistic resources to gain partial comprehension of the audio content. By identifying familiar elements, students can piece together the overall meaning of the discourse, even in the presence of unknown words or complex phrases.

Remarkably, 100% of the surveyed students reported that they engage in a vital practice to enhance their listening comprehension: listening to the audio again. This active

approach of re-listening to the material grants them the opportunity to focus on specific segments, grasp nuances, and reinforce their understanding. Repetition plays a crucial role in language learning, as it enables students to internalize linguistic patterns and nuances, thereby refining their listening skills over time.

Additionally, 50% of the students employ context clues as a means to deduce the meaning of unfamiliar words or phrases. Relying on contextual information helps them infer the intended message based on the surrounding content, enhancing their ability to derive meaning from context, a valuable skill in real-life language use.

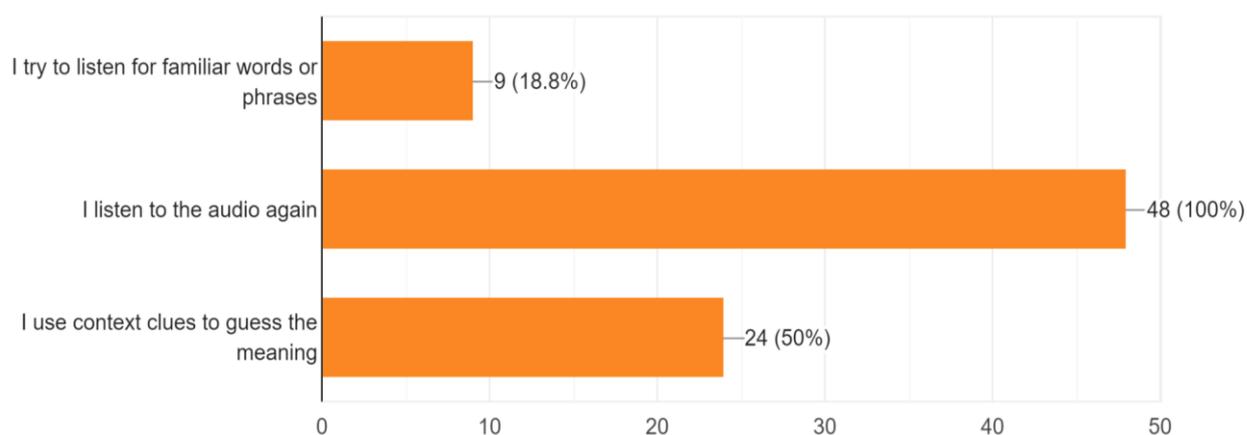


Figure 27: The way students approach listening activities they find difficult

Table 9 shows how students approach listening activities that they find difficult. Looking at this table, we see that of the 48 respondents, 22 students just listened to the audio again. 17, in addition to listening to the audio again, used context clues to guess the meaning. Two of them listen for familiar words or phrases and listen to the audio again. Seven students state that they try to listen for familiar words or phrases, listen to the audio again and use context clues to guess the meaning. Students use a variety of methods to improve their listening comprehension. Since these activities are based on listening, it shows us that these students are aware of the contribution of listening in improving their oral proficiency.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	150	75.8	75.8	75.8
I listen to the audio again	22	11.1	11.1	86.9
I listen to the audio again, I use context clues to guess the meaning	17	8.6	8.6	95.5
I try to listen for familiar words or phrases, I listen to the audio again	2	1.0	1.0	96.5
I try to listen for familiar words or phrases, I listen to the audio again, I use context clues to guess the meaning	7	3.5	3.5	100.0
Total	198	100.0	100.0	

Table 10: Frequency of how students approach listening activities that they find difficult

7.3. Impact of Listening Comprehension Instruction on EFL Students' Proficiency and the Impact of its Teaching Using ICT

Listening comprehension instruction can have a significant impact on the proficiency of EFL students. Improving listening comprehension skills is crucial for EFL students to achieve proficiency in English because listening is an essential component of communication in real-life situations. Effective listening comprehension instruction can help EFL students to understand spoken English more accurately and easily. Integrating Information and Communication Technologies into listening comprehension instruction can have a positive impact on EFL students' proficiency. I was interested in knowing what EFL students think about listening comprehension and the extent to which its instruction using ICT can be helpful for them.

7.3.1. What is the Importance of Listening Comprehension?

The survey conducted at Université Joseph KI-Zerbo shed light on students' experiences with listening comprehension courses, providing an overview of the current state of listening comprehension instruction within the Department of English Studies. Figure 28 clearly shows the prevalence of listening comprehension courses and the students' exposure to such courses.

A significant proportion of 59.1% of the surveyed students reported never having taken a listening comprehension course during their academic journey. This finding suggests a substantial gap in providing explicit listening comprehension instruction within the Department of English Studies. The lack of dedicated listening comprehension courses implies that listening skills may not receive sufficient attention in the current curriculum.

On the other hand, 40.9% of the students stated that they had taken a listening comprehension course outside of their academic program. This relatively smaller percentage indicates that some students have sought opportunities to enhance their listening skills through external means, such as private language centres or self-directed language learning initiatives. This result highlights the students' proactive approach to addressing their listening comprehension needs, seeking supplementary resources beyond the confines of their formal academic program.

Notably, all participants in the survey were enrolled in the Department of English Studies, which further strengthens the indication that listening comprehension courses are not currently integrated into the department's curriculum. This finding raises concerns regarding the comprehensive development of language skills within the English Studies program, especially considering the critical role that listening comprehension plays in effective language communication.

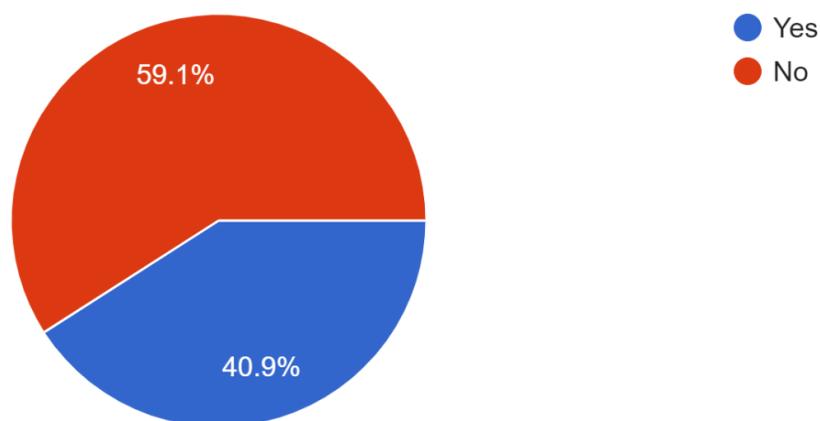


Figure 28: Distribution of students who have already taken a listening course

The feedback received from the experimental group participants regarding the experiment's perceived usefulness and impact provides valuable insights into the

students' perspectives on the intervention. Figure 29 illustrates the overwhelmingly positive reception of the experiment, highlighting the significance of its impact on the participants.

Remarkably, 34.1% of the experimental group participants described the experiment as '*amazing*' reflecting a sense of awe and appreciation for the novel and effective learning experiences it offered. This enthusiastic response indicates that the experimental intervention utilizing ICT-based pedagogical approaches for listening comprehension resonated profoundly with a substantial portion of the students. The '*amazing*' descriptor suggests that the experiment not only met their expectations but exceeded them, possibly by providing engaging and interactive learning opportunities that fostered a deeper connection to the language and its authentic use.

Moreover, a remarkable 86.4% of the participants characterised the experiment as '*helpful*' signifying a high level of perceived efficacy and positive impact on their language learning journey. This endorsement of the experiment's utility suggests that the participants recognised tangible benefits and improvements in their listening comprehension skills through the use of ICT-based activities. The '*helpful*' perception indicates that the experimental intervention successfully addressed the identified listening challenges, leading to enhanced oral competence and language proficiency.

Equally noteworthy is the absence of any negative feedback, as none of the participants found the experiment tedious or unimportant. This lack of negative responses highlights the experiment's engaging and meaningful nature, which captured the students' interest and sustained their motivation throughout the intervention. The absence of negative feedback further reinforces the positive impact of the experimental intervention on the participants' language learning experiences.

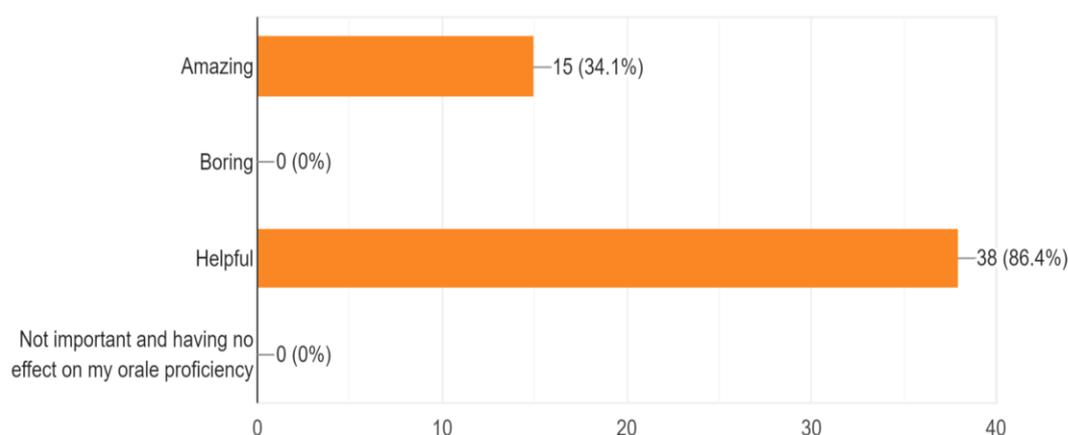


Figure 29: Participants' impression of the listening comprehension experiment

Regarding those who had previously taken a listening course, I inquired about their perception of the listening sessions they attended during the experiment compared to those they had taken earlier. The feedback obtained included responses such as finding the experimental sessions more practical, more efficient, and more helpful than their prior experiences.

'This one is more concrete and more practical'

'I think this one is better because it is practice but the other one is theory (sic)'

'It was more efficient than what I used to do..'

'This one is more helpful for it took a long length of time and it helped us a lot'

'This one is more amazing and helpful to me'

Additionally, participants highlighted the individualised and intensive nature of the experimental sessions compared to the group setting in their previous classes.

'WE did listening compréhension course with all the class together. It i not the same , here we are alone and us to do good work (sic)'

Many participants expressed their appreciation for the extended duration of the experiment, which allowed for more comprehensive and effective learning. *‘No. The first one didn’t take time so it was difficult for me.*

The participants’ feedback indicated that the experiment was more effective in improving their listening comprehension skills.

When questioning the participants regarding their perception of listening comprehension, they provided feedback indicating that the course was highly beneficial: *‘Very helpful, it is not much more time it takes’ (sic);*

Many participants expressed that the course enhanced their ability to comprehend the speech of native speakers, which is not typically a focus of everyday language learning: *‘It is very helpful. It allows us to understand what native speakers says, because in our everyday’s life we learn to speak but not to listen*

‘It is very good, it permits us to understand native speakers

‘It is more than welcome because it allows us to improve our listening skills. It also permit us to understand easily native speakers (sic)’

‘very interesting because it permits to know how words are pronounced by the native speakers’

‘Listening comprehension is helpful: it permits to test our capacity to get clearly native speakers’

‘Listening comprehension course is good. It allows students to acquire knowledge from natives way speaking’ .

Participants noted that the course helped to improve their listening skills and reinforced their existing knowledge. *‘It help us improve our listening skills’ (sic)*

‘I think it is allowed one to explore and reinforce his listening skills’

'It is a good course and if we use it I think it will be a way which could permit us to increase our listening skills (sic)'

'think this course is helpful because it helps us to boost first our listening comprehension and second the comprehension course allows us to improve our oral skills and also to speak like native speaker.'

Some participants highlighted the usefulness of the course in expanding their vocabulary and improving their overall language performance. *'very helpfull for students. Cause it leads them to check, and discover new words. And talking about new knowledge means improuving the student language performance'*

'it also helps to improve our vocabulary'

'It is a good idea that can help students to improve their listening and oral skills, and also to improve their vocabulary and to be at ease when listening to native speakers'

Others suggested that the course should be implemented at various educational levels, including universities and high schools. *'I think it should be applied to university even to highschool education program'*.

In general, the participants were enthusiastic about the course, with many expressing their desire to participate in similar programs in the future: *'It's was amazing, we enjoy it ! And we hope to have another one. Thanks !'*

'Very helpful and amazing mainly when I'm asked to order words to get correct sentences. Really i promise to not miss such occasion if ever it is one day available..(sic)'

Several participants specifically cited the value of exercises that required them to reorganise words into coherent sentences, emphasising the practical nature of the course.

7.3.2. Impact of Listening Comprehension Instruction on EFL Students' Proficiency

In order to assess the effect of teaching listening comprehension on students' oral proficiency, I analysed their responses to questions 18, 25, 28, 30, and 31 of the questionnaire. In this regard, I compared results from tests on word, text, and sentence recognition before and after the experiment. With regard to the above-mentioned questions, the analysis is as follows:

The responses obtained from students regarding the types of listening activities they find most helpful in improving their listening skills provide valuable insights into their preferences and preferences. Figure 30 reveals the diversity of opinions among the participants, reflecting the varying effectiveness of different listening activities in fostering comprehension.

Notably, the identified listening activities encompass a range of sources, including dialogues, lectures, news reports, songs, and speeches. These varied options suggest that students recognize the importance of exposure to different forms of spoken English, which can provide a comprehensive understanding of language use in diverse contexts.

Half of the participants (50%) identified the mentioned activities as their preferred methods of enhancing their listening comprehension, indicating that a substantial portion of the students value a multi-faceted approach to their language learning. This result reflects an appreciation for incorporating various listening materials to engage with different language registers and styles, enhancing the participants' adaptability in real-life language situations.

75% of the respondents expressed a strong preference for listening to songs, underscoring the power of music in language acquisition. Songs offer a unique opportunity for learners to experience natural language rhythm, intonation, and colloquial expressions, making them a captivating and effective tools for improving listening skills.

Similarly, 91.7% of the participants favoured listening to lectures, highlighting the significance of academic content in language learning. Lectures provide students with

exposure to complex language structures and academic discourse, contributing to the development of higher-order listening comprehension skills.

Furthermore, 62.5% of the respondents preferred news reports, emphasizing the importance of staying informed and attuned to current events through authentic audio sources. Listening to news reports challenges students to follow fast-paced information and comprehend a broad range of topics, enhancing their ability to process information in real-time situations.

All of the respondents included songs in their preferred listening activities, reflecting the universal appeal and effectiveness of music in language learning. This unanimity in preference suggests that songs resonate with learners of diverse backgrounds, transcending linguistic and cultural barriers.

Moreover, 87.5% of the participants expressed a preference for speeches, demonstrating an appreciation for the authenticity and relevance of speeches in language learning. Listening to speeches exposes students to natural language use in public speaking contexts, further honing their listening skills in real-life situations.

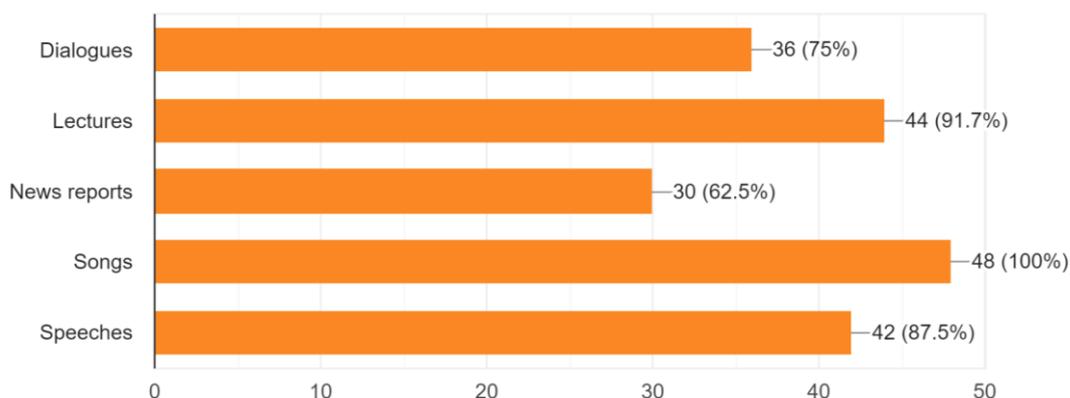


Figure 30: Types of listening activities students find most helpful in improving their listening skills.

The responses to question 25, which inquired about the participants' initial difficulties in understanding native speakers at the beginning of the experimentation, offer valuable insights into the students' oral proficiency levels. Figure 31 displays a clear picture of the

challenges faced by students in the English department at Université Joseph KI-Zerbo when it comes to comprehending native speakers.

A significant 79.5% of the respondents admitted to encountering difficulties in understanding native speakers, indicating a prevalent issue among the participants. This substantial percentage highlights the existence of a widespread challenge in oral proficiency, which may hinder effective communication and language comprehension. Additionally, 20.5% of the respondents provided a response of 'somewhat,' suggesting that while not entirely impeded, they still faced specific challenges in understanding native speakers. This response indicates that a notable portion of the students had some level of difficulty in grasping spoken English, emphasizing the need for targeted intervention and support to enhance their listening comprehension skills.

Remarkably, only one respondent claimed to have had no difficulty comprehending native speakers at the beginning of the experiment. This lone response highlights the rarity of students who already possess a high level of oral proficiency, potentially indicating a small subset of students who have had prior exposure to immersive language experiences or have a natural aptitude for language learning.

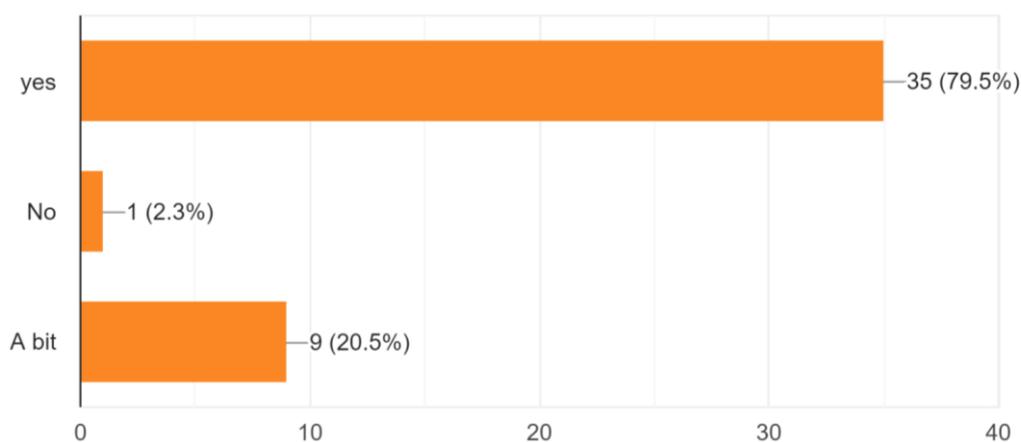


Figure 31: Students' degree of difficulty understanding native speakers

Question 28 concerned the way students feel about being assessed on their listening comprehension skills. To that question, 27 respondents stated that they are comfortable with being assessed because they think that it is necessary to measure their progress.

While 12 among them said that they are just comfortable with it and the other 9 respondents said they think this assessment is necessary to measure their progress.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	150	75.8	75.8	75.8
I am comfortable with it	12	6.1	6.1	81.8
I am comfortable with it, I think it is necessary to measure my progress	27	13.6	13.6	95.5
I think it is necessary to measure my progress	9	4.5	4.5	100.0
Total	198	100.0	100.0	

Table 10: How do students feel about being assessed on their listening comprehension skills?

Regarding question 30, which inquired about the participants' perception of the experiment's impact on their listening skills, Figure 32 presents a compelling picture of the students' feedback in percentage. An overwhelming majority of the participants, accounting for 97.7%, acknowledged that the experiment provided them with a valuable opportunity to enhance their listening skills. This resounding response highlights the efficacy of teaching listening comprehension through the ICT-based experiment in significantly improving the oral competency of students learning English as a foreign language.

The remarkably high percentage of students who reported improving their listening skills signifies the experiment's positive impact on their language learning journey. The significant majority of participants recognising the positive influence of the experiment is a testament to its effectiveness in fostering better language comprehension and communication abilities.

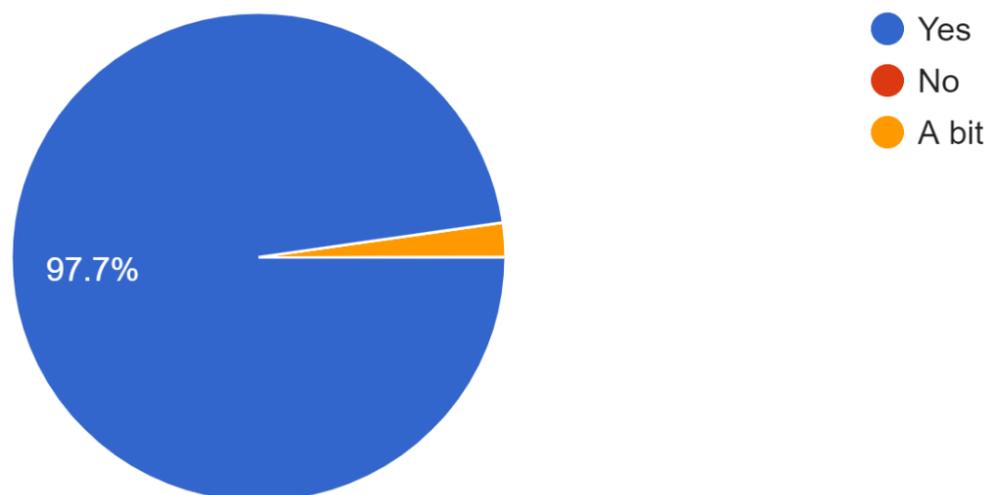


Figure 32: Impact of the experiment on students' listening skills

In question 31, the objective was to assess the students' perception of their current listening comprehension skills after they participated in the experiment. Figure 33 provides a comprehensive overview of the students' attitudes toward the listening comprehension instruction they received during the experiment.

The responses received from the participants indicate a positive and favourable outlook on their listening comprehension skills following the experiment. An impressive 82.8% of the respondents considered their listening skills to be good, demonstrating a notable improvement in their ability to understand spoken English. This majority response highlights the significant impact of the ICT-based experiment on enhancing the students' listening capabilities.

Furthermore, 10.3% of the students perceived their listening skills as average, indicating that they recognized some progress in their comprehension abilities but might still seek further improvement. This response reflects a constructive attitude towards their learning journey and underscores the ongoing nature of language development.

Another noteworthy finding from Figure 33 is that 6.9% of the students rated their listening skills as excellent. This response showcases exceptional progress in their listening comprehension abilities, indicating a high level of proficiency attained through the experiment. This result is indicative of the experiment's effectiveness in facilitating

substantial growth in language comprehension, leading to a group of students with exemplary listening skills.

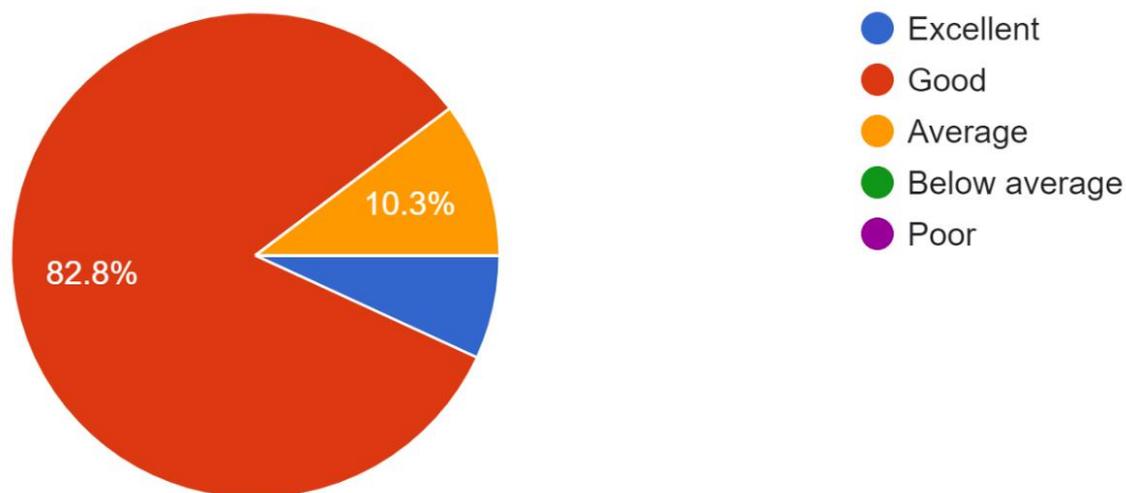


Figure 33: Students feeling about their current listening comprehension skills after attending the experiment.

The summary table provided showcases the results of the listening exercises undertaken by the students of Université Joseph KI-Zerbo who participated in the study. My sample data is suitable for measuring the impact of listening comprehension instruction on student proficiency. Table 12 sheds light on the level of word, text, and sentence recognition achieved through the listening comprehension exercises.

	Category	Experimental group	Control group
At the beginning of the experiment	words	19,7%	19,8%
	text	23,2%	23,7%
	Sentences	11,8%	11,6%
At the end of the experiment	words	29,7%	21,2%
	text	31,9%	23,9
	sentences	30,4%	13,2%

Table 11: Recognition of words and sentences in the listening comprehension assignment

The comprehensive analysis of Table 7 sheds light on the participants' recognition levels at the onset of the experiment, revealing that both the experimental group and the control group exhibited nearly equal percentages in word, text, and sentence recognition. Specifically, the experimental group demonstrated a word recognition rate of 19.7%, while the control group achieved 19.8%. Similarly, regarding text recognition, the experimental group scored 23.2%, and the control group scored 23.7%. Additionally, the experimental group recorded 11.8% for sentence recognition, while the control group achieved 11.6%.

However, as the experiment progressed, the final results revealed a notable improvement in the recognition levels of the participants in the experimental group compared to those in the control group. The intervention using ICT-based activities proved highly beneficial in enhancing the participants' listening comprehension abilities.

Specifically, the experimental group displayed a significant increase of 10% in word recognition to reach an impressive 29.7%. On the other hand, the control group experienced a more modest rise of only 1.4%, reaching 21.2%. This substantial difference in percentage signifies the effectiveness of the ICT-based approach in improving word recognition among the students in the experimental group.

Similarly, in terms of text recognition, the experimental group witnessed a remarkable improvement of 8.7%, elevating their recognition level to 31.9%. In contrast, the control group's progress was marginal, with a mere 0.2% increase, resulting in a text recognition level of 23.9%. This significant divergence in growth reaffirms the advantage of employing ICT-based activities to enhance text recognition abilities.

Furthermore, for sentence recognition, the experimental group experienced an outstanding surge of 18.6%, elevating their recognition level to 30.4%. Conversely, the control group's advancement was minor, with only a 1.6% increase, reaching 13.2%. This substantial discrepancy in progress underscores the experiment's profound impact on improving sentence recognition capabilities in the experimental group.

The disparity in recognition level improvements between the experimental and control groups indicates the effectiveness of the ICT-based experiment in facilitating substantial

growth in listening comprehension abilities. The interactive and engaging nature of the ICT activities empowered the participants in the experimental group to comprehend spoken language more effectively, enabling them to decipher words, texts, and sentences with greater proficiency.

7.3.3. Using ICT to Practise Listening Comprehension

As part of a study, students were surveyed about how often they use ICT tools to practise listening comprehension outside of the classroom. According to the report in Figure 35, 4.5% of students rarely use ICT tools for this purpose, 29.5% use them sometimes, 34.1% use them often, and 31.8% use them almost always. These results suggest that students are keen on using ICT tools to improve their listening skills in their daily lives. Therefore, incorporating ICT tools into the education program should be encouraged.

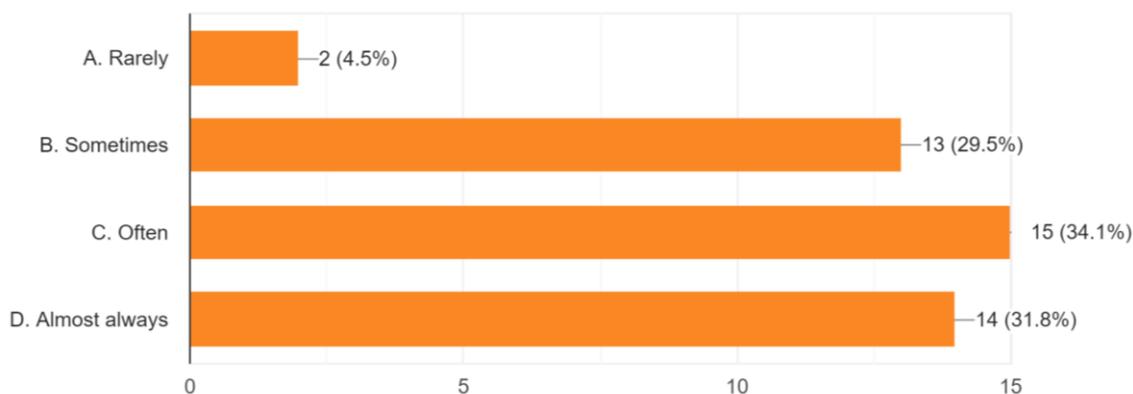


Figure 34: Frequency of ICT used to practise listening comprehension

I was interested in knowing the types of ICT tools students used to practise listening comprehension outside the classroom. In that question, 47,7% of the respondents selected podcasts, 75% selected videos and 20,5% selected interactive online activities to be their preferred ICT tool to practise listening activity.

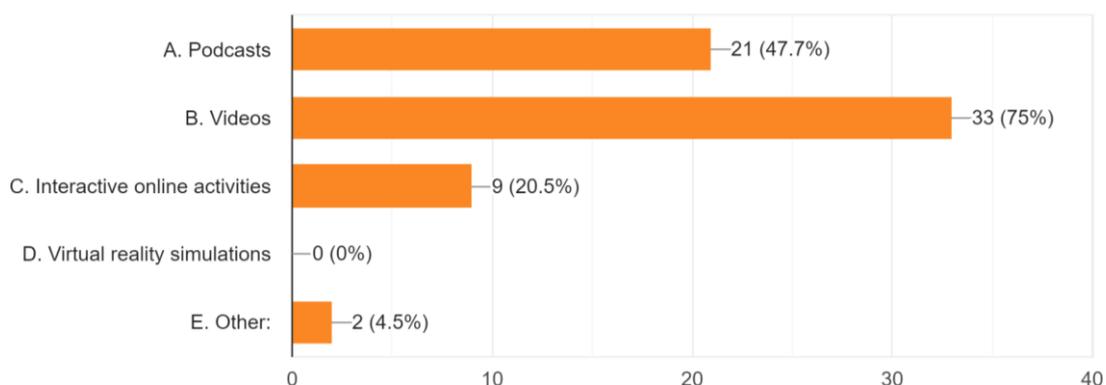


Figure 35: types of ICT tools students used to practise listening comprehension outside class

Following that students were questioned on the way they prefer to practise listening activity. They have to choose among: A. Alone B. With a partner C. In a small group and D. In a large group.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	154	77.8	77.8	77.8
A. Alone	32	16.2	16.2	93.9
B. With a partner	2	1.0	1.0	94.9
C. In a small group	8	4.0	4.0	99.0
D. In a large group	2	1.0	1.0	100.0
Total	198	100.0	100.0	

Table 12: Summary of the way students prefer to practise listening comprehension using ICT tools

Table 13 makes it clear that more than half (32) of the students prefer practising listening activity alone. Two(2) students opted for preferring practice listening activity with a partner, 8 students in a small group and the other two (2) students indicated their preference in practising listening activity in a large group. The preference of the majority to practise their listening activity alone can be explained by the fact that such an activity needs concentration and does not involve interacting with peers.

Furthermore, students had to give their perception about the effectiveness of ICT tools in practising listening comprehension, the results were astonishing since all the respondents agreed on the fact that those tools are very effective. See chart below

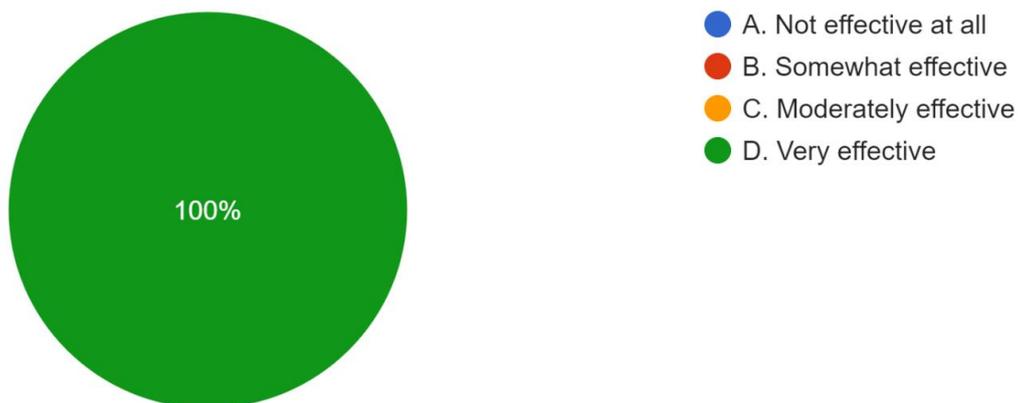


Figure 36: Perception of students on the effectiveness of ICT tools in practising listening comprehension

About their perception of using ICT tools to practise listening comprehension compared to more traditional methods, they all affirmed that they prefer ICT tools, while only two (2) students declared that they had no preference among both methods.

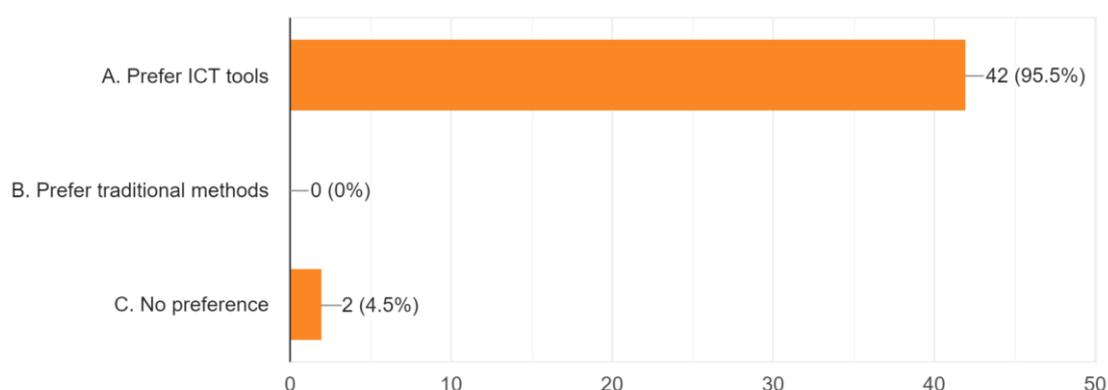


Figure 37: Students' perception about using ICT tools to practise listening comprehension compared to more traditional methods

Some potential benefits of using ICT tools for practising listening comprehension were highlighted by students. Indeed, the results of question 14 display the following benefits of using ICT tools to teach listening comprehension: exposure to a wider range of listening materials according to 93.2% of students, engaging and interactive learning experiences (81.8% of students), providing more opportunities to practise listening skills (90.99%) and access to authentic language sources (88.6%). (figure 39)

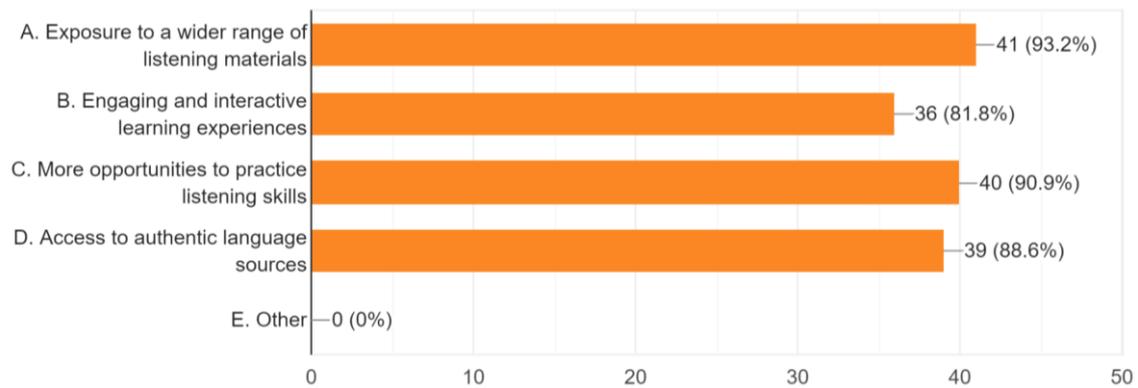


Figure 38: Potential benefits of using ICT tools for practising listening comprehension

It is important to consider that using ICT (Information and Communication Technology) in education has benefits and challenges. In a recent questionnaire, students highlighted some issues they face while incorporating ICT into their learning experience. These include technical difficulties (100%), concerns about the authenticity of online materials (22.7%), difficulty staying focused during online practice (50%), and limited access to technology outside of the classroom (100%). See Figure 39. After analysing the results, it is clear that technical issues and limited access to technology outside the classroom are the main challenges students face at Universite Joseph KI-Zerbo. These challenges must be addressed before integrating ICT into the university program.

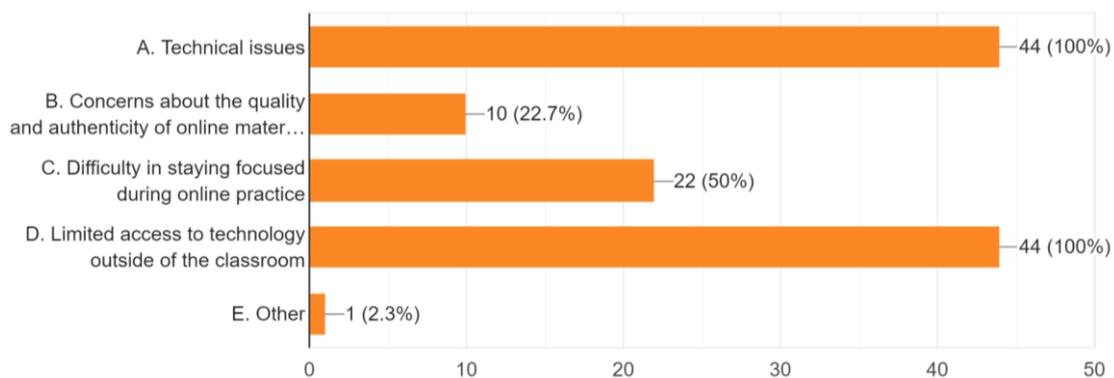


Figure 39: Some potential challenges of using ICT tools for practising listening comprehension

7.3.4. Using digital tools to teach listening comprehension: Wooclap

Wooclap is an interactive digital tool designed to engage students in learning and facilitate real-time interaction in the classroom (Huang et al., 2020). It offers a variety of features such as quizzes, polls, surveys, word clouds, open-ended questions, and games that can be used in teaching, presentations, and conferences. Wooclap is a cloud-based platform that allows teachers to create and deliver engaging multimedia content to their students in real time, making it an ideal tool for both in-person and remote learning environments.

In addition to engaging students and promoting interaction, Wooclap also offers analytics that enables teachers to monitor student progress, track participation, and assess understanding in real-time. This allows for more personalised learning experiences and helps teachers to adapt their instruction to better meet the needs of their students.

Wooclap has been used in this study to assess the listening comprehension teaching using ICT. The experiment provided relevant results that I am going to display in the following lines.

After completing the experiment, students were asked in question 20 of the questionnaire to share their perceptions about the tool, Wooclap. Here are some of the responses collected:

‘This tool was helpful, especially in today’s growing world.’

‘It is an important tool for improving listening comprehension skills.’

‘The tool is useful if they work out network issues first. Congrats for the Idea.’

‘I appreciated using this tool for studying, not only because it’s in digital form but also because it’s confidential and easy to grade exams. However, the downside is that some learners may cheat during exams due to it being a digital tool.’

‘Even though it was our first time using it, this tool is very good.’

'It's a good tool that could be improved if students had free access to it, as data usage can be expensive for some. It would also be better if there was support from authorities.'

'This is the best application for online courses.'

Based on the responses collected, it seems that Wooclap was generally perceived positively by the students who used it in the experiment. The tool was described as helpful, important, and very good.

One advantage of Wooclap is that it allows for confidential and easy grading of exams. However, some students expressed concerns that other students may cheat during exams because it is a digital tool.

It is worth noting that some students mentioned that data usage can be expensive for some and that it would be better if there was support from authorities. This suggests that while the tool has benefits, there may be practical barriers to its use for some students.

Therefore, the responses suggest that Wooclap is a useful tool for improving listening comprehension skills and for online courses. However, there may be some limitations to its use, and improvements could be made to make it more accessible and cost-effective for all students.

From the feedback collected, students find it challenging to use Wooclap due to technical issues and poor connectivity *'No connection no work'*, *'The limit of the tool wooclap is the lack of connection'*. Specifically, some students mentioned that the tool does not accept plural S or hyphens, and once an answer is submitted, it cannot be corrected. *'For me the limits are on the correction part, wooclap don't tolerate mistakes like plural S, hyphen'* Moreover, a slow or unreliable internet connection can also cause difficulties using the tool effectively *'I think it is useful but the problem of connexion can impede it in our country!'*.

To enhance the tool's usability, some students suggested that they could answer while listening and that the option to listen and fill out simultaneously would be beneficial. *'Listening and filling out at the same time would be better'* In addition, some students felt that the tool could be more lenient in accepting some correct answers.

All in all, while Wooclap has the potential to be an excellent learning tool, it may be limited by technical constraints. Improvements could be made to its error tolerance and compatibility with various platforms to optimise its effectiveness.

To assess the effectiveness of the wooclap tool, I requested feedback from students on their progress after using it during the experiment. According to Table xx, out of all the participants, four (4 with $f = 9.1\%$) reported moderate improvement, two (2 with $f = 4.1\%$) reported slight improvement, and the remaining 38 (with $f = 86.4\%$) reported significant improvement.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	154	77.8	77.8	77.8
B. Slight improvement	2	1.0	1.0	78.8
C. Moderate improvement	4	2.0	2.0	80.8
D. Significant improvement	38	19.2	19.2	100.0
Total	198	100.0	100.0	

Table 13: Level of listening comprehension after practising with ICT tools Wooclap

7.4. Pedagogical integration of ICT in language teaching at Université Joseph KI-Zerbo

Pedagogical integration of educational technologies in language teaching has the potential to enhance the learning experience for students in several ways. It can enhance the learning experience for students and provide them with valuable tools and resources to support their language learning journey (Levy, 2009). However, it is important to remember that technology should be used in a way that supports and enhances teaching and learning rather than replacing it. To assess this point, I take into account the results of the questionnaire administered to students who participated in the listening comprehension experiment on the one hand, and the results from the questionnaire submitted to students who took part in the VEC project.

7.4.1. Results from listening comprehension experiment

The incorporation of educational technologies in language teaching is crucial for enhancing students' learning experience. It offers them valuable resources and tools to aid in their language-learning journey (Levy, 2009). However, it is imperative to note that technology must only be used to supplement teaching and learning, not replace it. To assess this, I conducted a questionnaire for students who participated in the listening comprehension experiment and the VEC project. In question 21 of the listening comprehension experiment questionnaire, I asked students for their opinion on integrating the digital tool 'wooclap' into the learning system of Université Joseph KI-Zerbo, such as during listening comprehension lessons and exams. The collected responses were overwhelmingly positive, with students enthusiastically welcoming the idea.

They believe it will be a welcome addition, especially since other universities have successfully implemented it

'It will be the welcome. If other universities are using it without any problem there is no reason for our universities not to use it'

'I think, it's welcome ! It will help students to perform their listening and oral skills.'

'It will be welcomed and useful for teachers and students'

They suggest starting with the English department ' *It must be used in the English department first*'. Some think the tool will improve the quality of education and benefit students', *'Its integration will raise the level of the students'* .

Another student sees it as an opportunity to develop their skills and reduce mistakes. It will be good.*it develops the education system and makes us train ourselves to reduce our mistakes'* .

For language departments like English and German, students believe that the tool will help students test their listening skills with native speakers

'It will be good because in a language department like English and German departments, it will help student to test their listening skills while listening to native speakers' (sic),

'Integrating wooclap in the learning system of our university is going to be good for it will help and train a lot students when it is come to pronunciation ,and listening and comprehension without being compulsory in the classes'

Some other admit that they struggle with listening, but still think the tool could be useful for improvement *'It could be useful even if for some like us who don't have a good mastery of listening,but I think it will be a start for our improvement'* (sic)'

They think the tool is wonderful because it offers online courses and reduces the need for students to move.

'It will be a very wonderful things because through the tool wooclap we can get some course online and it will reduce student's moving' ,

'It will be fantastic because we'll be able to attend class while being at home and also it'll permit us to have class with native speaker teachers. With wooclap we'll end with the problems of rooms'

'Moreover, students are not obliged to come at university all the time they can stay at home and follow the course or do they differents examinations through this tool. For exemple, the way we did the experimental test can be applied to our university'

'It will be wonderful because it will help those who don't have time to attend the University because if their job, to continue their studies !'

'That will be very great since it will unable students to have class everywhere at any time.'

Moreover, students think that the integration of the tool is an innovative idea, but suggest taking precautions such as ensuring students have access to a smartphone or computer and data connection

'It could be an innovation'

'As far I am concerned, it integration will be a great thing. But knowing our realities, many precautions should be taken: smartphone or computer, data connection for students. Perhaps for those in Master'

'The begining of everything is difficult. In the field of teaching, this digital tool will be welcome in the UJKZ because it will help students in Anglophone studies to improve their listening skills. For the exam, I personally think that it will be a little bit difficult. People face problems of connexion and data. For this tool to be efficient, one must work out these problems first before thinking of integrating it. One can miss an online course if the network is bad. But missing a test, due to the network is intolérable. (sic)'

'This is going to be a good thing but improvement should be needed in term of network in all of Burkina Faso (sic)'

The answers provided by the students highlight the potential benefits and challenges associated with integrating digital tools in education, particularly in the context of limited access to technology and internet connectivity. It is commendable that students recognise the innovative nature of the tool and the potential improvement it can bring to their learning experiences, particularly in areas such as improving listening skills in Anglophone studies. However, they also raise valid concerns about the practical implementation and the need to address issues related to smartphone access, computers, data connection, and network reliability.

7.4.2. Results from the VEC project

In this section, I will analyse three sets of data: the pre and post-tests I conducted and the surveys I administered to students after each edition of VEC. The success indicator is based on the vocabulary tests conducted at the beginning and end of the experiment. These tests allow me to map out the students' progression in vocabulary learning. The video recordings of the weekly regulation sessions with the teachers also provide me with information on the student's progress and their commitment to the project. It is worth noting that the results I am presenting are from the first two editions of VEC.

7.4.2.1. Vocabulary Test Results

My objective was to measure the student's progress and compare the results of both editions. The pre-and post-tests were done on the same subjects and with the same question form for both tests and both editions.

As indicated above, I administered a pre-and post-test to the students participating in the study to follow their progress in the specific language we worked on (ecolinguistics). I

transferred the questions from the pre-test to the post-test questionnaire for reliable results. The results of the tests are as follows:

Concerning the pre-test of the first edition, all the students completed it. It was scored at 1 point/question. As we can see in Table 15, the scores range from 37 to 63 for the first edition. Since the questions were scored out of 100 points, I considered 50 points to be the average. However, seven students scored below 50 on the pre-test, and the other five scored between 56 and 63. The mean here is 48,17 with a standard deviation of 9,543.

Regarding the post-test, ten students participated in the VEC first edition, and I noticed that the marks obtained varied between 42 and 83. Only three students obtained 42, 46 and 47 points, and the other seven obtained a mark between 66 and 83. The mean is 63, with a standard deviation of 13,669.

Descriptives Statistics					
	N	Minimum	Maximum	Mean	SD
Pre-test	12	37	63	48,17	9,543
Post-test	10	42	83	63,20	13,669
N valid (list)	10				

Table 14: Result Pre- and Post-test / VEC 1

At the second edition, I noticed in table 16 that for the pre-test, the scores range from 32 to 61. The mean is 46,11 with a standard deviation of 9.233. At the post-test, there is an

improvement, with scores ranging from 32 to 81, with 64.56 and 15.576 as the standard deviation.

Descriptives Statistics					
	N	Minimum	Maximum	Mean	SD
Pre-test	5	32	61	46.11	9.231
Post-test	5	32	81	64.56	15,576
N valid (list)	5				

Table 15: Result Pre- and Post-test / VEC 2

When comparing these groups in SPSS, the following assumptions are taken into consideration:

H0: the means of the two groups are equal,

H1: the means of the two groups are different.

The t-test for equality of means then gives $t = 3.143$ at 345 degrees of freedom with a significance of 0.001; therefore, the H0 hypothesis is rejected: the difference between the mean scores obtained by the two groups can be considered significant with less than 0.1% risk of error.

When I compare the results of the VEC first two editions, the results clearly show that learning is visible. While the progression is significant, the standard deviations are also greater in the post-tests, which means that students benefited well from the project. However, the minimum scores have also risen, which shows that the weaker students improved their vocabulary skills.

To measure the impact of the project on Université JKZ students, I had three students participate in both editions, and I compared their results in the table below:

Ancien participant	Pre-test VEC1	Posttest VEC1	Pre-test VEC 2	Post-test VEC 2
AP 1	40 / 100	73 / 100	52 / 100	78 / 100
AP2	63 / 100	46 / 100	61 / 100	72 / 100
AP3	60 / 100	66 / 100	47 / 100	81 / 100
Moyenne	54 / 100	62 / 100	53 / 100	77 / 100

Table 16: The performance of the three former students.

The analysis of the table shows three former students have seen significant progress in their scores. The first individual has gone from 73 to 78, the second has progressed from 46 to 72, and the third has made a significant leap from 66 to 81. The data collected in the tests demonstrate a positive impact of the VEC on JKZ students’.

7.4.2.2. Questionnaire Results

All participants in the VEC project were Master’s students of Applied Linguistics, British Literature, and African Literature at the Université JKZ. Upon completing the project’s first two editions, a questionnaire was distributed to the students to assess the impact of the VEC on higher education in Burkina Faso. The results indicated that, except for one student who had taken an online MOOC, all participants were new to distance learning at the Université Joseph KI-Zerbo.

4. Have you already participated in a MOOC?

9 responses

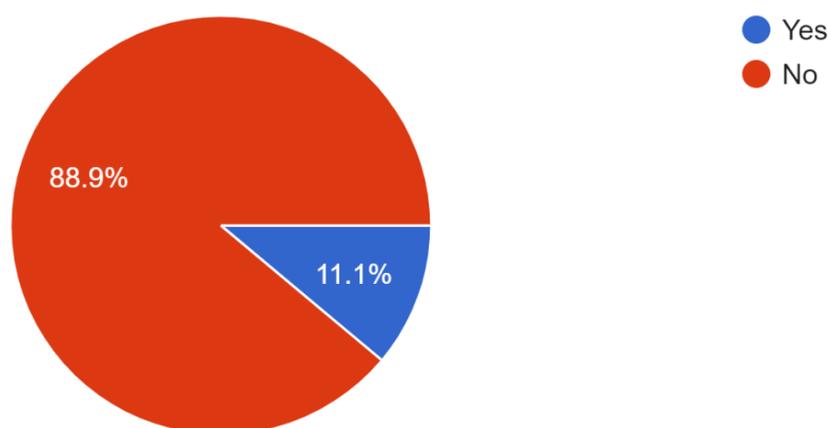


Figure 40: Students having already participated in a MOOC

The students' feedback on the project was overwhelmingly positive, with descriptions such as '*fantastic,*' '*inspiring,*' '*interesting,*' and '*exciting*'. They saw the potential of distance learning in terms of having access to a more extensive range of possibilities in terms of education and being connected with the world: '*Distance learning permits to learn anything from anywhere in the world*'. Collaborative learning was delightful for the students, who said they learned much from each other. Emphasis was placed on the benefits of sharing and learning simultaneously, gaining experience, and being more active.

To the question about 'integrating distance, online and collaborative learning in the curriculum of the University?' the students immediately saw what advantages this could bring to students living or working '*outside Ouagadougou*' and who would be able '*to continue their studies*' even when 'working in places far from the university' and '*Quite a good idea! Online learning in our university will great improve the learning methods and reinforce the students earnibg capacity. It will also help students to discover ways of making efficient online searches!*'.

The responses to questions concerning collaboration and motivation for the VEC project revealed both positive aspects ('*high commitment*', '*great collaboration between team members*', etc.) and technical difficulties, mainly because of the internet, but sometimes also because of the ICT which were perceived to be both '*modern*', '*useful-interesting-good*' and '*sometimes difficult to use*'.

The VEC tools (pMOOC, padlet, zoom, VIA, YouTube) were well identified; as displayed in Figure 42, the students said these tools had contributed to the acquisition of new skills in culture (33%), linguistics (66%), oral (44%), project management (44%), debate (55.6%), and use of digital technology (88%).

13. Have you developed skills in

9 responses

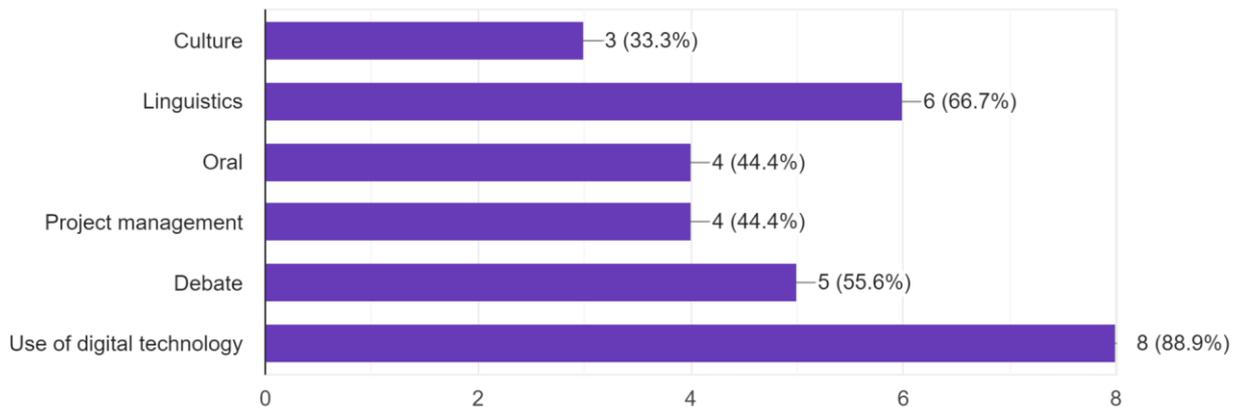


Figure 41: Improvement of students' skills

As for language acquisition, all the students affirmed that the VEC experience had allowed them to progress in English, and this claim was indeed consistent with the test results.

14. Did this experience offer you the opportunity to progress in English?

9 responses

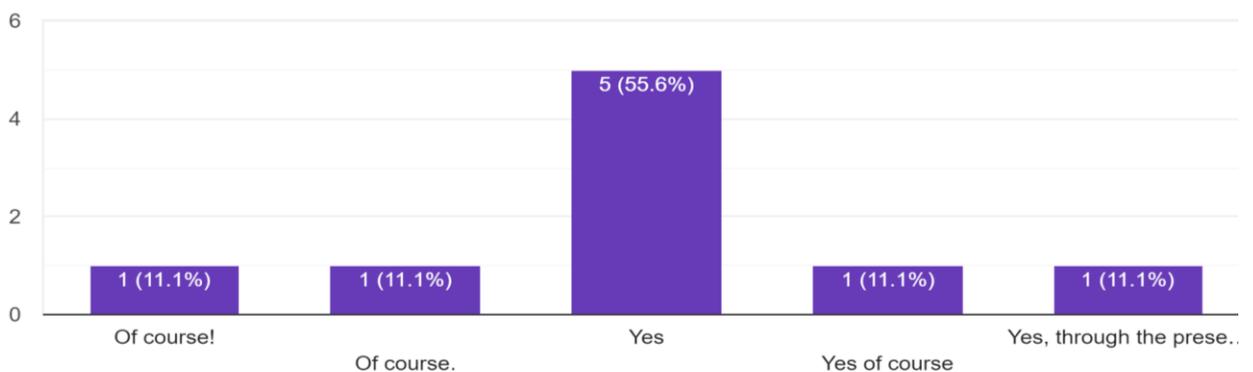


Figure 42: Student's opportunity to progress in English

I added two questions to the first edition questionnaire for the former students to examine how they felt about their progression after attending the two first editions of VEC.

In the VEC second edition questionnaire, I included two additional questions for former students to assess their progress after attending the first two editions of VEC. The first question focused on their progress in both editions, mainly using digital tools. The

responses indicated that they *'learned at least 50% more in the second edition'* and *'made significant progress after participating in the first one'*. One respondent rated their progress as *'four stars'*. The second question aimed to evaluate their level of proficiency in using digital tools after participating in the VEC project. The responses showed they had *'a good level of proficiency'*, *'became familiar with many digital tools through the project'*, and considered themselves *'perfect'*.

7.4.3. Students' motivation in learning through ICT tools

Motivating students to learn listening comprehension through ICT can be an effective approach to engage them in the learning process. It involves incorporating engaging and interactive tools, personalising the learning experience, setting clear goals and expectations, providing real-life examples, and creating a positive learning environment (Rost, 2011).

Therefore, I analysed the feedback submitted to the Université JKZ team coordinator regarding the VEC to assess the students' motivation in learning through ICT. Additionally, I relied on the researcher's field observation outcomes for the listening comprehension experiment.

The VEC coordinator emphasised the motivation of the Université JKZ students. The students showcased their creativity and collaborative skills through various productions, including creating a logo and a trailer. These outputs demonstrated their ability to utilise the digital tools provided and apply them in practical contexts. Despite facing challenges such as internet connection limitations and working with unfamiliar tools, the students showed remarkable adaptability and determination.

The student's active participation during the weekly work sessions reflected their motivation and commitment to the project. They engaged in fruitful discussions, exchanged ideas, and demonstrated high involvement. This collaborative approach fostered a dynamic and inclusive environment, allowing them to collectively develop innovative solutions for making their university greener.

In line with theoretical perspectives on collaborative learning and project-based approaches, the student's active involvement and ability to adapt to new programs exemplify constructivist learning principles. By engaging in the project, they were able to construct their knowledge and skills through hands-on experiences and collaborative problem-solving. This aligns with the idea that learning is not solely transmitted but actively constructed by the learners.

Furthermore, the students' reflective feedback played a vital role in the iterative process of the project. By continuously reflecting on their work, they could identify improvement areas, evaluate their strategies' effectiveness, and make necessary adjustments. For example, in the second edition, they decided to record their presentation during the quarter-finals due to bad connectivity. This reflection and feedback process encouraged critical thinking and self-assessment, enhancing their learning experience and the quality of their outputs during the second edition.

Regarding the students' motivation during the listening comprehension experiment, they were very enthusiastic, motivated, and quick to do the exercises once they were made available. During the constitution of the sample, practically all the students wanted to join the experimental group to benefit from the advantages of the device. Still, as I indicated in Chapter 6, the means did not allow me to recruit many participants. Thus, this enthusiasm for the experiment indicates that the students at Université JKZ are willing to learn with the help of ICT.

7.5. Teachers' implications in the pedagogical integration of ICT in Burkina Faso higher education

In the context of integrating ICT in Burkina Faso higher education, it is crucial to acknowledge the central role of teachers in effectively using these technologies in their pedagogical activities. Without teachers' active involvement and commitment, the successful integration of ICT remains a challenge. Therefore, in this section, we will explore the teachers' implications in the pedagogical integration of ICT in Burkina Faso higher education. To assess the extent of their involvement, we will consider not only their existing knowledge and skills but also draw insights from the training seminar specifically designed for the teachers at the Université JKZ. The results of this training seminar will provide valuable insights into the teachers' readiness and willingness to adopt ICT in their teaching practices, they also shed light on the potential impact of teacher training on the integration of ICT in the higher education system.

To fully understand the results of the Moodle training seminar, we will begin by presenting the findings of the pre-training questionnaire, which was administered before the training seminar. This initial evaluation served as a preparatory measure to assess participants' knowledge and perceptions of ICT and its use in teaching practices and, above all, to tailor the training to teachers' requirements and to determine the content of the training. We will then look at the analysis of the post-questionnaire, designed to measure the impact of the training seminar on the participating teachers. Analysis of the responses and comments obtained during this post-questionnaire evaluation will enable us to assess the effectiveness of the training and its influence on the pedagogical integration of ICT in higher education.

7.5.1. Pre-questionnaire results

The results of the pre-questionnaire will be presented and analysed based on the participants' demographic characteristics, prior experience with Learning Management Systems, and expectations of the Training Seminar.

7.5.1.1. Demographic characteristics of the participants

Based on the pre-questionnaire results, 74.2% of the total 43 respondents were students, while only 37.2% (16 respondents) were professors. The majority of the respondents, about 51.2%, were aged between 25-34 years old, 32.6% were aged between 34-44 years old, and 11.6% were aged between 45-54 years old. Very few respondents (less than 5%) were between 55-64 years old, indicating an older population of training participants.

Quel est votre tranche d'âge ?

43 responses

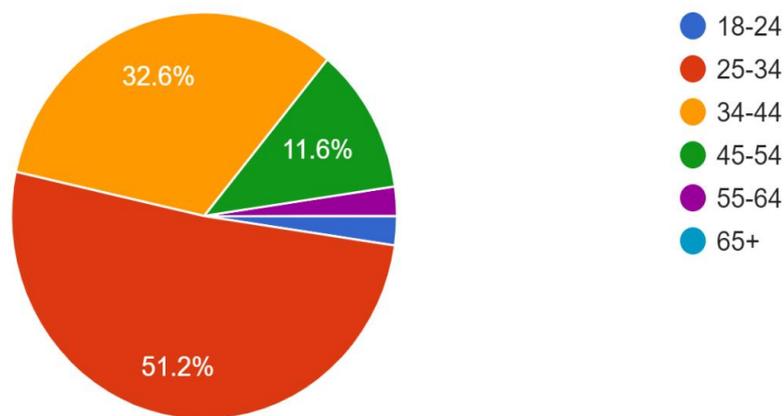


Figure 43: Age range of training participants (Source Geer, 2022)

The analysis of the participants' professional status provides valuable insights into the composition of the age group from 18 to 24 years. As the training program was exclusively targeted at university teachers and doctoral students (considered here as prospective teachers) from Université JKZ, it is evident that the presence of participants in the 18 to 24 age bracket can be attributed to this specific focus. Based on the data collected from the pre-questionnaire, the participants in the training program were

categorised as follows: 55.8% were doctoral students, 11.6% were teachers at the undergraduate level, 16.3% were teachers at the master’s level, 4.3% were teachers at the doctoral level, and 20.7% were students. The objective of the training program was somewhat biased due to this composition. This could be explained by the possibility that some teachers may not attach great importance to ICTE or may not have been available to attend the training. Additionally, more than 134 individuals were present during the training, indicating that some teachers might not have taken the time to respond to the pre-questionnaire. The presence of students can be attributed to the decision to include training on Genially and Zotero alongside the initial focus on Moodle. Students likely attended the training primarily for the Genially and Zotero sessions, which may explain their inclusion in the participant group.

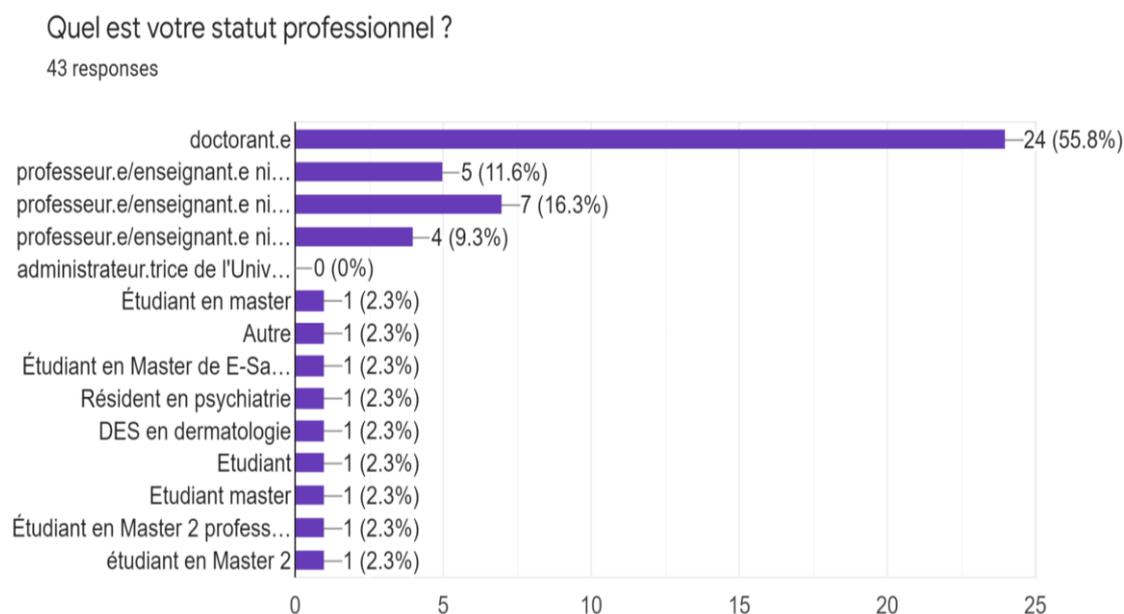


Figure 44: Participant’s Professional Profile, (Source Geer, 2022)

7.5.1.2. Participants’ prior experience on Learning Management Systems (LMS)

Of 43 participants, 30 (69.8%) said they had never created or utilised an online course space on any LMS platform. Only 11 respondents (25.5%) mentioned that they had used or created an online course space, of which nine were students. Among those who utilised an online space, only 12 respondents were identified, and 5 (41.7%) used Moodle. Despite

the lack of experience with online spaces, all 43 participants answered a question about their evaluation of online course spaces. The results showed a median rating of 3.56 out of 5, indicating indifference towards online spaces. However, 65.1% of respondents rated the spaces positively with a 4 or 5, indicating a tendency to favour online course spaces. (Geer, 2023)

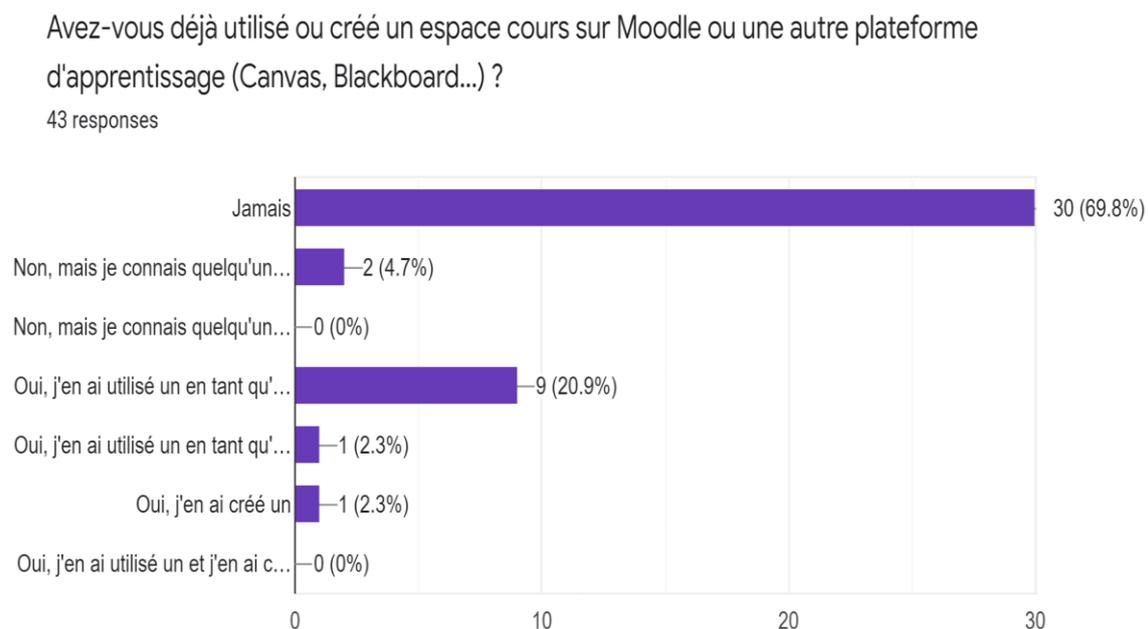


Figure 45: Participants prior experience on Learning Management Systems (LMS) (Source Geer, 2022)

When asked about their familiarity with Moodle features, most respondents were knowledgeable about the creation aspect, particularly labelling. A majority of 65.1% stated that they were confident in selecting appropriate titles for courses and section names, which is reassuring from an organisational standpoint. Other notable data points include section creation (32.6%), collaborative activities (23.3%), access to basic resources (25.6%), and uploading personal documents to an online space (25.6%). However, it is worth noting that the percentage of respondents who uploaded personal documents was only 25.6%, which equates to 11 participants. (Geer, 2022)

Quelles sont les fonctionnalités de Moodle que vous utilisez dans votre espace cours ? (si vous n'en disposez pas, veuillez choisir les fonctionnalités que vous connaissez)

43 responses

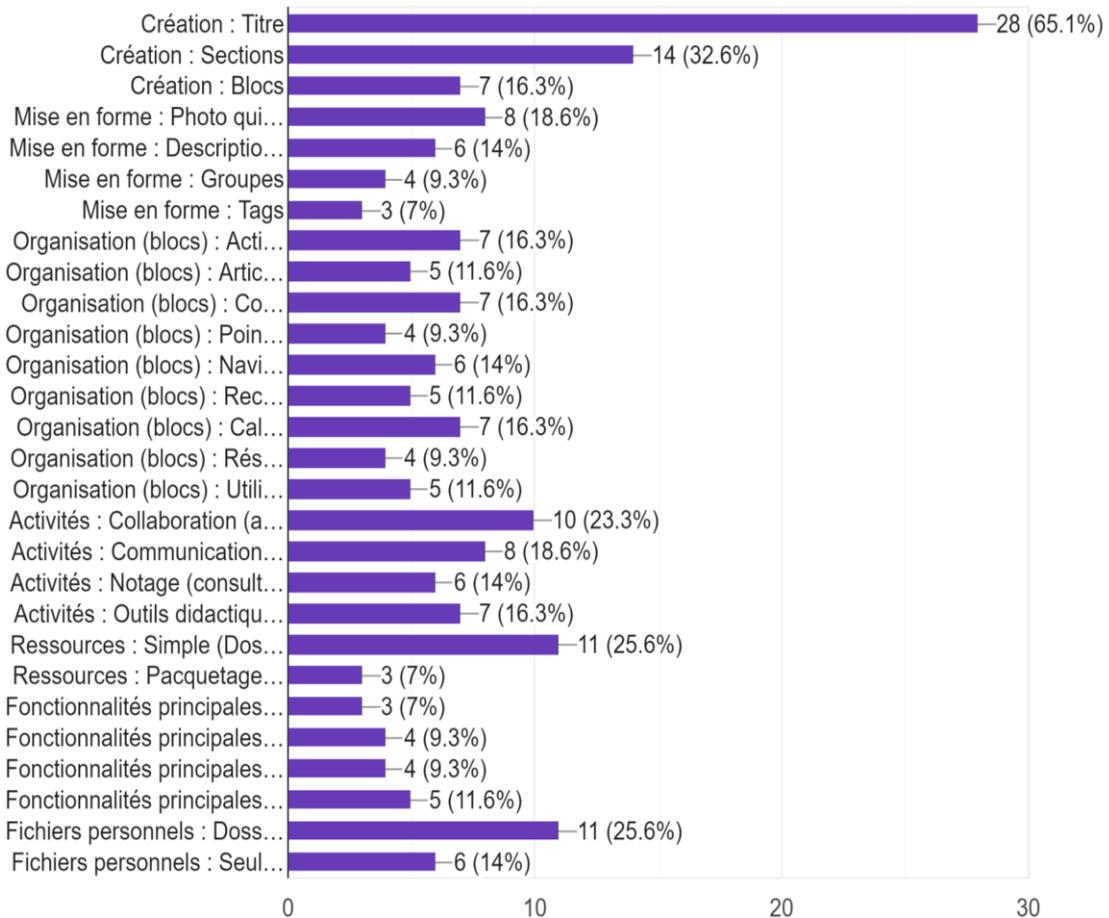


Figure 46: Moodle features used by participants in their course space (Source Geer, 2022)

7.5.1.3. Expectations of the Training Seminar

When teachers were asked about their desired Moodle features, their expectations were optimistic, with around 20 respondents expressing interest in learning about all the available functionalities in Moodle. Specifically, the teachers wanted to learn about titling, section creation, creating article blocks, and adding ICTE.

Changement de question : quels sont les fonctionnalités que vous VOUDRIEZ utiliser/voir dans votre espace cours (y compris celles que vous utilisez déjà)

43 responses

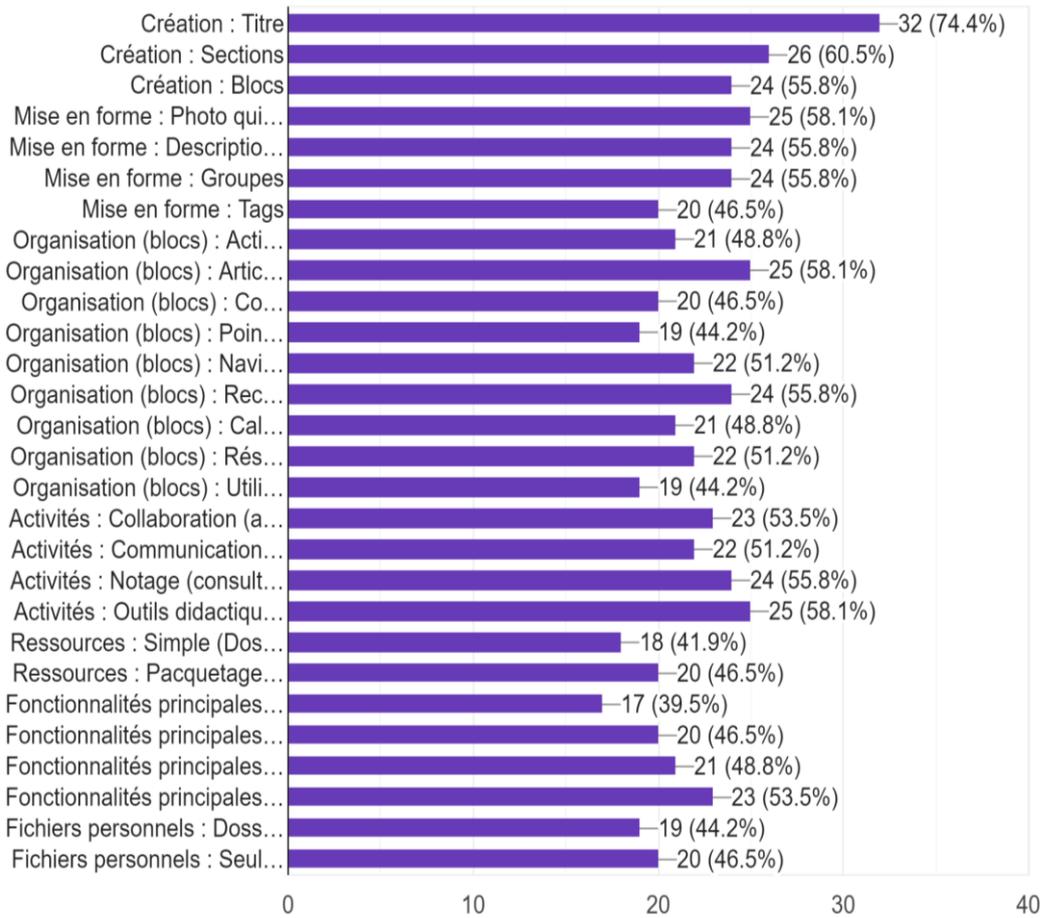


Figure 47: Moodle features that participants would like to use (Source Geer, 2022)

7.5.2. Post-Questionnaire results

One notable aspect that draws my attention in the post-questionnaire is the limited number of respondents. Out of the initial sample of 43 participants who completed the pre-questionnaire, only five responded to the post-formation questionnaire. This discrepancy raises concerns as it may impact the reliability and generalisability of the results. The post-questionnaire was designed to assess the impact of the training, monitor participants' progress, and improve future training sessions. However, the low response rate limits my

ability to evaluate the training's effectiveness and draw definitive conclusions comprehensively.

7.5.2.1. Participants having created their own Moodle course space

In this survey, my focus was on the individuals who could establish their own Moodle course space after completing the training program. It was unexpected to learn that none of the five participants had created a Moodle course space after the training program. This disappointing finding raises questions regarding the practical application and transferability of the acquired knowledge and skills.

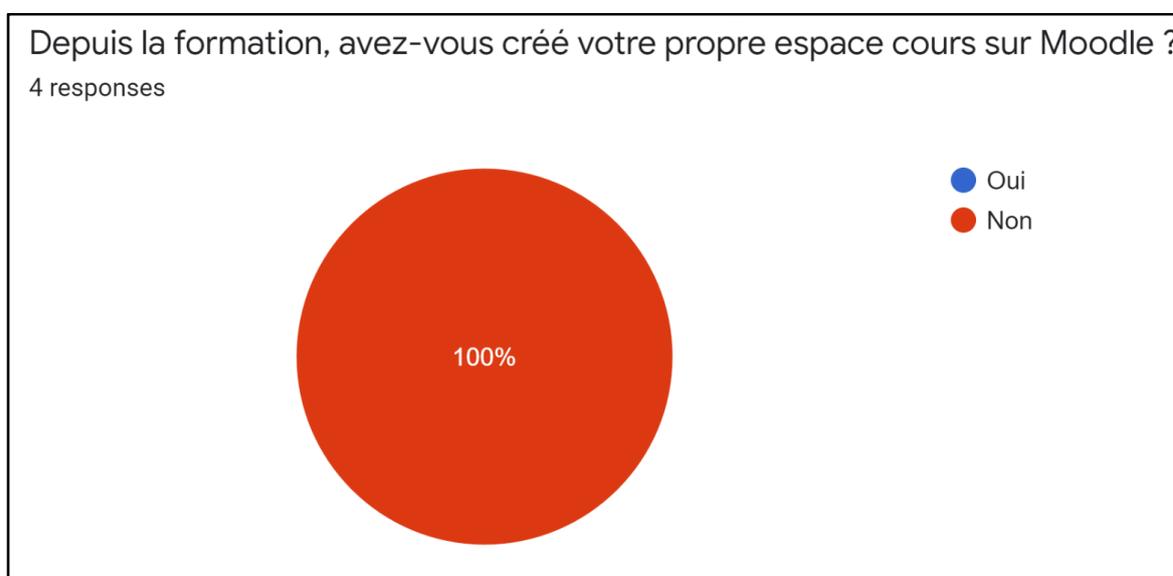


Figure 48: Participants who created a Moodle course space after the training (Source Geer, 2022)

7.5.2.2. Impressions on the training

Three of the five respondents participated online, while two were physically present in the classroom. None felt utterly prepared to create their online space, with a median response of 3.4, indicating moderate comfort. However, when asked about the trainers' preparedness and satisfaction with the training, the respondents gave an average rating of 4.4, indicating that they were relatively satisfied. The brainstorming session received an

average rating of 3.2, indicating moderate satisfaction, while the presentation received an average rating of 4.4, indicating rather high satisfaction. The respondents noted that the presentation was interactive, but the time allotted was insufficient. The evaluation of an online course space received an average rating of 3.8, indicating some level of satisfaction. However, the question about rating the 'online course space' activity was deemed obsolete and irrelevant as there was not enough time to complete that activity.

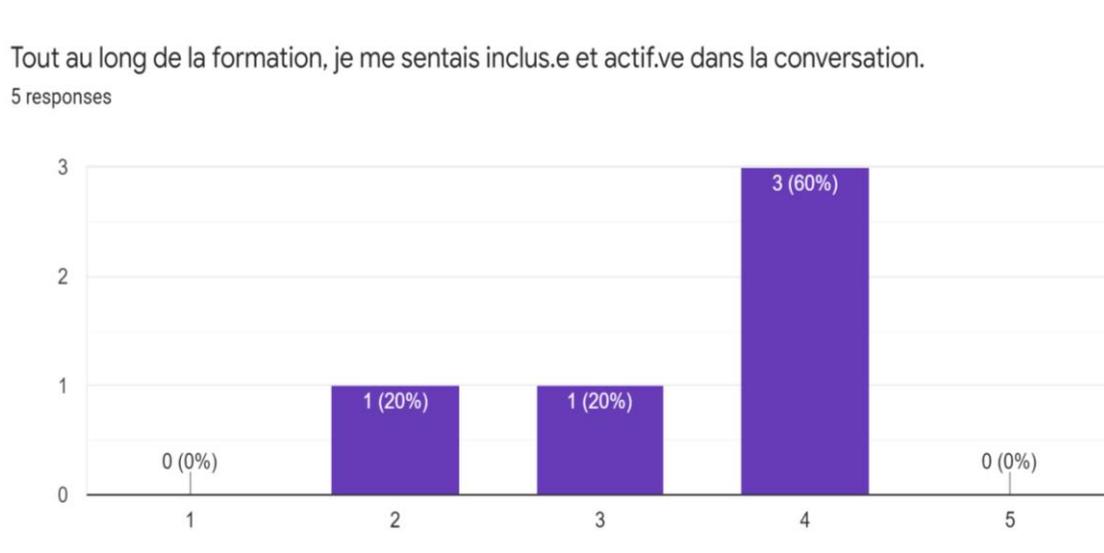


Figure 49: Participants' impression of their participant (Source Geer, 2022)

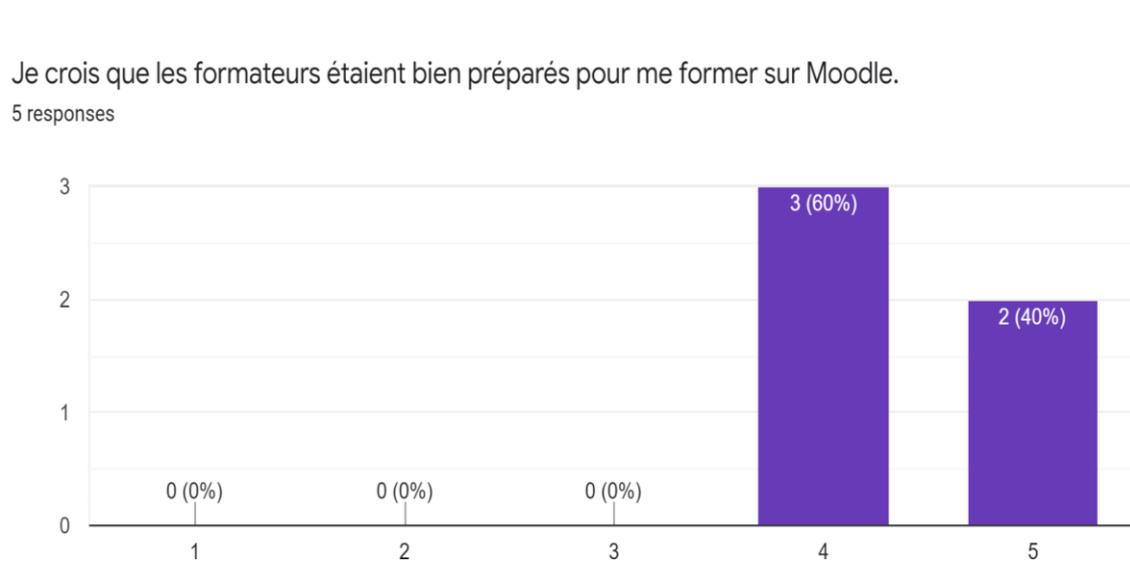


Figure 50: Participants' impressions on the trainer's preparedness (Source Geer, 2022)

Je crois que la formation a répondu à toutes mes questions.

5 responses

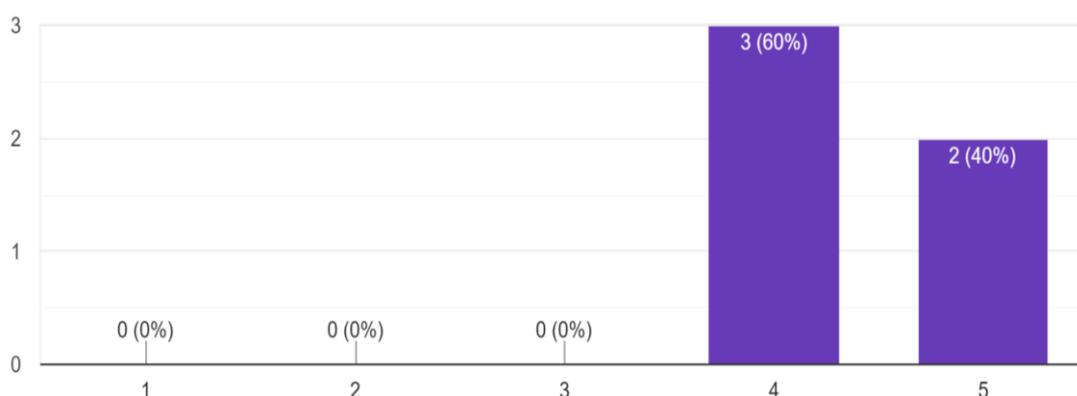


Figure 51: Did the training meet the participants' expectations? (Source Geer, 2022)

7.5.2.3. Evaluation of main points of training seminar: creation, organisation, maintenance

When participants were asked about their readiness to create their own course space after the training, their responses were assessed on a Likert scale ranging from 1 to 5, where one represented 'strongly disagree' and 5 represented 'strongly agree.' The analysis revealed diverse perceptions among the respondents. Two participants rated their readiness at a score of 2, indicating a relatively low level of confidence or preparedness. Conversely, two other respondents scored 5, suggesting a high confidence level in their ability to create a course space. Additionally, one respondent rated their readiness at a score of 4, indicating a moderate level of readiness. These variations in responses suggest a range of perceptions and readiness levels among the participants.

Après la formation, je me sens prêt.e pour créer mon propre espace cours.

5 responses

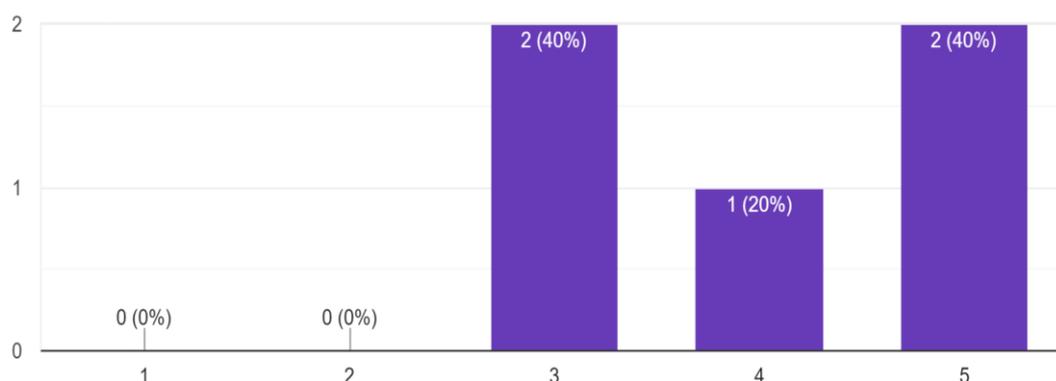


Figure 52: Participants' readiness to create their own course space after the training. (Source Geer, 2022)

The participants' readiness to organise their own course space after the training was assessed by asking them to rank their responses on a Likert scale ranging from 1 to 5, where one represented 'strongly disagree' and five represented 'strongly agree.' Three respondents scored 3, indicating a neutral stance or uncertainty regarding their readiness to organise a course space. On the other hand, two participants rated their readiness at a score of 4, suggesting a moderately high level of confidence in their ability to organise a course space. These results suggest a range of perceptions and readiness levels among the participants, with some expressing moderate confidence while others exhibiting a degree of uncertainty. These findings highlight the importance of offering targeted guidance and interventions tailored to the individual needs of participants to ensure successful implementation of course organisation tasks.'

Après la formation, je me sens prêt.e pour organiser mon propre espace cours.

5 responses

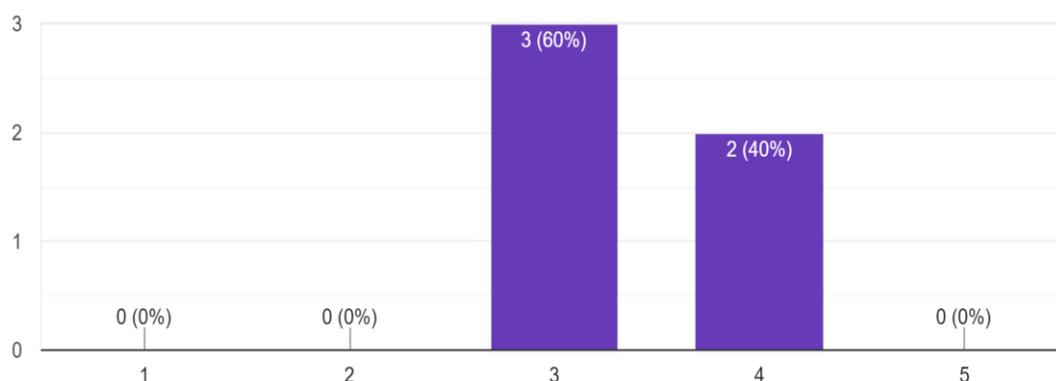


Figure 53: Participants' readiness to organise their own course space after the training. (Source Geer, 2022)

We were interested in the participants' readiness to maintain their course space after the training using a Likert scale of 1 to 5. Indeed, one respondent scored 2, suggesting low confidence or disagreement with being ready to maintain their course space. Conversely, three participants were assigned a score of 3, indicating moderate agreement but not strong confidence in their readiness. Additionally, one respondent expressed a higher confidence level, rating their readiness at a score of 4. These findings reveal a range of perceptions among participants regarding their readiness to maintain their course space. This underscores the importance of providing targeted assistance and guidance to address individual concerns and promote successful engagement in course space maintenance.

Après la formation, je me sens prêt.e pour entretenir mon propre espace cours.

5 responses

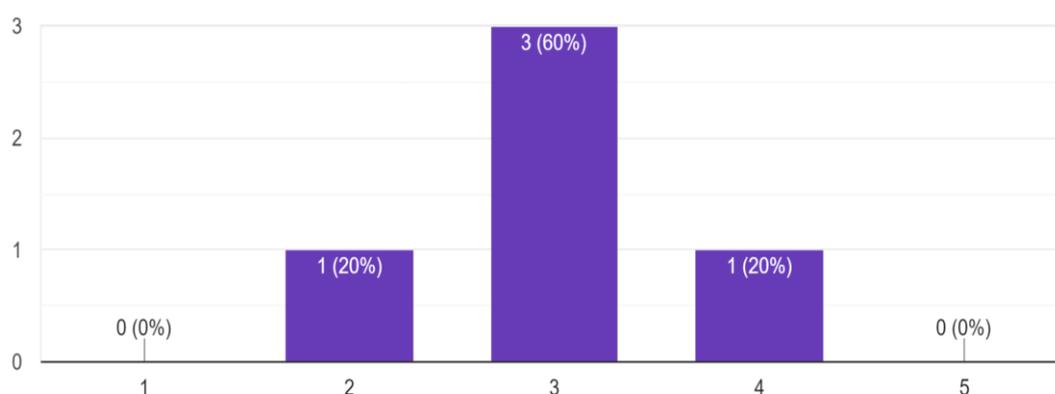


Figure 54: Participants' readiness to create their own course space after the training (Source Geer, 2022)

7.5.2.4. Teachers' future directions with LMS

In response to the underlying objectives of the training seminar, the final questions concern the connections between the professors, between Moodle and the professors, and between Moodle and the students. It was shown that although the respondents rate the Moodle-educational actor connections at 4.4, or 'rather strong', some respondents replied that they would most likely not rely on their peers to get advice and improvements on their online courses, rating it at 3.8 out of 5 total, which indicates 'somewhat agree.' This rating could be more interesting had more participants responded to the questionnaire and had the participants at the training completed every activity for the Moodle training. The overarching objective was not met. Notwithstanding the failure, the questionnaires highlighted the participants' motivation for and satisfaction with the training seminar. With averages of 4.4 out of 5 for several aspects concerning the execution, content, and interaction of the seminar, participants showed strong, positive responses to what they learned. Therefore, developing that determination with more precise workshops in a future training seminar would be necessary. (Geer, 2022)

Je vais profiter de l'intelligence et du bienveillance de mes collègues pour solliciter leur avis sur mes espaces cours dans l'avenir.

5 responses

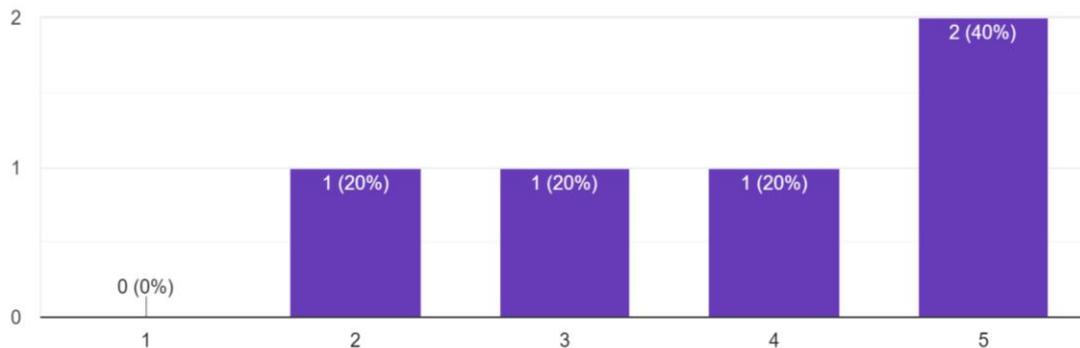


Figure 55: Connexions between the professors in relation to Moodle (Source Geer, 2022)

Participants were asked to rate their agreement on a Likert scale of one to five to assess their perceptions of Moodle's usefulness for course management. A score of one represented 'strongly disagree' while five indicated 'strongly agree'. The analysis of responses revealed that Moodle is a valuable tool for managing courses. Three respondents gave a score of four, indicating a positive outlook on Moodle's effectiveness, while two participants gave a score of five, expressing even stronger agreement. These high scores indicate significant confidence in Moodle's potential benefits for organising and administering course materials and activities. The positive response to Moodle highlights its value as an educational technology tool that enhances the efficiency and effectiveness of course management tasks.

Je crois que Moodle peut être utile dans la gestion de mes cours.

5 responses

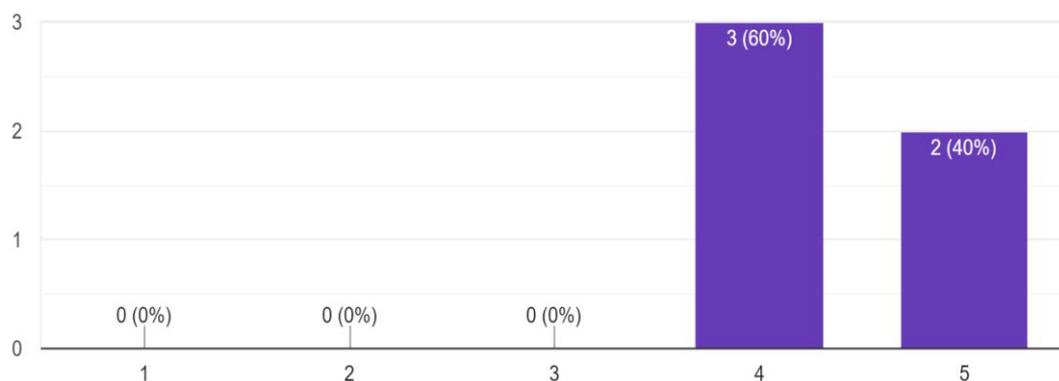


Figure 56: Participants' perceptions of Moodle's usefulness for course management (Source Geer, 2022)

Je crois que Moodle peut être utile pour mes élèves.

5 responses

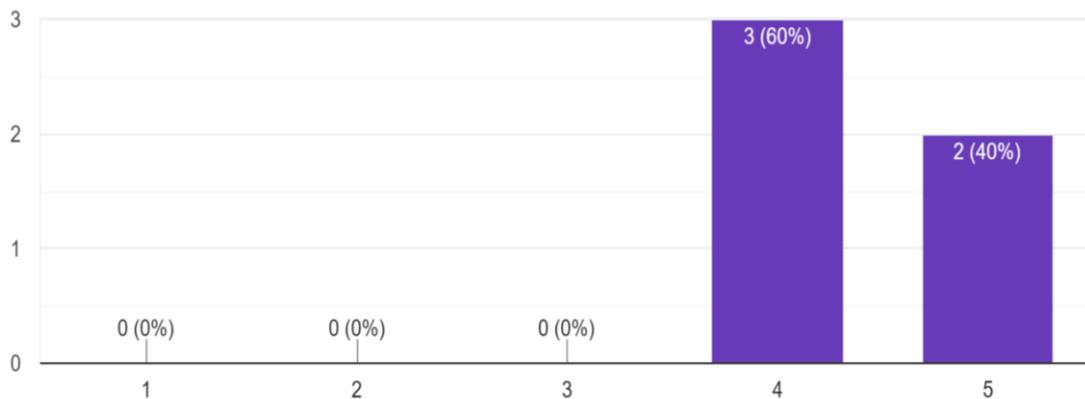


Figure 57: Participants' perceptions of Moodle's usefulness for their students. (Source Geer, 2022)

We asked the participants how Moodle could benefit them. Some responses were that it would save time, improve organisation, help manage course space, and make teaching and learning easier. Others mentioned that it would simplify online courses and improve understanding by allowing content to be kept for prolonged periods and assignments to be submitted according to their schedule.

About knowing in what ways Moodle can benefit their students? They answered that With Moodle, students could effectively participate in courses even when they cannot attend in person. This means they can learn without the need to travel to class. Moodle can also reinforce the understanding of students who are present and help those absent to keep up with the course material. Additionally, Moodle can assist in strengthening the knowledge of both present and absent students.

Conclusion to Chapter 7

In this chapter of analysis and interpretation of the results; several aspects were presented. First, I compared the means obtained by the experimental and the control groups for the listening comprehension experiment. Secondly, the difficulties encountered by the students in listening comprehension were outlined, as well as the impact of teaching this skill on the performance of learners of English as a foreign language was discussed. Finally, a reflection on the pedagogical integration of ICT higher education at Université Joseph KI-Zerbo was conducted.

The results showed significant differences in listening comprehension between the experimental and control groups, suggesting that teaching this skill can improve students' performance. The integration of ICT in language teaching was also discussed, highlighting the benefits and challenges associated with this pedagogical approach. The results of this analysis may have important implications for improving the teaching of English as a foreign language at Université JKZ and promoting the use of ICTE for higher education in Burkina Faso.

The training results on creating, managing and maintaining a Moodle course space highlight the requirement for further support and training to enable teachers to effectively create, organise and maintain their Moodle course spaces. It is essential to address the factors that prevented participants from taking action after the training. By providing additional guidance and resources, it is possible to build participants' confidence and competence in using Moodle for course management.

CHAPTER 8

DISCUSSION AND PERSPECTIVES OF THE RESEARCH

Introduction

After presenting and interpreting the results of my study on the use of ICT in English language teaching at the Université Joseph KI-Zerbo, Burkina Faso, it is now time to move on to an in-depth discussion of my findings. This discussion will examine the implications of the results for pedagogical practice and future research in this area. I will also discuss the limitations of my study and the prospects for future research on English language teaching at Université JKZ and the integration of ICT in higher education in Burkina Faso.

To recall, the main objective of this research is to analyse the effectiveness of listening comprehension teaching on EFL students' proficiency and the pedagogical integration of ICT in higher education in Burkina Faso. The specific objectives are to identify difficulties encountered by students in listening comprehension and the factors hindering students' communication competence, evaluate the impact of listening comprehension instruction on EFL students' proficiency and the impact of its teaching using ICT and assess the integration of ICT in higher education in Burkina Faso, based on the VEC project.

I have formulated the following subsidiary questions: What are EFL students' main difficulties in oral comprehension, and what factors hinder their ability to communicate effectively in English? How effective is listening comprehension instruction in improving EFL students' oral proficiency, and to what extent does the use of ICT enhance the impact of this instruction? To what extent has the VEC project facilitated the integration of ICT Burkina Faso higher education, and what are the implications of this integration for

student learning outcomes? And what is the implication of teachers in the pedagogical integration of ICT in Burkina Faso higher education?

These research questions serve as a framework for investigating the central objectives of this study. By addressing these questions, I aim to gain a deeper understanding of the challenges faced by Université JKZ students (EFL) in listening comprehension and the factors contributing to these difficulties. Additionally, I seek to evaluate the effectiveness of listening comprehension instruction in improving the proficiency of EFL students, considering the potential impact of incorporating ICT in the teaching process. Furthermore, I aim to assess the extent to which the VEC project has promoted the integration of ICT in higher education in Burkina Faso and examine the implications of this integration for student learning outcomes.

Through a comprehensive analysis of these aspects, I hope to contribute valuable insights into language teaching and learning, inform pedagogical practices, and provide recommendations for effective ICT integration in Burkina Faso's higher education. The findings of this research can contribute to the enhancement of EFL education and the improvement of students' oral comprehension skills, thereby addressing the challenges EFL learners face in the context of Burkina Faso.

These questions have led me to study, respectively, difficulties encountered by students in listening comprehension and the factors hindering their oral comprehension, the impact of listening comprehension instruction on EFL students' proficiency and the impact of its teaching using ICT and the pedagogical integration of ICT in Université Joseph KI-Zerbo education system.

8.1. Discussion of the results

This chapter aims to discuss and analyse the results obtained from the three experiments, which focused on implementing ICT in higher education in general and language teaching in particular at Université JKZ. The experiments provided valuable insights into various aspects of the integration of ICT, including the impact on students' oral comprehension skills, the effectiveness of teaching strategies utilising ICT, and the level of teachers' involvement in the pedagogical integration of ICT. By examining the results of each experiment, this chapter sheds light on the strengths, limitations, and implications of incorporating ICT in language teaching.

8.1.1. Difficulties encountered by students in listening comprehension and the factors hindering their oral comprehension

The study on difficulties encountered by students in oral comprehension and the factors hindering students' oral comprehension examined the types of errors and their frequency of occurrence as indicators of students' difficulties in oral comprehension. This investigation sheds light on students' challenges in listening comprehension, contributing to their observed English weakness. One of the primary sources of difficulty identified in the study is the speed of speech employed by speakers. Native speakers of a language often speak at a natural pace, which can be pretty rapid and challenging for non-native speakers to follow. The quick speech rate can make it difficult for students to catch every word and comprehend the overall message. Consequently, this fast-paced delivery becomes a significant hurdle for students' oral comprehension.

Another factor contributing to students' difficulties is their unfamiliarity with vocabulary or expressions used in spoken English. Language learners often encounter new words or

idiomatic expressions they have not yet met in their studies. This lack of exposure to a wide range of vocabulary can hinder students' ability to understand the meaning and context of what is being said, leading to comprehension gaps. Addressing this issue involves expanding students' vocabulary through targeted vocabulary-building activities and exposure to authentic spoken language materials.

The study revealed various strategies students use to improve their understanding of spoken English. One common approach is listening to the audio multiple times, which helps students become familiar with the language's rhythm, intonation, and pronunciation. Context clues are also used by paying attention to the surrounding context, such as the speaker's tone, gestures, or the topic being discussed. Familiar words and expressions within the audio are recognised by students, connecting them to their existing knowledge and enabling them to comprehend the content more easily. These strategies assist students in comprehending spoken English more accurately and with greater confidence.

These strategies students employ highlight their awareness of the listening practice's importance and willingness to adopt various methods to strengthen their listening skills. They understand that listening is a fundamental aspect of language learning and an essential component of effective communication. By actively engaging in these strategies, students demonstrate their commitment to enhancing their proficiency in spoken English and dedication to becoming more fluent and competent language users.

This study has confirmed that students face challenges with listening comprehension, which could be the reason for their poor performance in English. To address this issue, it is crucial to introduce effective teaching methods (such as listening comprehension courses) and tools to improve EFL students' oral competency.

8.1.2. Impact of listening comprehension instruction on EFL students' proficiency and the impact of its teaching using ICT

This study delves into the effect of listening comprehension instruction on EFL students' proficiency and the use of ICT. Specifically, the digital tool Wooclap was utilised to teach and practise listening comprehension. The results emphasise the importance of listening comprehension instruction and demonstrate the potential of ICT tools to improve student's communication skills and overall proficiency.

EFL students' proficiency and communication skills were significantly enhanced by teaching listening comprehension. A gap in the curriculum was observed at Université Joseph KI-Zerbo's English department, as there were no dedicated listening comprehension courses. The positive feedback received from the experimental group participants highlights the effectiveness and practicality of the experiment and emphasises the need for the department to consider including listening comprehension courses in their program. Comparisons with neighbouring countries like Senegal and Ivory Coast, where listening comprehension instruction is already part of the curriculum, emphasise the urgent need for Université JKZ to address this gap and align with similar approaches. Thus, incorporating listening comprehension teaching into the program at Université JKZ is crucial to foster EFL students' proficiency in English.

The study findings revealed that individualised and intensive approaches to teaching listening comprehension yielded more effective results than group learning. Participants in the study expressed appreciation for the extended duration of the experiment, as it allowed for a more comprehensive and immersive learning experience. The individualised approach allowed for personalised instruction tailored to each student's specific needs and areas for improvement. This personalised attention can enable students to receive targeted support and address their listening comprehension challenges more effectively.

The study also emphasised the significance of assessments in tracking progress and evaluating the effectiveness of teaching methods. Regular assessments provided valuable feedback to both teachers and students, enabling them to monitor improvement and identify areas that required further attention. The findings highlighted the importance of

dedicated listening comprehension courses that focus specifically on enhancing students' ability to understand spoken English. By dedicating specific time and resources to listening comprehension instruction, educators can provide students with the necessary tools and strategies to overcome difficulties and enhance their listening skills.

In terms of preferred activities for improving listening skills, participants identified dialogues, lectures, news reports, songs, and speeches as viable options. These varied activities offered diverse contexts and styles of spoken English, contributing to a well-rounded listening experience. Among the preferred activities, the participants particularly favoured songs and lectures. This preference suggests that a combination of both song lyrics and lectures could be a practical approach to teaching listening comprehension. Incorporating songs and lectures into lessons can engage students' interest, expose them to different language registers, and facilitate linguistic and cultural understanding development.

8.1.3. Pedagogical integration of ICT in language teaching at Université Joseph KI-ZERBO

The study of the pedagogical integration of ICT in language teaching at Université Joseph KI-Zerbo required an analysis of the results from the listening comprehension experiment, the results from the VEC project and students' motivation in learning through ICT tools.

The results from the listening comprehension experiment and the VEC project provide valuable insights into students' opinions regarding the integration of digital tools into the learning system of Université JKZ. The study examined the effectiveness of Wooclap, an interactive digital tool designed to engage students in learning and facilitate real-time interaction both in and outside the classroom. Most students reported significant improvement in their listening skills after using the tool. They found it an interesting and convenient way to practise listening activities since they could access it wherever and whenever they wanted using their mobile phones. This mobile compatibility was particularly beneficial as students always use their phones during classes, making

integrating the tool into their learning routine easy. Currently, Wooclap does not exist on the Université JKZ Moodle platform, but its incorporation would greatly benefit teachers and the overall university training experience. To integrate Wooclap into the platform, the university would need to register in Wooclap; this will allow their teachers to use it for free, as is the case at Université Rennes 2 and many other universities. Integrating Wooclap into the platform would empower teachers to create interactive learning activities, promote real-time engagement, and enhance the university's overall teaching and learning experience. And as far as listening comprehension teaching is concerned, this integration would allow teachers to easily create listening comprehension activities, engage students in real-time participation, and provide instant feedback on their progress.

It is important for the authorities of Université JKZ to carefully consider the long-term benefits of investing in Wooclap. While the initial cost may seem expensive, the potential impact on student learning outcomes and the overall quality of education justifies the allocation of funds.

While Wooclap has shown promise as a learning tool, there are instances where it could be further improved to optimise its effectiveness. In this study, some students expressed concerns about the potential for cheating during exams when using Wooclap for evaluation, for example, as it is a digital tool. This raises important considerations regarding the integrity of assessments and the need for appropriate safeguards to maintain academic honesty. Addressing these concerns and implementing strategies to prevent cheating would be essential for the successful integration of Wooclap into formal assessments.

Another area for improvement is the inability to listen while filling in the blank text. Allowing students to listen to the audio while simultaneously completing the corresponding text would resemble real-life listening situations, where individuals must listen and comprehend information while engaging in related tasks.

Regarding the issue of being unable to listen to audio and fill in blank tests simultaneously on the Wooclap platform, I reached out to the Wooclap team via email, inquiring if there was an alternative solution that I may have not mastered. On December 15th, 2021, I received a response from the Wooclap team stating that, unfortunately, this option was

currently unavailable. However, they assured me that they are actively working on implementing a solution to make this possible in the future.



Figure 58: Screenshot of response on the impossibility of listening to audio while simultaneously filling in the blank

In March 2023, the woodclap team informed me that it was now possible to listen to the audio and fill in the text blanks simultaneously. Below is the screenshot of the message.



Figure 59: Screenshot of response on the possibility of listening to audio while filling in the blank.

Moving on to the VEC project, the researchers focused on engaging students in learning through the use of open educational resources. To assess the impact of this approach, pre-

and post-tests were conducted to measure the student's progress in vocabulary learning. The results obtained from these tests allowed the researchers to track and analyse the student's progress in acquiring new vocabulary.

The findings revealed that the students demonstrated significant improvement in their vocabulary learning throughout the duration of the experiment. This outcome serves as a positive indication of the project's success in enhancing the students' language skills.

The study examined the student's motivation to learn through the use of ICT tools. The results indicated that the students exhibited high levels of motivation and enthusiasm when using digital tools, which were made available to them as part of the VEC project. This finding suggests that incorporating ICT tools into language teaching can serve as an effective means to stimulate and engage students in their learning process.

Observations made during the project revealed several factors that contributed to the student's motivation and active participation. Firstly, the use of engaging and interactive tools captured the students' interest and encouraged their active involvement in the learning activities. This hands-on approach provided a dynamic learning experience that motivated the students to explore and discover new vocabulary in a stimulating manner.

The analysis of feedback submitted to the VEC coordinator regarding the VEC and the researcher's field observation outcomes for the listening comprehension experiment indicated high student motivation levels. The VEC coordinator highlighted the students' involvement, innovation, and ability to adapt to different programs despite facing difficulties such as poor internet connection and using new tools. The students completed all assigned tasks and were eager to learn using the device.

Similarly, during the listening comprehension experiment, we noted that the students were enthusiastic, motivated, and quick to complete the exercises. It is essential to note that many students were willing to join the experimental group to benefit from the device, indicating their interest and motivation to learn with ICT tools.

Finally, creating a positive learning environment can contribute to students' motivation and enthusiasm for learning. Teachers can create an environment conducive to learning

where students feel supported, valued, and encouraged to participate actively. By incorporating these strategies, teachers can effectively motivate their students to learn listening comprehension using ICT tools.

Applying the theories of distance learning, challenge-based learning, and collaborative learning has been essential in guiding and enriching my research on the use of ICT in English language teaching, particularly for teaching listening comprehension at the Université JKZ in Burkina Faso.

The theory of distance learning has been paramount in the experimentation with listening comprehension using the Wooclap tool. Using this online tool, students could access a variety of listening exercises, such as audio recordings, gap-fill texts and MCQs, from their phones. This overcame geographical and time constraints, so learners could work at their own pace, wherever they were. In addition, distance learning promotes learner autonomy by allowing them to access resources and learning activities independently.

Challenge-based learning also played a crucial role in this study, particularly in the experimentation with the VEC project. By participating in this international project, students from Université Joseph KI-Zerbo had the opportunity to work with students from other universities, forming university teams. They used digital tools and took on challenges proposed by the project. This approach allowed learners to apply their English knowledge and skills in authentic and motivating situations. They developed collaborative, communicative and problem-solving skills by working in teams, significantly enhancing their English language learning.

Finally, collaborative learning was a fundamental pillar of the present research. I observed how peer collaboration and exchange enhanced English learning by encouraging interactions between learners in the VEC project. Learners could benefit from their peers' knowledge and experiences, help each other, and share practical strategies for improving their English and digital skills. Collaborative learning also fostered a sense of belonging to a learning community, enhancing learners' motivation and commitment.

The data analysis reveals several important findings regarding integrating digital tools and innovative projects in language teaching, which align with prior research on similar

topics. Firstly, integrating the digital tool Wooclap in the Université Joseph KI-Zerbo learning system is perceived as a positive addition by the participating of students in the listening comprehension experiment. These findings are consistent with previous studies highlighting the benefits of incorporating digital tools in language learning (Smith et al., 2018; Wang et al., 2020). The overwhelmingly positive responses collected from the students indicate that they believe a tool like Wooclap would be a valuable resource to enhance their listening and oral skills, provide opportunities to test their comprehension with native speakers and reduce errors in their language usage. Moreover, the integration of Wooclap is seen as an opportunity to develop essential skills, improve the quality of education, and ultimately benefit students in their language learning journey. These findings resonate with previous research that emphasises the potential of digital tools in enhancing students' language learning experiences (Warschauer, 2006; Stockwell, 2012).

However, it is important to note that students also expressed the need for precautions when implementing digital tools like Wooclap. One key concern the students highlighted was the accessibility of smartphones or computers and reliable data connections. This aligns with previous studies that have emphasised the significance of addressing technological infrastructure challenges and ensuring equitable access to digital resources in educational settings (Selwyn, 2016; Warschauer & Matuchniak, 2010). Therefore, when integrating digital tools into language teaching, it is crucial to consider and address potential issues related to technology access and connectivity to ensure that all students can fully benefit from these resources.

Secondly, the results from the VEC project demonstrate a significant improvement in students' vocabulary learning. The pre-and post-tests conducted as part of the project allowed researchers to map out the students' progression in vocabulary acquisition, revealing a notable enhancement in their language skills. This finding aligns with prior research demonstrating the effectiveness of collaborative and project-based learning approaches in promoting vocabulary development (Webb, 2007; Dooly & O'Dowd, 2012). The weekly regulation sessions with the teamchers, documented through video recordings, provided valuable insights into the student's progress and their commitment to the project. These findings highlight the positive impact that innovative projects like VEC can have on students' language learning outcomes.

By considering these findings in the broader context of prior research, educators and policymakers can make informed decisions about integrating digital tools and innovative projects to enhance language teaching and learning experiences. Moreover, integrating ICT tools into language learning aligns with the evolving nature of the world and prepares students for the demands of the digital age. By embracing these advancements, Université JKZ can provide its students with the necessary skills and competencies to succeed academically and professionally.

8.1.4. Teachers' implications in the pedagogical integration of ICT in Burkina Faso higher education

The successful integration of ICT relies heavily on the active engagement of teachers as key actors in effectively utilising these technologies within their pedagogical practices. Several important implications can be drawn from the training seminar results and findings:

The training program implemented as part of the project specifically targeted teachers, highlighting the importance of equipping educators with the necessary skills and knowledge to integrate ICT tools into their teaching practices effectively. This emphasis on teacher training indicates a proactive approach to enhancing the overall quality of education through technology integration.

During the training program, it was observed that many teachers had limited or no prior experience in creating or utilising online course spaces on Learning Management Systems (LMS) such as Moodle. Despite this lack of experience, the teachers displayed a generally positive perception of online spaces, indicating a willingness to embrace their integration into their pedagogical activities. This openness and positive attitude towards incorporating technology in the classroom are crucial for successful implementation.

Teachers participating in the training program expressed optimistic expectations about learning various features of Moodle. They recognised the potential benefits of utilising online spaces for course organisation, resource sharing, and communication with

students. However, the readiness of teachers to create, organise, and maintain their course spaces varied.

This variation in readiness suggests a need for targeted guidance and interventions that are tailored to the individual needs of teachers. While some educators may require support in the initial setup and organisation of their online course spaces, others may need assistance with ongoing maintenance tasks. Recognising these individual needs and providing customised support can greatly contribute to the successful implementation of online spaces in their teaching practices.

Teachers would benefit from additional training and resources specific to their requirements to effectively implement course organisation and maintenance tasks. This could include hands-on workshops, online tutorials, or one-on-one support sessions with experienced educators or technology specialists. Offering these targeted interventions would empower teachers to navigate the LMS confidently, create engaging online course materials, and effectively manage the learning environment for their students.

Moreover, it is important to establish a supportive environment where teachers feel comfortable seeking assistance and sharing their experiences. Encouraging collaboration and the exchange of best practices among teachers who are integrating ICT into their teaching can further enhance their professional development in this area. This can be facilitated through professional learning communities, mentorship programs, or online forums where teachers can discuss challenges, share ideas, and learn from one another.

The evaluation of the training seminar conducted among the participants yielded a generally positive perception of the trainers' preparedness, as well as satisfaction with the training content and the interactive presentation style. This positive feedback indicates that the training program was well received and suggests that targeted training programs can be effective in equipping teachers with the necessary skills to integrate ICT effectively into their teaching practices.

Participants displayed high levels of motivation and satisfaction with the training content, execution, and interactive nature of the sessions. This positive response indicates that the training program successfully engaged the participants and met their expectations. It also

highlights the potential effectiveness of targeted training programs in enhancing teachers' proficiency in using ICT tools.

However, it is important to note that the evaluation also revealed the need to renew training programs constantly. The ever-evolving nature of technology necessitates ongoing updates and refreshers to keep teachers up-to-date with the latest tools and techniques. By continuously renewing training programs, educators can ensure that teachers have the opportunity to master the use of ICT effectively and adapt to new advancements in the field.

Ultimately, the study underscores the necessity for teachers to appropriately and effectively use ICT in their pedagogical activities. By providing tailored training programs and support, universities like Université JKZ can empower teachers to leverage ICT tools to enhance course management, improve teaching and learning experiences, and prepare students for the digital era.

8.2. Limits of the research

This research aimed to analyse the effectiveness of listening comprehension teaching on EFL students' proficiency and the pedagogical integration of ICT in higher education in Burkina Faso. The results showed that using ICT, particularly teaching listening comprehension with the Wooclap tool, can help students improve their English listening comprehension. However, the research also highlighted some challenges to effectively integrating ICT in teaching English at Université Joseph KI-Zerbo, including the quality of internet connection, teacher training in the use of ICT, and the need for tools that meet students' specific needs. Despite my contribution, it is evident that this study has certain limitations I must acknowledge before discussing potential areas for future research.

Firstly, the duration of the experiment was relatively short. A more extended experiment could confirm whether the observed improvements persist over time. Moreover, the sample of participants is relatively small; I could not have a large sample because I had to provide means of connection to all participants so that they could effectively participate in the study. The fact that mobile data is expensive in Burkina, there was a risk that participants would start and stop at some point in the experiment, which could have biased my results. The sample is also limited to one university and one department of English studies. It is interesting to replicate this study in other contexts to assess the generalisability of these results.

Another limitation is the focus on listening comprehension as the primary language skill examined in the study. While Wooclap's effectiveness in improving listening comprehension was demonstrated, the findings may not necessarily apply to other language skills such as speaking, reading, or writing. Each language skill may require specific considerations and adaptations when integrating digital tools like Wooclap.

Future research should explore the applicability of Wooclap to other language skills to provide a more comprehensive understanding of its potential benefits and limitations.

The integration of digital tools in language teaching is contingent upon reliable technological infrastructure and connectivity. The present study highlighted the importance of access to smartphones or computers and a stable data connection for the successful use of Wooclap. However, the challenges associated with network reliability and data availability, particularly in regions with limited resources, were acknowledged by the students, especially during the VEC project, where students had to record their presentations due to the bad quality of the internet. These technical constraints may hinder the effective implementation of ICT and limit its accessibility in certain contexts. Future research should address these challenges and investigate alternative strategies to ensure equitable access and optimal functionality of digital tools.

The study revealed practical considerations that need to be addressed to successfully integrate ICT. Students expressed the need for support from authorities and the importance of ensuring students have access to the necessary devices and data connectivity. Implementing educational technologies requires institutional support, adequate resources, and infrastructure to overcome potential barriers. It is crucial to consider the financial implications, technical support, and training required to facilitate the integration process effectively. Future research should explore strategies to address these practical considerations and provide guidelines for supporting both teachers and students in using digital tools like Wooclap and virtual classroom platforms like Zoom or VIA (used at Université Rennes 2).

Despite these limitations, the present study provides valuable insights into the integration of Wooclap as a digital tool for teaching listening comprehension. The findings contribute to the existing knowledge on the pedagogical integration of educational technologies and highlight important considerations for future implementations. By acknowledging and addressing these limitations, researchers and educators can enhance the effectiveness and sustainability of integrating digital tools in higher education.

8.3. Contribution of the Research

This study makes a significant contribution to the research on the integration of information and communication technologies (ICT) in higher education, specifically focusing on the teaching of English listening comprehension. The main contributions of this study are as follows:

Theoretical Contribution: A key highlight of this study is the enriched theoretical framework, which illuminates the immense benefits of seamlessly integrating ICT into the higher education landscape of Burkina Faso. By delving into the effects of ICT employment on enhancing English listening comprehension, this research offers a profound understanding of how technological advancements can revolutionise language learning. Furthermore, the exploration of diverse ICT-based pedagogical approaches, including collaborative learning, peer tutoring, and challenge-based learning, enriches the academic discourse and opens avenues for innovative teaching methodologies.

Practical Contribution: Beyond theoretical insights, this study holds immense practical significance for educators, policymakers, and stakeholders in higher education. With a primary focus on enhancing the teaching of English through cutting-edge ICT-based pedagogical strategies, this research provides a veritable treasure trove of practical recommendations. These actionable insights serve as a comprehensive guide for seamlessly integrating ICT into English language programs, with a particular emphasis on bolstering listening comprehension skills. Armed with the identified best practices, teachers are empowered to craft interactive and engaging learning experiences that resonate with the modern tech-savvy generations of students, ultimately fostering enhanced engagement, motivation, and language proficiency.

Contextual Contribution: One of the standout aspects of this study is its acute awareness of the specific challenges faced by higher education in Burkina Faso concerning ICT integration. By illuminating the hurdles related to limited technological resources, internet accessibility, and teacher training, this research deftly navigates the intricacies of

the educational landscape. This contextual understanding lays the groundwork for informed decision-making and strategic planning by policymakers and academic institutions. As a result, tailored and effective strategies can be devised to overcome these challenges and expedite the successful integration of ICT in higher education, thereby augmenting the overall quality of teaching and learning experiences.

In conclusion, this study's far-reaching impact lies in its multi-dimensional contributions. It enriches the theoretical underpinnings of ICT integration in higher education and offers actionable insights for practical implementation. By recognizing and addressing the unique contextual challenges, this research paves the way for a transformative and technology-driven educational landscape in Burkina Faso, ensuring a bright and promising future for teaching and learning.

8.4. Perspectives of the Research

The study's perspectives highlight the importance of the pedagogical integration of ICT in higher education and open up new possibilities for research and development. This study underlines the benefits and opportunities of using ICT in higher education and language teaching. However, there are several promising areas of research to be explored:

This study focused on the use of ICT tools for improving listening comprehension, but there are other language skills such as speaking, reading, and writing that could benefit from the use of these tools. Further research could investigate the effectiveness of ICT tools for improving these skills and how they can be integrated into language teaching.

While this study found positive effects of using ICT tools for improving listening comprehension, it is unclear whether these effects are sustained over time. Further research could investigate the long-term impact of using ICT tools on language learning outcomes, such as overall proficiency in the language.

While this study focused on using ICT tools for language learning, these tools could also be used for language assessment. Further research could investigate the feasibility and effectiveness of using ICT tools for language assessment and how they can be integrated into language testing and evaluation.

This study was conducted in the context of an English language program at a university in Burkina Faso. Further research could investigate the effectiveness of ICT tools for language learning in different contexts, such as primary and secondary schools, language schools, and online language courses.

Another exciting research perspective is to examine the factors that facilitate or hinder the pedagogical integration of ICT in higher education institutions. This may include an analysis of institutional policies, available technology infrastructure requirements, and the availability of financial resources. Understanding these factors would make it possible

to formulate practical recommendations to support the integration of ICT sustainably and effectively.

It would also be relevant to conduct research into the impact of the pedagogical integration of ICT on the inclusion and accessibility of higher education. It should be explored how technologies can enhance access to education for learners with special requirements, distance learners, or those from disadvantaged backgrounds. By identifying the benefits and challenges of using ICT in these contexts, steps can be taken to ensure inclusive and equitable education for all.

Finally, further research could be undertaken to assess the impact of ICT in higher education in the context of insecurity. It would be interesting to explore how technological tools can contribute to maintaining the continuity of courses and providing equitable access to education for people on the move. The development of e-learning programmes adapted to the specific requirements of students facing situations of internal mobility could be a promising area of research.

GENERAL CONCLUSION

In conclusion, this research provides a comprehensive overview of Burkina Faso's educational system, with a specific focus on higher education, the importance of the English language, and the integration of Information and Communication Technology (ICT) in teaching practices. Despite the government's commitment to education, the country faces challenges such as low literacy rates, enrollment disparities, and unfavourable study conditions. However, recognising the significance of higher education for socio-economic development, the Burkina Faso government has implemented reforms to address these issues.

In terms of English language education, there is a need for practical teaching tools, active collaboration between teachers and learners, and an emphasis on specific types of English relevant to students' future fields of work. Moreover, the thesis highlights the importance of ICT in enhancing teaching and learning experiences, acknowledging the challenges students face in accessing and utilising ICT tools. The government's commitment to developing ICT in education is evident through various initiatives.

This research underscores the significance of inclusive, culturally grounded education in Burkina Faso. It acknowledges influential figures who have contributed to the country's intellectual and cultural landscape, emphasising the need for collaboration and the exchange of experiences between different countries. The integration of ICT and improving English language education are seen as essential steps in equipping students with the necessary skills for success in a rapidly changing world.

This last part of my research on the pedagogical integration of ICT in English language teaching focuses on summarising the research objectives, specific research questions, data collection and analysis methods, implications of the results, and primary contributions derived from the research findings.

The present research aims to analyse the effectiveness of listening comprehension teaching on EFL students' proficiency and the pedagogical integration of ICT in higher education in Burkina Faso. Four specific objectives were formulated from this general objective:

- Identify difficulties encountered by students in oral comprehension and the factors hindering students' oral comprehension;
- Evaluate the impact of listening comprehension instruction on EFL students' proficiency and the impact of its teaching using ICT;
- Assess the integration of ICT in higher education in Burkina Faso, based on the VEC project for EFL teaching.
- Evaluate teacher's implication in the pedagogical integration of ICT in the JKZ education system.

Consequently, my study was constructed based on a theoretical framework encompassing various theoretical concepts and explanatory models, guiding quantitative and qualitative research approaches. The experimentations and data collection were grounded in the key theoretical concepts surrounding the difficulties encountered by students in oral comprehension and the factors impeding their comprehension abilities, the impact of teaching listening comprehension on EFL students' proficiency, the integration of ICT in language teaching at Université Joseph KI-Zerbo, and the implications for teachers in the pedagogical integration of ICT in higher education in Burkina Faso. These concepts were embedded within the frameworks of Distance Learning, Challenge-based Learning Pedagogy, and Collaborative and Peer Learning theories. These theoretical frameworks played a crucial role in shaping the mixed-methods research approach and designing our data collection instrument.

The Distance Learning theory provided a lens through which I examined the integration of ICT tools, such as Wooclap and virtual classrooms like Zoom, and VIA, in remote learning environments. This theory guided our exploration of how technology can bridge the gap between teachers and students, enabling effective instruction and interaction despite physical distance.

The Challenge-based Learning Pedagogy framework informed our understanding of designing learning experiences that engage students in real-world challenges. By incorporating this framework, I aimed to create meaningful and authentic listening

comprehension tasks that fostered critical thinking, problem-solving, and collaboration among EFL students.

The Collaborative and Peer Learning theory guided the exploration of the social and interactive aspects of learning. It emphasised the importance of peer interaction and collaboration in language learning processes, particularly in the VEC. This framework helped us design activities encouraging students to collaborate, share ideas, and provide feedback to enhance their comprehension skills.

This study's data processing and analysis strategy was built around descriptive and multivariate statistical approaches. The data for this research were collected through pre-and post-tests, questionnaires, and participants' productions. Google Forms was utilised for the development of electronic questionnaires. The pre-and post-tests were administered to measure the participants' proficiency levels in a specific language before and after the instructional intervention. The questionnaires were designed to gather information on various aspects, including students' perceptions, experiences, and attitudes towards integrating ICT tools in higher education, especially in language teaching. The participants' productions, such as listening exercises, logos, trailers, and presentations, were collected as tangible evidence of their engagement and learning outcomes. A thorough data cleaning process was conducted using Excel to ensure data accuracy and reliability. Any inconsistencies or errors in the data were addressed to maintain data quality and integrity. Subsequently, IBM SPSS Statistics software was utilised to perform exploratory and confirmatory analyses. Exploratory analyses involved examining the descriptive statistics of the collected data, such as means, standard deviations, and frequency distributions, to better understand the participants' characteristics and responses. These analyses helped identify patterns, trends, and relationships within the data. Furthermore, confirmatory analyses were conducted to assess the reliability and validity of the different constructs used in the study. This study's data processing and analysis strategy aimed to comprehensively and rigorously examine the research questions and objectives. Various software programs facilitated efficient data management, quality assurance, and meaningful interpretation of the findings.

The study of the impact of teaching listening comprehension on EFL students' proficiency and the impact of it teaching using ICT involved assessing the importance of listening comprehension, the impact of teaching listening comprehension on the skills of EFL students, the use of ICT to practise listening comprehension, and the use of a digital tool to teach listening comprehension. Indeed, the findings revealed that teaching listening comprehension significantly improved EFL students' proficiency and communication in English. The study highlighted the need for dedicated listening comprehension courses at Université Joseph KI-Zerbo and emphasised the benefits of individualised and intensive teaching approaches. Preferred activities for improving listening skills included dialogues, lectures, news reports, songs, and speeches, a combination of these activities being practical. Integrating ICT tools, particularly Wooclap, enhanced students' oral proficiency and communication abilities. Incorporating ICT tools in listening comprehension instruction can substantially impact EFL students' proficiency and communication skills. Integrating listening comprehension teaching into the university program is crucial to enhance students' English proficiency and align with approaches in neighbouring countries. However, the study identified challenges related to using ICT in education, such as technical difficulties, concerns about online material authenticity, staying focused during online practice, and limited access to technology outside the classroom. Addressing these challenges is necessary before integrating ICT into the university program. The effectiveness of Wooclap, an interactive digital tool, was generally positive, but improvements are needed to optimise its functionality. The study demonstrated students' strong interest in using ICT tools to enhance their listening skills. By addressing the challenges and incorporating effective tools like Wooclap, universities can equip students with the necessary skills to succeed in the digital age.

The study on difficulties encountered by students in oral comprehension and the factors hindering students' oral comprehension examined the types of errors and their frequency of occurrence as indicators of students' difficulties in oral comprehension. The analysis highlights students' difficulties in listening comprehension, contributing to their English weaknesses. The main obstacles identified include the speed of speech, unfamiliar vocabulary and expressions, regional accents, and dialects. Pronunciation and vocabulary were the two main areas where students faced difficulties. It is worth noting that students expressed difficulties in understanding native speakers, which can impede their progress

in oral proficiency. However, the study revealed that students employ various strategies to enhance their understanding, such as re-listening to audio, using context clues, and relying on familiar words or expressions. This demonstrates their awareness of listening practice's importance and willingness to employ different methods to strengthen their listening skills. The study confirms the reality of listening comprehension difficulties among students, which may explain their deficiencies in English. It emphasises the significance of pronunciation and vocabulary in developing solid oral skills. To address these challenges, it is crucial to implement appropriate teaching approaches and tools that foster effective improvement in listening comprehension. Recognising and addressing these difficulties can help teachers focus on pronunciation, vocabulary, and suitable strategies to enhance students' listening comprehension and overall command of the English language.

Regarding the pedagogical integration of ICT (Information and Communication Technologies) in language teaching at Université Joseph KI-Zerbo, we analysed the results of the oral comprehension experiment, the outcomes of the VEC project, and students' motivation to learn through ICT tools. The analysis of the pedagogical integration of ICT in language teaching shows that students had extremely positive responses to integrating the "Wooclap" tool into the learning system. They believed that incorporating educational technologies in language teaching would enhance their learning experience, improve the quality of education, develop their skills, and reduce errors. Students regarded Wooclap as an innovative tool providing valuable resources and language learning tools. However, they emphasised the importance of ensuring access to smartphones or computers and reliable data connections before implementing the tool fully. The study also explored the Virtual Environmental Challenge (VEC) project, demonstrating significant progress in students' vocabulary learning. Pre- and post-tests revealed a notable improvement in vocabulary acquisition, indicating the project's success. Video recordings of weekly regulation sessions with teachers provided insights into students' progress and commitment. The results demonstrated that integrating digital tools like Wooclap and implementing innovative projects like VEC positively impacted language teaching and learning at Université Joseph KI-Zerbo. It also highlighted the effectiveness of collaborative and project-based learning approaches. However,

addressing technology access and connectivity challenges is crucial to ensure equitable opportunities for all students to benefit from these resources.

The pedagogical integration of ICT in higher education in Burkina Faso can only be effective with the active participation and contribution of teachers, as they are the ones who teach and are expected to use ICT in their teaching activities. To this end, I conducted a training seminar with B, Geer, for teachers at Université Joseph KI-Zerbo to assess their involvement in the pedagogical integration of ICT in teaching. To do this, we administered a pre-questionnaire to assess their prior experience with learning management systems and their expectations for the training seminar. Then, after the seminar, we administered a post-questionnaire to evaluate the seminar's impact, the progression of the teachers following the seminar, and their impression of the pedagogical integration of ICT in higher education. The analysis revealed that many teachers had limited prior experience with online learning management systems but positively perceived their potential benefits.

Teachers expressed optimism about learning Moodle features, although their readiness to create and maintain their course spaces varied. Targeted guidance and interventions are needed to ensure successful implementation. The evaluation of the training seminar showed positive perceptions of the trainers' preparedness and satisfaction with the training content, indicating the potential effectiveness of tailored training programs. While participants acknowledged the benefits of Moodle, they expressed reservations about relying solely on peers for advice and improvements. Strengthening connections and collaboration among professors and promoting peer support is crucial for effective pedagogical integration of ICT. In summary, the study highlights the necessity of equipping teachers with the necessary skills and knowledge to integrate ICT tools like Moodle into their teaching practices. It underscores the need for targeted guidance and interventions and fostering collaboration to ensure successful implementation. By providing tailored training programs and support, universities can empower teachers to enhance course management, improve teaching and learning experiences, and prepare students for the digital era.

Implications and recommendations

The implications of this study are manifold. Firstly, One crucial aspect addressed in this thesis is the importance of teaching listening comprehension to students learning English as a foreign language in the specific context of Burkina Faso. Despite students' efforts to learn English, there is a deficiency in their ability to express themselves correctly after several years of study. This English proficiency gap is a recurring issue that limits Burkinabe students' higher education and employment opportunities. A strong mastery of listening comprehension is essential to developing overall language skills, facilitating fluent communication, and ensuring successful integration into the professional world. Teaching listening comprehension enables students to develop active listening skills, the ability to understand authentic speeches, and the aptitude to extract relevant information from audio materials. It also allows them to acquire accurate pronunciation and improve their understanding of English accents and intonations. In the specific context of Burkina Faso, where resources for English language learning may be limited, it is crucial to implement practical pedagogical methods and tools that promote effective and engaging teaching of listening comprehension. Teachers should actively collaborate with learners, providing them with regular listening opportunities, interactive activities, and exercises focused on listening comprehension. By developing students' listening comprehension skills, we can contribute to bridging the gap between the years of English study and students' ability to express themselves and understand English fluently. This will enable Burkinabe students to better prepare for an increasingly interconnected world and seize new educational and professional opportunities. Integrating listening comprehension teaching into the university program can significantly impact students' communicative skills and ability to engage in real-life language situations.

Secondly, the study highlights the crucial role of integrating ICT into higher education. Educators and policymakers should explore innovative approaches to leverage technology and create effective teaching and learning experiences. The integration and utilisation of Information and Communication Technology (ICT) in higher education play a crucial role in shaping the future of learning. One area of utmost importance is the use of advanced e-learning platforms, which offer numerous benefits for university administration, teachers, and students alike. First of all, the adoption of e-learning

platforms can significantly streamline university administration. For instance, by employing foreign teachers to deliver distance courses, the need for costly travel and accommodation expenses can be eliminated. This provides a cost-effective solution and opens up opportunities to invite experts from around the world to teach without the constraints of physical presence. Consequently, specialised programmes and courses can be sustained, preventing closure due to a lack of local teachers. A striking example is the Department of English, where a specialisation had to be discontinued due to insufficient teaching capacity. Utilising e-learning platforms would have prevented this situation by enabling remote instruction from qualified teachers. Furthermore, integrating ICT tools into teaching practices offers numerous advantages for educators and students. Teachers can leverage digital resources and interactive tools to create engaging and dynamic learning experiences. These technologies facilitate the delivery of audio and video materials, interactive exercises, and real-time assessments, promoting active student participation and enhancing comprehension and language skills. For students, using ICT in higher education provides unparalleled flexibility and accessibility. They can access learning materials, review lectures, participate in online discussions, collaborate on projects, and access additional resources anytime and anywhere. This flexibility is particularly beneficial, allows for greater access to education and facilitates learning opportunities for students who may face geographical or logistical challenges. By embracing virtual classrooms, universities can enhance their reach and provide education to a wider range of students.

By highlighting the importance of ICT tools such as Wooclap, which allows students to carry out listening exercises and assessments remotely using their phones, we recognise their relevance to students who are permanently attached to their phones and check them even during classes. It is a good idea to use them for teaching purposes. What is more, Wooclap is also essential for teachers, as it enables them to deliver classes remotely and carry out evaluations remotely by integrating answers so that students can get their results in real-time. Teachers can upload marks to Excel without having to correct papers manually.

Moreover, the study stresses the importance of teachers' interest in and utilisation of ICT in their teaching practices. Teachers actively engaging with technology and leveraging

digital resources can create dynamic and interactive learning environments. It is essential for teachers to continually update their knowledge and skills related to ICT and integrate these tools into their pedagogical practices. By doing so, teachers can enhance student engagement, promote active learning, and foster a positive attitude towards technology among students. This requires addressing connectivity issues, providing comprehensive and regular training for teachers, encouraging them to use the digital learning environment (ENA⁴⁹) available for them and ensuring equitable access to digital resources. Further research and development in the field of distance learning is therefore recommended to explore new possibilities and ensure the effectiveness of distance learning. Based on the success of the Virtual Environmental Challenge (VEC) project, future initiatives could focus on extending technology integration to create inclusive and accessible learning environments through the analysis of filmed interactions, as in the case of the VEC project.

In conclusion, this study contributes significantly to English language teaching by underscoring the importance of listening comprehension and the integration of Information and Communication Technology (ICT) in higher education. The findings of this research unequivocally demonstrate the effectiveness of incorporating listening comprehension instruction within the university curriculum, shedding light on its immense potential for fostering collaborative learning and leveraging technology-supported education.

By implementing the far-reaching implications and recommendations elucidated in this study, universities have the unprecedented opportunity to elevate the quality of English language education to new heights. This can substantially improve student outcomes, empowering learners to achieve more excellent linguistic proficiency and communicative competence.

In essence, the findings of this study underscore the urgency and significance of embracing innovative approaches to English language teaching. By integrating listening comprehension instruction and ICT, we can effect positive change within educational

⁴⁹ Environnement Numérique d'Apprentissage. [See point 3.4.1](#) in chapter 3 for more information about it.

institutions and beyond. I hope this research serves as a catalyst for transformative action, inspiring educators, policymakers, and stakeholders to collaborate and forge new pathways towards a brighter future in language education.

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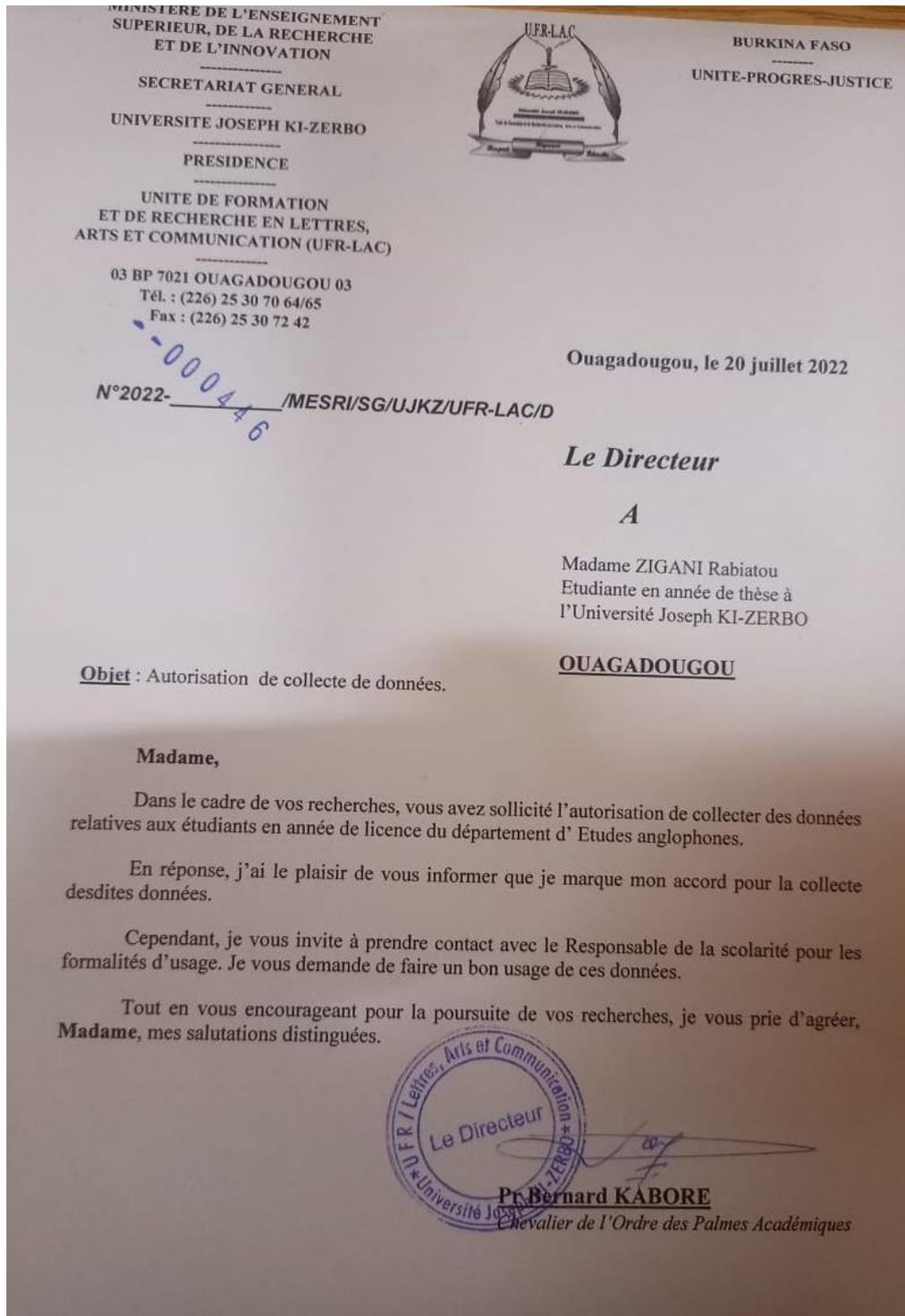
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APPENDICES

A. Data collection permission



B. Data on listening comprehension experiment

1. Letter of commitment

LETTRE D'ENGAGEMENT

Je soussigné(e).....

Ref. CNIB.....

Tel. |:

Email |:

- Déclare sur l'honneur l'exactitude de toutes les informations sur mon identité |;
- Avoir pris connaissance des règles de fonctionnement du dispositif de référencement |;
- M'engage à suivre l'expérimentation sur le « listening comprehension » sur la période allant de décembre 2021 à janvier 2022, en raison de 3 séances par semaine ;
- M'engage à respecter les programmes et référentiels de l'expérimentation sur le « Listening comprehension » |;
- M'engage à respecter les règles et procédures du projet à savoir |:
 - ✓ De participer aux activités telles que les pré et post-tests et les séances de « listening comprehension » |;
 - ✓ De remplir les fiches et tableaux de bord |;
 - ✓ De répondre aux questions de l'enquête de fin d'expérimentation |;

Fait à

Le|

Signature précédée de la
mention « Lu et approuvé »

2. Pre-test and post test

Date : December 4th, 2021

Trainer : Rabiyatou ZIGANI

First Name :

Last name :

Control group

Experimental group

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Ouris the world-known Dr. Charles Adams, who has sparked a great deal ofover the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us aboutof your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become aspeaker of the language.

Dr. Adams: Well , I think there are many people that feel that way, and that's just it. I'm not implying that we can becomein a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language....., and remember there is a difference between native fluency and proficiency in a language, and I am proposing the.....

Talk Show Host: So what are some of the basic keys you arein the book?

Dr. Adams: Well, as I just mentioned, people need to plan out their study by setting realistic and attainable goals from the beginning. I mean, some people get caught up in the craze of learning the language in 30 days, only to become disenchanted when they don't perform up to their expectations. And small steps, little by little, are the key. For example,to learn five new vocabulary words a day and to learn to use them actively is far better than learning 30 andthem the next day.

Talk Show Host: Um-hum. Now you mentioned something aboutyour learning potential by learning about your own individual learning styles. Can you elaborate on that?

Dr. Adams: Sure. People often have different ways of learning and approach learning tasks differently. Some people are visual learners who prefer to see models of thethey are expected to learn; others are auditory learners who favor hearing instructions, for example, over reading them. Now, our preferences are determined by many factors, for example, personality, culture, and past experience.

Talk Show Host: Well, Dr. Adams. What is your learning style?

Dr. Adams: Well, I'm a very learner.

Talk Show Host: You mean one who learns through hands-on experience?

Dr. Adams: Exactly.

Talk Show Host: So, how does knowing your learning styleyou?

Dr. Adams: Well, this might seem a little unusual, but moving around while trying to learn and memorise material helps me a great deal. While I'm cutting upand onions for my omelet in the morning, I might recite aloud vocabulary to the rhythm of the knife. But it is important to remember that often our learning styles are not singular in nature, but are often very multidimensional, and we tend to learn differently in different situations.

Talk Show Host: So what is my learning style?.

Dr. Adams: Well, you are going to have to read my book to find.....

Talk Show Host: Okay. We have just found out from Dr. Charles Adams, author of the book, *Learning Languages over Eggs and Toast*. Thanks for joining us.

Dr. Adams: My pleasure.

Enjoy !!!

3. Sample of pre-test complete par participants

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

Control group

Experimental group

12/20

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ¹ ~~guest~~ ¹.....is the world-known Dr. Charles Adams, who has **sparked** a great deal of ~~attention~~ ¹ over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ² ~~the title~~ ².....of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ~~carry out~~ ³..... a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: ~~Now~~ ⁴ sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~fluent~~ ⁴.....speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become ~~fluent~~ ⁵.....in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language ~~mastery~~ ⁵....., and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ~~latter~~ ⁵.....

Talk Show Host: So what are some of the basic keys you are ⁶ ~~suggesting~~ ⁶.....in the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

Control group

Experimental group

31⁵ / 20

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ~~case~~ ^{case}..... is the world-known Dr. Charles Adams, who has **sparked** a great deal of ~~mass~~ ^{mass}..... over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ~~the~~ ^{the} little..... of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ~~study~~ ^{study}..... a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. ~~I~~ ^I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~ ^{professional}..... speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become ~~fluent~~ ^{fluent}..... in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language. ~~forgetting~~ ^{forgetting}, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ~~idea~~ ^{idea}.....

Talk Show Host: So what are some of the basic keys you are in the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : Rabiyatou ZIGANI

First Name :

Last name :

Control group

Experimental group

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ~~guest~~ *guest* is the world-known Dr. Charles Adams, who has **sparked** a great deal of ~~interest~~ *interest* over the past several years for his research in the area of language learning. His new book *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ~~the~~ *the* study of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ~~include~~ *include* a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~ *professional* speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become ~~fluent~~ *fluent* in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language ~~learning~~ *learning*, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ~~learner~~ *learner*.

Talk Show Host: So what are some of the basic keys you are ~~suggesting~~ *suggesting* in the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : Rabiyatou ZIGANI

First Name :

Last name :

Control group

Experimental group

9:5 / 20

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ~~guest~~^{quest} is the world-known Dr. Charles Adams, who has ~~sparked~~^{sparked} a great deal of ~~attention~~^{attention} over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ~~the title~~^{the title} of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, ~~one~~^{one} of the most important keys to learning another language is to ~~start with~~^{start with} a regular study program, like planning a few minutes every morning around ~~breakfast~~^{breakfast} time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~^{professional} speaker of the language.

Dr. Adams: Well, I think there are ~~many people~~^{many people} that feel that way, and that's just it. I'm not ~~implying~~^{implying} that we can become ~~fluent~~^{fluent} in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language ~~mastering~~^{mastering}, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the.....

Talk Show Host: So what are some of the basic keys you are ~~suggesting~~^{suggesting} in the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

Control group

Experimental group

07/10

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ~~attention~~^{attention} is the world-known Dr. Charles Adams, who has **sparked** a great deal of over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ~~the title~~^{the title} of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, ~~one~~^{one} of the most important keys to learning another language is to ~~carry~~^{carry} a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~^{professional} speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become ~~professional~~^{professional} in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language ~~mastering~~^{mastering}, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ~~difference~~^{difference} 1,1

Talk Show Host: So what are some of the basic keys you are ~~suggesting~~^{suggesting} in the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

Control group

Experimental group

07/10

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ~~guest~~ ^{specialist} is the world-known Dr. Charles Adams, who has **sparked** a great deal of over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ~~the~~ ^{the title} of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ~~follow~~ ^{follow} a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~ ^{professional} speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become ~~fluent~~ ^{fluent} in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language ~~learning~~ ^{learning}, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ~~idea~~ ^{idea}

Talk Show Host: So what are some of the basic keys you are in the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : Rabiyatou ZIGANI

First Name :

Last name :

Control group

Experimental group

09/20

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ~~host~~ ^{guest} is the world-known Dr. Charles Adams, who has **sparked** a great deal of ~~attention~~ ^{attention} over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ~~the context~~ ^{the context} of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ~~plan~~ ^{plan} a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~ ^{professional} speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become ~~fluent~~ ^{fluent} in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language ~~mastery~~ ^{mastery}, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ~~latter~~ ^{latter}.

Talk Show Host: So what are some of the basic keys you are ~~dealt~~ ^{dealt}in the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

Control group

Experimental group

13/20

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ^{guest today}.....is the world-known Dr. Charles Adams, who has **sparked** a great deal of ^{attention} over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ^{the title}.....of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ^{establish}.....a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our ^{professional}.....viewers. I mean I took Spanish in high school for four years, and I didn't become a speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become ^{fluent}.....in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language ^{mastery}....., and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ^{difference}.....

Talk Show Host: So what are some of the basic keys you are ^{giving}.....in the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : Rabiyatou ZIGANI

First Name :

Last name :

Control group

Experimental group

05 / 20

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our focus.....is the world-known Dr. Charles Adams, who has **sparked** a great deal of attention.....over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about timetable.....of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to establish..... a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a proficient.....speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become fluent.....in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language mastery....., and remember there is a difference between native fluency and proficiency in a language, and I am proposing the same.....letter O, ✓

Talk Show Host: So what are some of the basic keys you arein the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : December 4th, 2021

Teacher : RABIYATOU ZIGANI

First Name

Last name

Control group

Experimental group

3,5/20

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ¹ ~~guest~~ ^{book} is the world-known Dr. Charles Adams, who has ~~sparked~~ ^{book} a great deal of over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ¹ ~~the title~~ of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, ~~one~~ ¹ of the most important keys to learning another language is to a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~ ¹ speaker of the language.

Dr. Adams: Well, I think there are ~~many~~ ¹ people that feel that way, and that's just it. I'm not ~~implying~~ ¹ that we can become ~~fluent~~ ¹ in a matter of a few minutes here and there, but rather following a regular, consistent, and ~~focused~~ ¹ course of study can help us on the way to the promised land of language ~~proficiency~~ ¹, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ~~difference~~ ¹.

Talk Show Host: So what are some of the basic keys you are ¹ in the book?

4. Sample of the post-test completed by participant

LISTENING COMPREHENSION TRAINING

Pre - test

Date : ~~December 4th, 2021~~

12/02/2022

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

08/20

Peg 29

Control group

Experimental group

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ¹ ~~guest~~ ¹ ~~guest~~ is the world-known Dr. Charles Adams, who has ~~sparked~~ ^{sparked} a great deal of ~~attention~~ ^{attention} over the past several years for his research in the area of language learning. His new book, ¹ ~~Learning a Language over Eggs and Toast~~ ¹ ~~Learning a Language over Eggs and Toast~~, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ~~what~~ ^{what} of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ~~establish~~ ^{establish} a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~ ^{professional} speaker of the language.

Dr. Adams: Well, I think there are many people ¹ ~~that~~ ¹ ~~that~~ feel that way, and that's just it. I'm not ~~implying~~ ^{implying} that we can become ~~fluent~~ ^{fluent} in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language ~~learning~~ ^{learning} and remember there is a difference between native fluency and proficiency in a language ¹ ~~and~~ ¹ ~~and~~ I am proposing the ~~point~~ ^{point}.

Talk Show Host: So what are some of the basic keys you are ~~suggesting~~ ^{suggesting} in the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : ~~December 4th, 2021~~ 12/02/2022

542

Teacher : Rabiyatou ZIGANI

18/20

First Name :

Last name :

Control group

Experimental group

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ¹ ~~guest~~ ^{guest} is the world-known Dr. Charles Adams, who has ~~sparked~~ ^{attracted} a great deal of ~~attention~~ ^{attention} over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ² ~~the title~~ ^{the title} of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~proficient~~ ^{proficient} speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not ~~implying~~ ^{implying} that we can become ~~fluent~~ ^{fluent} in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language ~~mastery~~ ^{mastery}, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ~~latter~~ ^{latter}.

Talk Show Host: So what are some of the basic keys you are ~~suggesting~~ ^{suggesting} in the book?

LISTENING COMPREHENSION TRAINING

Pre-test

Date : ~~December 4th, 2021~~ 12/02/22

Teacher : Rabiyaou ZIGANI

First Name :

Last name :

Control group

Experimental group

19/20

ey 39

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our guest.....is the world-known Dr. Charles Adams, who has sparked a great deal of attention...over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about the title.....of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to establish..... a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our professional.....speakers of the language. I mean I took Spanish in high school for four years, and I didn't become a

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not implying that we can become fluent speaker.....in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language mastery..... and remember there is a difference between native fluency and proficiency in a language, and I am proposing the latter.....

Talk Show Host: So what are some of the basic keys you are suggesting.....in the book?

LISTENING COMPREHENSION TRAINING

Pre-test

Date : ~~December 4th, 2021~~ 12/02/22

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

Control group

Experimental group

17/20

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ¹ ~~guest~~ ¹ ~~is~~ the world-known Dr. Charles Adams, who has ~~sparked~~ ¹ ~~a~~ great deal of ~~attention~~ ¹ ~~over~~ the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ~~the~~ ² ~~title~~ of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ~~can~~ ³ ~~have~~ a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~proficient~~ ⁴ ~~speaker~~ of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not ~~implying~~ ⁵ ~~that~~ we can become ~~fluent~~ ⁵ ~~speakers~~ in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language. ~~maintain~~ ⁶ ~~it~~, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the... ~~latter~~ ⁷ ~~one~~.

Talk Show Host: So what are some of the basic keys you are ~~suggesting~~ ⁸ ~~in~~ the book?

LISTENING COMPREHENSION TRAINING

Pre - test

Date : ~~December 4th, 2021~~ 12/02/22

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

Control group

Experimental group

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ^{guest}... is the world-known Dr. Charles Adams, who has sparked a great deal of ^{interest}... over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ^{the little}... of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ^{establish}... a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ^{proficient}... speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not ^{implying}... that we can become ^{fluent}... in a matter of a few minutes here and there, but rather following a regular, consistent, and ^{focused}... course of study can help us on the way to the promised land of language ^{proficiency}... and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ^{idea}...

Talk Show Host: So what are some of the basic keys you are ^{suggesting}... in the book?

LISTENING COMPREHENSION TRAINING

Pre-test

Date : ~~December 4th, 2021~~ 12/02/2022

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

Control group

Experimental group

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ¹ ~~guest~~ ^{quest}.....is the world-known Dr. Charles Adams, who has ~~sparked~~ ^{sparked} a great deal of ~~attention~~ ^{attention}...over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ² ~~the title~~ ^{the title}..of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, ³ ~~one~~ ^{one} of the most important keys to learning another language is to ~~establish~~ ^{establish}..... a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~ ^{professional} speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not ~~implying~~ ^{implying} that we can become ~~fluent~~ ^{fluent}...in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language. ~~most~~ ^{most}... and remember there is a difference between native fluency and proficiency in a language, and I am proposing the...~~later~~ ^{later}...

Talk Show Host: So what are some of the basic keys you are ⁴ ~~suggesting~~ ^{suggesting}...in the book?

LISTENING COMPREHENSION TRAINING

Pre-test

12/02/22
Date : December 4th, 2021

Teacher : RABIYATOU ZIGANI

First Name :

Last name :

Control group

Experimental group

9,5 / 20

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ~~guest~~ ^{guest}..... is the world-known Dr. Charles Adams, who has **sparked** a great deal of ~~attention~~ ^{attention}..... over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ~~topic~~ ^{topic}..... of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ~~establish~~ ^{establish}..... a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a ~~professional~~ ^{professional}..... speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become ~~proficient~~ ^{proficient}..... in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language. ~~wait~~ ^{wait}....., and remember there is a difference between native fluency and proficiency in a language, and I am proposing the ~~learn~~ ^{learn}.....

Talk Show Host: So what are some of the basic keys you are ~~suggesting~~ ^{suggesting}..... in the book?

LISTENING COMPREHENSION TRAINING

Pre-test

12/02/22

Date : December 4th, 2021

Teacher : Rabiyaou ZIGANI

First Name :

eg 17 Last name :

16/20

Control group

Experimental group

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our guest is the world-known Dr. Charles Adams, who has sparked a great deal of attention over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about the title of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to establish a regular study program, like planning a few minutes every morning around breakfast time.

Talk Show Host: Now, sorry for saying this, but your ideas may sound a little simplistic to our viewers. I mean I took Spanish in high school for four years, and I didn't become a professional speaker of the language.

Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not implying that we can become fluent speakers in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language mastery, and remember there is a difference between native fluency and proficiency in a language, and I am proposing the later.

Talk Show Host: So what are some of the basic keys you are suggesting in the book?

LISTENING COMPREHENSION TRAINING

Pre-test

Date : ~~December 4th, 2021~~ 12/02/22

Teacher : Rabiyatou ZIGANI

First Name :

40

Last name :

20/20

Control group

Experimental group

Text : Language learning

Listen to the audio and fill in the gap

Talk Show Host: Good evening and welcome to tonight's program. Our ^{guest}.....is the world-known Dr. Charles Adams, who has sparked a great deal of ^{attention}.....over the past several years for his research in the area of language learning. His new book, *Learning a Language over Eggs and Toast*, has been on the best seller list for the past six weeks. Welcome to our program.

Dr. Adams: Ah, it's a pleasure to be here.

Talk Show Host: Now, Dr. Adams. Tell us about ^{the title}.....of your book, *Learning a Language over Eggs and Toast*.

Dr. Adams: Well, one of the most important keys to learning another language is to ^{establish}..... a regular study program, like planning a few minutes every morning around breakfast time.

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Dr. Adams: Well, I think there are many people that feel that way, and that's just it. I'm not **implying** that we can become ^{fluent speakers}.....in a matter of a few minutes here and there, but rather following a regular, consistent, and focused course of study can help us on the way to the promised land of language. ^{master}....., and remember there is a difference between native fluency and proficiency in a language, and I am proposing the... ^{later}.....

Talk Show Host: So what are some of the basic keys you are ^{suggesting}.....in the book?

5. Sample of listening comprehension exercises on Wooclap

Getting an online degree through distance learning is an option that has become possible because of the increased availability of the Internet throughout the world. However, what are the actual benefits and disadvantages of distance education or online school?

Potential Benefits: The mostreasons for trying to get an online degree are time *and* money. With an online course, you can enroll in a class, do assignments on the Internet, *and* evenwith classmates in chatrooms or on bulletin boards. Technology has even reached the point where students canwith other students *and* the teacher through high-quality webconferencing. All of these activities can be done from the comfort of your home or laptop: any time, any place.

Second, getting such a degree can, in some cases, bebecause you don't have to pay associated costs related to an overseas adventure: airfare, housing, local transportation, etc.

Potential Disadvantages: For all these....., there are a number of obstacles to this kind of learning. Above all else, you have to consider how a degree from an onlinewill be received by future employers. In some countries, companies might feel that the academic standards of such an online institution are not as challenging or rigorous as a regular residency program.

Second, you probably won't havecontact with other students since everything is online. Such contact is very important in learning how to deal with many aspects of non-verbal communication that aren't obvious in an online chatroom.

Talk with family, friends, *and* who have had experience with both options, but be careful: their comments might be somewhat biased by good and bad experiences.

Online degrees

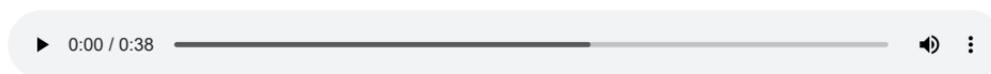
Nombre de participants : 47

 **1.**

Listen the audio and answer the questions.

2. a-online-degree (1).mp3

0 répondant



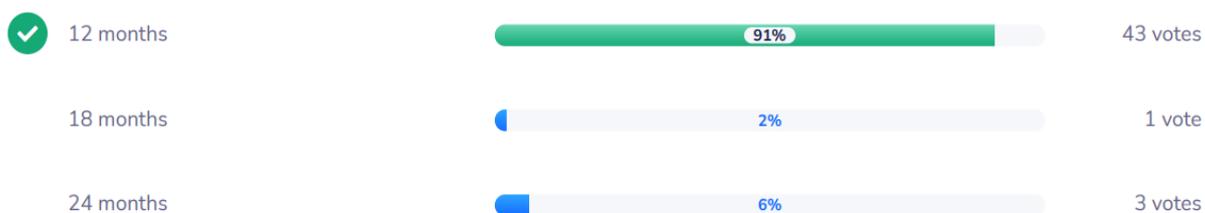
3. The man is registered in an online program in

34 bonnes réponses
sur 46 répondants



4. The man hopes to finish his program in

43 bonnes réponses
sur 47 répondants





5. Have you ever thought about enrolling in an online class? Why or why not?

47 répondants

Yes, I have once thought about enrolling in an online class to study diplomacy because I currently study English and it's a bit difficult to have a physical class again. I can't do both. In addition, in an online class, I will make many new friends around the world! That's very interesting!

I think that it isn't the best way because in a poor country like Burkina Faso connexion is very poor... And all people are not able to buy a computer

yes I already thought about enrolling myself in online class because it's a self education and we learn many things through this.

Yes, because it is also a means of learning many things, to make friends... In the case of English, you can improve your listening and speaking skills, you can also learn to manipulate well your phone.

Yes! I did! The university name Unicaf. I found that information when manipulating in social media inviting me to integrate the group. Immediately the ideas which came in my mind were to improve my English (listening, speak) by interacting with others and to meet other people around the world.

Yes I did, because it would firstly help me to be taught by some natives, then I wouldn't need to spend money for transport and lastly it is a rapid way of learning.

follow your course that is different from what we used to attend where you are obliged to be around, in the classroom or amphitheater..

Mobile data is expensive, so it is not smooth

No, because, connection is very bad in Burkina Faso

Yes because it will reduce the delay

An online class needs time to arrange and to finish it

Yes I thought about this because it's a good way to have class and to do other things. you can do your business and study at the same time.

Yes I think it will be good to be enrolling in an online class. Because firstly it will improve our oral skills when doing sometime online courses with English native speakers. Secondly it will help to save time and to combine studies and businesses by the fact that students will be able to do their text wherever they are instead of the travels for every text. Thirdly it will help us tie friendship or partnership around the World while studying with students or job partners with different countries.

Yes, I ever thought about enrolling in an online class, because online class help to preserve the environment from deforestation

For the time being, I haven't thought about it. Because I do not have the tools which can allow me to follow online classes. Also, our educational system has not yet undertaken such methods to help students. Though, I can think about it when I will start Master degree. Thanks.

Yes I've thought about it because it's really helpful, in online class, one doesn't need to make a displacement and the use is simple and easy, with it we can gain time

No! I prefer contact with teachers. I think that at home I won't be very concentrated and I prefer eyes contact in order to show to the teacher if I understand or not.

Yes, I have ever thought about it for an oral expression training I participate in the university. In deed I think it would ease my training and help to improve my oral skills more than physical presence of the trainer. Besides it helps improving our internet and informatics mastery.

I think it's very good because it allow us to do everything at time and be free to get every information at time and get friends around thi world

Yes, because it permits to do many things attention the samedi Time. You Can also take online courses and be in presential course.

6.

Now download the files :

- take a look on the powerpoint,
- review the script to improve your listening and pronunciation skills.

Exo 9 English language center

Nombre de participants : 50

Text : English Language Center

Receptionist: English Language Center. How may I help you?

Caller: Yes. I'm calling to.....more information about your program. For example, what kind of courses do you offer?

Receptionist: Well, first of all, the purpose of our program is to provide language learning opportunities to thiscommunity Uh-hum, whether a student's goal is to master basic functional language skills, let's say, for his or her job, or to study intensively to..... a US college or university.

Caller: Okay. I'm calling for a friend who isin attending a US university.

Receptionist: And that's the kind of, uh, instruction that we provide, from basic communication courses to content-based classes such as computer literacy,communication, and business English.

Caller: Great. What are your application deadlines for the next semester?

Receptionist: Well, we ask applicants to apply no later than two months before the semester begins. Uh-hum This gives us time to process the application and issue the student's I-20.

Caller: An I-20?

Receptionist: Oh, an I-20 is a form that indicates that we are giving permission for the student to study in our program, and then the student takes this form to the US embassy in his or her country to apply for the F-1 student visa.

Caller: Alright. What is the for a full-time student?

Receptionist: It's two thousand thirty dollars.

Caller: And how does one apply?

Receptionist: Well, we can send you an application and you can mail it back to us, or you can our application that's online at our Web site.

Caller: And are there other materials I would need to send in addition to the application form?

Receptionist: Uh, yes. You would need to send in a \$35 non-refundable application fee Uh-huh, a sponsorship form indicating who will be responsible financially for the student while studying in our program, and a bank statement showing that you or..... has sufficient funds to cover tuition expenses and living costs for the entire year of study.

Caller: And how can I send theseto you?

Receptionist: You can either send the application packet by regular mail or you can fax it.

Caller: And the application fee?

Receptionist: We accept money orders, travelers checks, or credit cards.

Caller: Alright. I think that'sit.

Receptionist: Okay great.

Caller: Oh and what is your name?

Receptionist: Ok. My name is Tony Nelson. You can just call and ask for me.

Caller: Great. Thank you for your help.

Receptionist: No problem and please don't hesitate to call again if you have any other questions.

Caller: Okay. Goodbye.

2. Recording English language center.mpeg

0 répondant



3. Fill in the blank while listening to the recording

44 répondants

Text : English Language Center

Receptionist: English Language Center. How may I help you?

Caller: Yes. I'm calling to **find out** (24 ) more information about your program. For example, what kind of courses do you offer?

Receptionist: Well, first of all, the purpose of our program is to provide language learning opportunities to this **area's** (8 ) community Uh-hum, whether a student's goal is to master basic functional language skills, let's say, for his or her job, or to study intensively to **enter** (23 ) a US college or university.

Caller: Okay. I'm calling for a friend who is **interested** (11 ) in attending a US university.

Receptionist: And that's the kind of, uh, instruction that we provide, from basic communication courses to content-based classes such as computer literacy, **intercultural** (4 ) communication, and business English.

Caller: Great. What are your application deadlines for the next semester?

Receptionist: Well, we ask applicants to apply no later than two months before the semester begins. Uh-hum This gives us time to process the application and issue the student's I-20.

Caller: An I-20?

Receptionist: Oh, an I-20 is a form that indicates that we are giving permission for the student to study in our program, and then the student takes this form to the US embassy in his or her country to apply for the F-1 student visa.

Caller: Alright. What is the **tuition** (8 ) for a full-time student?

Receptionist: It's two thousand thirty dollars.

Caller: And how does one apply?

Receptionist: Well, we can send you an application and you can mail it back to us, or you can **fill out** (17 ) our application that's online at our Web site.

Caller: And are there other materials I would need to send in addition to the application form?

Receptionist: Uh, yes. You would need to send in a \$35 non-refundable application fee Uh-huh, a sponsorship form indicating who will be responsible financially for the student while studying in our program, and a bank statement showing that you or **your sponsor** (10 ) has sufficient funds to cover tuition expenses and living costs for the entire year of study.

Caller: And how can I send these **materials** (29 ) to you?

Receptionist: You can either send the application packet by regular mail or you can fax it.

Caller: And the application fee?

Receptionist: We accept money orders, travelers checks, or credit cards.

Caller: Alright. I think that's **about** (16 ) it.

Receptionist: Okay great.

Caller: Oh and what is your name?

Receptionist: Ok. My name is Tony Nelson. You can just call and ask for me.

Caller: Great. Thank you for your help.

Receptionist: No problem and please don't hesitate to call again if you have any other questions.

Caller: Okay. Goodbye.

4.

Listen to the recording again and answer the following questions

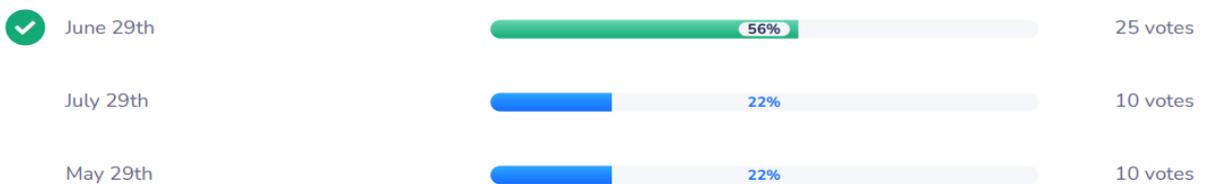
5. One purpose of the center is to help learners _____. **44 bonnes réponses**
sur 47 répondants



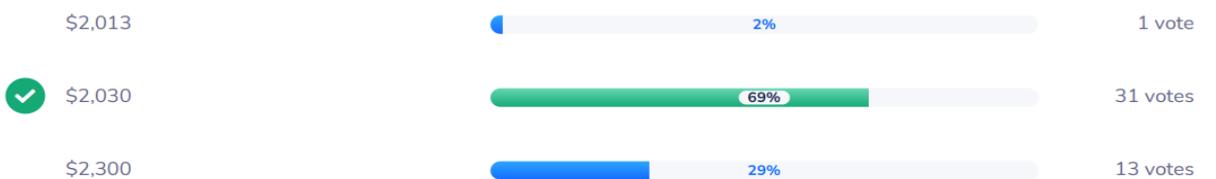
6. What is one course taught at the English Language Center? **32 bonnes réponses**
sur 45 répondants



7. If the Fall semester begins on August 29th, by what date should one apply to the program? **25 bonnes réponses**
sur 45 répondants



8. What is the tuition for a full-time student? **31 bonnes réponses**
sur 45 répondants



10. Put the parts in order to form a sentence

45 répondants

Les combinaisons les plus fréquentes :

21	✓	6	✗	5	✗
7 she	✓	1 to	✗	7 she	✓
8 decided	✓	2 for	✗	8 decided	✓
1 to	✓	3 the deadline	✗	1 to	✓
6 apply	✓	4 college	✗	6 apply	✓
2 for	✓	5 before	✗	5 before	✗
4 college	✓	6 apply	✗	3 the deadline	✗
5 before	✓	7 she	✗	2 for	✗
3 the deadline	✓	8 decided	✗	4 college	✗

bonne réponse

7 she	36
8 decided	35
1 to	34
6 apply	34
2 for	24
4 college	21
5 before	23
3 the deadline	21

Exercice 12 University degree

Nombre de participants : 50

Text : University degree

Daughter: Uh, Dad. Are you going to miss me when I leave for college next week?

Father: Yahoo!

Daughter: No, Dad . . . seriously. I mean you're always talking about how much money you'll , hot water, and gas while I am gone.

Father: Of course I will . . . no, uh, well, I'll miss you, of course. No, honestly, I'll miss and, and you've really tried to prepare yourself. You know, I'm proud of you for that. You know, getting a university degree is a real accomplishment.

Daughter: Exactly.

Father: But, let's go over the to-do list. Do you have everything ready? I mean, did you pay your tuition and housing fees by the deadline? Yeap. Because, you know, if you don't, you'll lose your and you have to register all over again.

Daughter: Yeah, I paid for that a few days ago.

Father: Okay, did you sign up for the at the university so you don't have to eat instant noodles everyday?

Daughter: Yeap. But Mom said I could take some food from [home to get me started.

Father: Uhhh, well, yeah. The oatmeal is in the pantry.

Daughter: Dad! Mom said I could take a bag of rice, some canned food, and . . .

Father: . . . and grandpa's old army rations.

Daughter: Ugh! Not that old stuff. Mom!

Father: Okay, okay. And you know you should to meet with your academic advisor to help you select future classes, right? Yeah. You know, business administration will be a great major for you.

Daughter: Well, Dad, uh . . .

Father: And future possibilities . . . a great salary, opportunities to make a difference in the community, and Dad. I changed my major. supporting . . .

Father: What? You changed your major . . . you switched majors!?

Daughter: Yeah. I really thought about it. After talking it over with Mom, I've decided to major in

Father: What? What are you talking about?

Daughter: Yeah. I want a degree in wildlife science. You know, analysing, maintaining, and conserving national forests and.....wildlife.

Father: What? Uh, uhh . . .

Daughter: Dad. You can now. I mean, I've ALWAYS been interested in working with nature; Well. You know that, and will give me the opportunity to live out my dream. Well . . . I've also looked through the online university catalog, and I actually qualify for a two-year, full tuition scholarship.

Father: Wait. When did this all happen?

Daughter: I can even go on to graduate school and further my education . . . after Todd and I get married, of course.

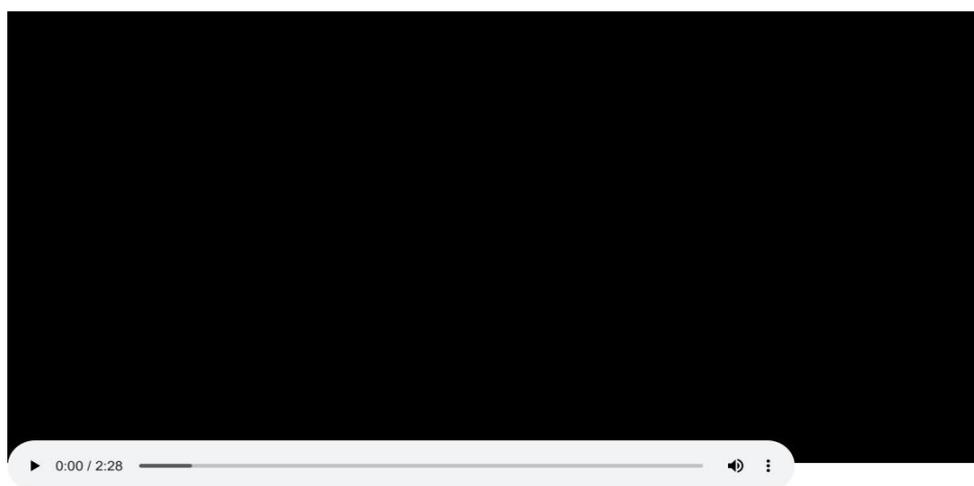
Father: Graduate school . . . Todd? Wait, wait, wait!! Who's Todd? Ah, what's next?

Daughter: Thanks for the credit card. Mom said it was a present. And I just tried it out to make sure it worked, and I had no problem buying my new laptop computer. Oh, I'm doomed! Uh, Dad, where are you going?

Father: Uh, I've decided to enroll in to get another degree. That's the only way I'm going to pay for your college.

2. Recording University degree.mpeg

0 répondant





3. Listen to the recording and fill in the gap in the text

47 répondants

Text : University degree

Daughter: Uh, Dad. Are you going to miss me when I leave for college next week?

Father: Yahoo!

Daughter: No, Dad . . . seriously. I mean you're always talking about how much money you'll **save on food** (29 ) , hot water, and gas while I am gone.

Father: Of course I will . . . no, uh, well, I'll miss you, of course. No, honestly, I'll miss and **worry about you** (17 ) , and you've really tried to prepare yourself. You know, I'm proud of you for that. You know, getting a university degree is a real accomplishment.

Daughter: Exactly.

Father: But, let's go over the to-do list. Do you have everything ready? I mean, did you pay your tuition and housing fees by the deadline? Yeah. Because, you know, if you don't, you'll lose your **class schedule** (29 ) , and you have to register all over again.

Daughter: Yeah, I paid for that a few days ago.

Father: Okay, did you sign up for the **meal plan** (27 ) at the university so you don't have to eat instant noodles everyday?

Daughter: Yeah. But Mom said I could take some food from [home to get me started.

]

Father: Uhhh, well, yeah. The oatmeal is in the pantry.

Daughter: Dad! Mom said I could take a bag of rice, some canned food, and . . .

Father: . . . and grandpa's old army rations.

Daughter: Ugh! Not that old stuff. Mom!

Father: Okay, okay. And you know you should **set up an appointment** (10 ) to meet with your academic advisor to help you select future classes, right?

Yeah. You know, business administration will be a great major for you.

Daughter: Well, Dad, uh . . .

Father: And future possibilities . . . a great salary, opportunities to make a difference in the community, and Dad. I changed my major. supporting . . .

Father: What? You changed your major . . . you switched majors!?

Daughter: Yeah. I really thought about it. After talking it over with Mom, I've decided to major in **wildlife science** (37 ) .

Father: What? What are you talking about?

Daughter: Yeah. I want a degree in wildlife science. You know, analyzing, maintaining, and conserving national forests and wildlife.

Father: What? Uh, uhh . . .

Daughter: Dad. You can **close your mouth** (13 ) now. I mean, I've ALWAYS been interested in working with nature; Well. You know that, and **this field** (6 ) will give me the opportunity to live out my dream. Well . . . I've also looked through the online university catalog, and I actually qualify for a two-year, full tuition scholarship.

Father: Wait. When did this all happen?

Daughter: I can even go on to graduate school and further my education . . . after Todd and I get married, of course.

Father: Graduate school . . . Todd? Wait, wait, wait!! Who's Todd? Ah, what's next?

Daughter: Thanks for the credit card. Mom said it was a present. And I just tried it out to make sure it worked, and I had no problem buying my new laptop computer. Oh, I'm doomed! Uh, Dad, where are you going?

Father: Uh, I've decided to enroll in **night school** (12 ) to get another degree. That's the only way I'm going to pay for your college.



4.

Listen to the recording and answer the questions

5. If the woman doesn't pay her tuition on time, she'll _____.

43 bonnes réponses
sur 47 répondants



6. The woman is planning to take _____ to school from home.

43 bonnes réponses
sur 47 répondants



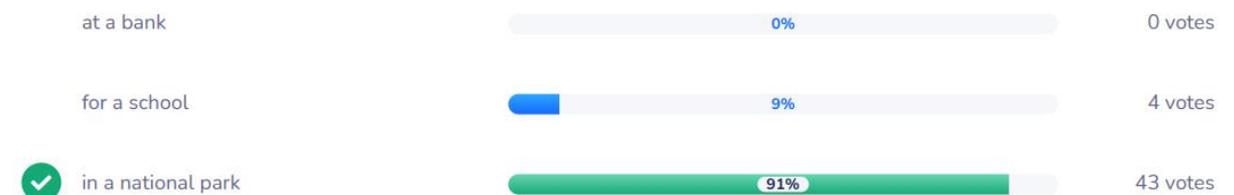
7. The father suggests a specific major based on the possibility of _____.

35 bonnes réponses
sur 48 répondants



8. Based on her major, where will she most likely work?

43 bonnes réponses
sur 47 répondants



Exo 13 Alcoholics anonymous

Nombre de participants : 50

2. Recording alcoholics anonymous.mpeg

0 répondant



Dave's Sister: Hey, Dave. Can we talk for a minute?

Dave: Sure about what? I'm, but yeah . . .

Dave's Sister: Well,um, well, I'm not sure what to say, but um . . .

Dave: Come on. come on.

Dave's Sister: Well, . . .

Dave: What is it? I've never known my sister to be at a

Dave's Sister: Well, you know Dave. I've got to be honest. I'm getting really, really concerned about your drinking.

Dave: What are you talking about?

Dave's Sister: Well, uh, it's . . .

Dave: Can't a person just have a few drinks without people? I mean, first, Dad, then you!

Dave's Sister: Dave, Dave. No seriously. Listen, Dave. You're my brother. I love you, but you've had two DUIs, you lost your last job because youdrunk, your girlfriend's going to dump you because you're drinking too much. Dave.

Dave: You don't understand. I have it under control.

Dave's Sister: Dave, you don't.

Dave: That was the

Dave's Sister: Dave. You got your last DUI three weeks ago. You can't keep doing this. Dave, you're going to kill someone.

Dave: I thought . . .

Dave's Sister: You might kill

Dave: I thought siblings were there to support each other, and that's not what you're doing right now.

Dave's Sister: Dave. I love you, and I'm trying to help you. I really care about you. And these friends that youwith . . . they're not friends. A friend is a person who is honest and frank with you, not these so-called buddies you've got that encourage you to go and buy booze for any old party.

Dave: You just know them like I don't. I mean . . .

Dave's Sister: I know them Come on. Wake up. These guys are dragging you down.

Dave: I've had enough.

Dave's Sister: No, no. Listen. The truth hurts; it stings. Listen. I know. I've seen what's happening to you, and look, there's . . .

Dave: You don't understand.

Dave's Sister: You know what? AA. Alcoholics You can go there and you can meet with other people, and they can help you be sober.

Dave: That's for people who have problems.

Dave's Sister: You've got problems, Dave. AA. There's no membership fees, anyone can attend, the meetings are very confidential. I'll even go with you. I'll What do you say? Come on.

Dave: Right. Like I said, I'm in control. I just need more time to deal with this. It just takes a little bit more time.

Dave's Sister: Dave. How long? You can't do this alone. You're not doing it.

Dave: No, I'm done. You'll see, you'll see.

Dave's Sister: Dave, No. I can't . . . it'll kill me if there's another DUI, an accident, something, I'm really worried, Dave.

Dave: I'm done, I'm done. I don't want to talk about this anymore.

3. Listen to the recording and fill the gap in the following text

48 répondants

Dave's Sister: Hey, Dave. Can we talk for a minute?
Dave: Sure about what? I'm **kind of busy** (14 👤) , but yeah ...
Dave's Sister: Well, ...um, well, I'm not sure what to say, but um ...
Dave: Come on, come on.
Dave's Sister: Well, ...
Dave: What is it? I've never known my sister to be at a **loss for words** (10 👤) .
Dave's Sister: Well, you know Dave. I've got to be honest. I'm getting really, really concerned about your drinking.
Dave: What are you talking about?
Dave's Sister: Well, uh, it's ...
Dave: Can't a person just have a few drinks without people **getting on their case** (15 👤) ? I mean, first, Dad, then you!
Dave's Sister: Dave, Dave. No seriously. Listen, Dave. You're my brother. I love you, but you've had two DUIs, you lost your last job because you **showed up** (10 👤) drunk, your girlfriend's going to dump you because you're drinking too much. Dave.
Dave: You don't understand. I have it under control.
Dave's Sister: Dave, you don't.
Dave: That was the **old me** (7 👤) .
Dave's Sister: Dave. You got your last DUI three weeks ago. You can't keep doing this. Dave, you're going to kill someone.
Dave: I thought ...
Dave's Sister: You might **kill yourself** (41 👤) .
Dave: I thought siblings were there to support each other, and that's not what you're doing right now.
Dave's Sister: Dave. I love you, and I'm trying to help you. I really care about you. And these friends that you **hang out** (7 👤) with ... they're not friends. A friend is a person who is honest and frank with you, not these so-called buddies you've got that encourage you to go and buy booze for any old party.
Dave: You just know them like I don't. I mean ...
Dave's Sister: I know them **well enough** (16 👤) . Come on. Wake up. These guys are dragging you down.
Dave: I've had enough.
Dave's Sister: No, no. Listen. The truth hurts; it stings. Listen. I know. I've seen what's happening to you, and look, there's ...
Dave: You don't understand.
Dave's Sister: You know what? AA. Alcoholics **Anonymous** (35 👤) . You can go there and you can meet with other people, and they can help you be sober.
Dave: That's for people who have problems.
Dave's Sister: You've got problems, Dave. AA. There's no membership fees, anyone can attend, the meetings are very confidential. I'll even go with you. I'll **help you** (38 👤) . What do you say? Come on.
Dave: Right. Like I said, I'm in control. I just need more time to deal with this. It just takes a little bit more time.
Dave's Sister: Dave. How long? You can't do this alone. You're not doing it.
Dave: No, I'm done. You'll see, you'll see.
Dave's Sister: Dave, No. I can't ... it'll kill me if there's another DUI, an accident, something, I'm really worried, Dave.
Dave: I'm done, I'm done. I don't want to talk about this anymore.

4.

Listen to the recording and answer the questions

5. Because of Dave's alcoholism, he _____.

34 bonnes réponses
sur 49 répondants



6. Lisa thinks that Dave's friends _____.

30 bonnes réponses
sur 48 répondants



7. According to Dave's sister, a good friend is a person who ____.

45 bonnes réponses
sur 49 répondants



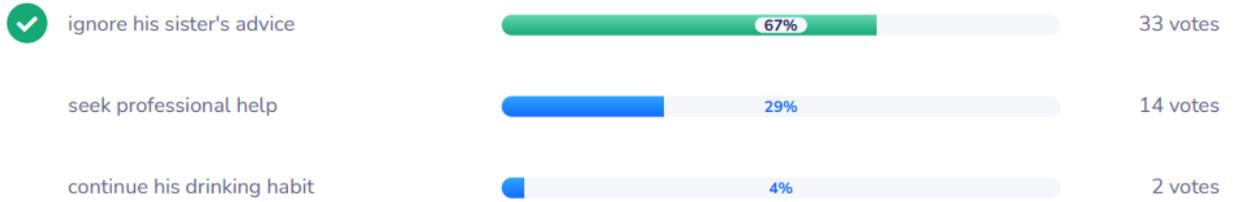
8. One of things that Dave can accomplish by attending Alcoholics Anonymous is to ____.

29 bonnes réponses
sur 48 répondants



9. At the end of the conversation, Dave decides to ____.

33 bonnes réponses
sur 49 répondants



10. Match the items to form a correct sentence

48 répondants

A.....tries to support his brother and sister when tile get though in life.	1	35 bonnes réponses	B	Sibling
I appreciate people who are and say exactly how they feel.	2	41 bonnes réponses	E	frank
Here is a.....message. Please don't show it to anyone except to your brother.	3	43 bonnes réponses	A	confidential
A good woman will.....a man who isn't treating her well.	4	42 bonnes réponses	D	dump
I am really at.....when I see John doing such reckless things.	5	44 bonnes réponses	C	a loss for words

Exo14 The ideal partner

Nombre de participants : 52



2. Recording ideal partner.mpeg

0 répondant



Ed: Hey Rocky! You've been sitting around all night. Get out and dance with someone like that woman over there.

Rocky: No way! She looks like the

Ed: Oh come on man! What kind of woman do you like?

Rocky: I want a woman who's affectionate and my every need, and that woman over there is just not the right type.

Ed: Hey. Where have you been? Times are changing, and you're never going to find a woman who will shine your shoes andafter you all the time. Wake up.

Rocky: Oh really? I meet a lot of women like that, but not at this party. Oh. I also prefer a woman who'll stay home, cook, clean, and watch the kids.

Ed: Okay, but what are your responsibilities once you get home from work?

Rocky: Hmm. Eat, watch TV, and throw out the garbage.

Ed: Wait, wait, wait. I can't believe I'm hearing this. In fact, you're never going to get married. I recently read a news report that said 40 percent of women don't think their husbands do their the house, and you seem to be that type.

Rocky: Well, that's the way I am, but what's YOUR idea of the woman?

Ed: Well, I like a woman who's caring, and non-judgmental about people's differences, and it bothers me when people think they're the center of the universe . . . like someone I know.

Rocky: Well, that's nice for you, but that doesn't change my point of view. I guess I'll have to go home to a TV dinner and my dog, Rusty.

Ed: Hey, and if I with you, this is going to be a long, lonely night. Say hello to Rusty for me.

3. Listen to the recording and complete the text with missing words

49 répondants

Ed: Hey Rocky! You've been sitting around all night. Get out and dance with someone like that woman over there.

Rocky: No way! She looks like the **intellectual type** (10 👍) .

Ed: Oh come on man! What kind of woman do you like?

Rocky: I want a woman who's affectionate and **fulfills** (13 👍) my every need, and that woman over there is just not the right type.

Ed: Hey. Where have you been? Times are changing, and you're never going to find a woman who will shine your shoes and **pick up** (29 👍) after you all the time. Wake up.

Rocky: Oh really? I meet a lot of women like that, but not at this party. Oh. I also prefer a woman who'll stay home, cook, clean, and watch the kids.

Ed: Okay, but what are your **household** (21 👍) responsibilities once you get home from work?

Rocky: Hmm. Eat, watch TV, and throw out the garbage.

Ed: Wait, wait, wait. I can't believe I'm hearing this. In fact, you're never going to get married. I recently read a news report that said 40 percent of women don't think their husbands do their **share around** (12 👍) the house, and you seem to be that type.

Rocky: Well, that's the way I am, but what's YOUR idea of the **perfect** (38 👍) woman?

Ed: Well, I like a woman who's **outgoing** (7 👍) caring, and non-judgmental about people's differences, and it bothers me when people think they're the center of the universe . . . like someone I know.

Rocky: Well, that's nice for you, but that doesn't change my point of view. I guess I'll have to go home to a TV dinner and my dog, Rusty.

Ed: Hey, and if I **stick** (6 👍) with you, this is going to be a long, lonely night. Say hello to Rusty for me.

4.

Listen to the recording and answer the following question by choosing the correct answer

5. Rocky was _____ at the beginning of the conversation.

42 bonnes réponses
sur 49 répondants



6. Rocky likes women who _____.

40 bonnes réponses
sur 48 répondants



7. In addition to eating, Rocky feels his household chores include ____.

47 bonnes réponses
sur 49 répondants



8. Rocky's views on women ____.

34 bonnes réponses
sur 48 répondants



9. What probably happens at the end of the conversation?

44 bonnes réponses
sur 48 répondants



My ideal partner is someone humble, respectful and comprehensible!

The ideal partner is someone who loves you despite all, respects you and your choices, who is ready to help you in all the domain of the live, who agree with you even if you're wrong he or she gives you pieces of advice. And he or she includes you in all his or her life projects.

An ideal partner should be my mirror. It means he tells me really who i am, he tells me my imperfections and my competence.

My image of the ideal partner is someone who has a brighten vision.

The ideal partner is someone who loves you ,the one who will share the same vision of what you want in the future,who Will help you when you're in need

My image of the ideal partner is someone who can take care of me, spend time with me,let me express myself ,love me alone, be a Christian.

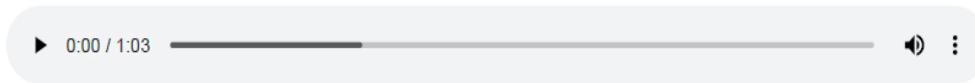
It is a shering of point of view about a given situation.

The one who fear God

An ideal partner for me is the one who really loves his partner,,respects him,,and takes into account his feelings and décisions.

2. Recording physical therapy.mp3

0 répondant



3. Listen to the recording and fill in the blank

50 répondants

Text : Physical therapy

Woman: Hey, what happened to you?

Man: It's a long story.

Woman: Okay, I love long stories.

Man: Well, . . .

Woman: Let me guess. You forgot your **wife's birthday** (11 👤) , and she got angry.

Man: No. Actually, I was carrying some boxes down the stairs at home . . .

Woman: She pushed you?

Man: No, no! I was walking down the stairs at home when I **tripped over our dog** (6 👤) and fell and broke my arm and injured my shoulder.

Woman: Boy, how's the dog? You look really sore, too.

Man: Well, I am, but I am going to physical therapy three times a week, and they're trying to teach me some exercises to increase **my strength** (27 👤) .

Woman: Good. So, how long are your appointments?

Man: They last about 50 minutes.

Woman: Is this office nearby?

Man: Actually, it is **across the street from my office** (10 👤) , so it's really convenient.

Woman: You can't beat that.

Man: Yeah, and it should help me get back to where I was before the accident, and I really want to play tennis again.

Woman: Well, maybe now, at least I have a chance to **beat you** (16 👤) .

Man: In your dreams.

Exercice 21-immigration-and-customs

Nombre de participants : 46

Text: immigration

customs

Customs Officer: Next. Uh, your passport please.

Woman: Okay.

Customs Officer: Uh, what is ?

Woman: I'm here to attend a teaching convention for the first part of my trip, and then I plan on touring the capital for a few days.

Customs Officer: And where ?

Woman: I'll be staying in a room at a hotel downtown for the entire week.

Customs Officer: And uh, what ?

Woman: Uh, well, just, just my personal belongings um, . . . clothes, a few books, and a CD player.

Customs Officer: Okay. Uh,

Woman: Sure.

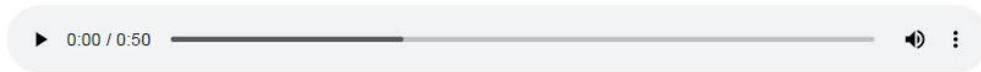
Customs Officer: Okay Great. Uh, by the way, is this your first visit to the country?

Woman: Well, yes and no. Actually,....., but this is my first trip back since then.

Customs Officer: Well, enjoy your trip.

3. Recording-immigration customs.mp3

0 répondants



4. Listen to the recording and fill in the gap in this text

45 répondants

Text: immigration customs

Customs Officer: Next. Uh, your passport please.

Woman: Okay.

Customs Officer: Uh, what is **the purpose of your visit** (26 👤) ?

Woman: I'm here to attend a teaching convention for the first part of my trip, and then I plan on touring the capital for a few days.

Customs Officer: And where **will you be staying** (28 👤) ?

Woman: I'll be staying in a room at a hotel downtown for the entire week.

Customs Officer: And uh, what **do you have in your luggage** (30 👤) ?

Woman: Uh, well, just, just my personal belongings um, ... clothes, a few books, and a CD player.

Customs Officer: Okay. Uh, **please open your bag** (15 👤) .

Woman: Sure.

Customs Officer: Okay. ... **Everything's fine** (6 👤) . Great. Uh, by the way, is this your first visit to the country?

Woman: Well, yes and no. Actually, **I was born here when my parents were working in the capital many years ago** (9 👤) , but this is my first trip back since then.

Customs Officer: Well, enjoy your trip.

Woman: Thanks.

EXO22-student-loan

Nombre de participants : 47

Text : student loan

Woman: Hey, so how are things going?

Man: Well, great . . . if you are talking about the weather.

Woman: What do you mean?

Man: Well, I have to because I don't have the money for tuition.

Woman: What? I mean,, books, and room and board for the whole year.

Man: Uh, well, to be honest, I spent some of the money on.....

Woman: What? Your old one was working just fine.

Man: Yeah, but my girlfriend didn't like the color.

Woman: I can't believe this. Really? I mean, seriously? Well, what about the rest of the money?

Man: Yeah . . . Well, uh,..... a few dollars on some designer clothing, and a [new dog].

Woman: And now?

Man: Ugh, I need a

Woman: Well,

Man: I can't do that. I wouldn't have a way to get around.

Woman: What about a student loan?

Man: Yeah. That's an idea.

Woman: No, or you could ask your dad for more money.

Man: I can't do that!..... I'll just have to figure it out for myself.

3. Listen to the recording and fill in the gap in the text

44 répondants

Text : student loan

Woman: Hey, so how are things going?

Man: Well, great . . . if you are talking about the weather.

Woman: What do you mean?

Man: Well, I have to **drop out of school** (8 👤) because I don't have the money for tuition.

Woman: What? I mean, **your dad gave you enough money to pay for tuition** (9 👤), books, and room and board for the whole year.

Man: Uh, well, to be honest, I spent some of the money on **a new motorcycle** (27 👤).

Woman: What? Your old one was working just fine.

Man: Yeah, but my girlfriend didn't like the color.

Woman: I can't believe this. Really? I mean, seriously? Well, what about the rest of the money?

Man: Yeah . . . Well, uh, **I spent some on a new smartphone** (24 👤), a few dollars on some designer clothing, and a **new dog** (38 👤).

Woman: And now?

Man: Ugh, I need a **loan to pay for school** (26 👤).

Woman: Well, **just sell the motorcycle** (24 👤).

Man: I can't do that. I wouldn't have a way to get around.

Woman: What about a student loan?

Man: Yeah. That's an idea. **Do you know where I can get one** (33 👤)?

Woman: No, or you could ask your dad for more money.

Man: I can't do that! **I'm not that desperate** (9 👤). I'll just have to figure it out for myself.

Exo18 physical therapy

Nombre de participants : 49

Text : Physical therapy

Woman: Hey, what happened to you?

Man: It's a long story.

Woman: Okay, I love long stories.

Man: Well,

Woman: Let me guess. You forgot your [wife's birthday], and she got angry.

Man: No. Actually, I was carrying some boxes down the stairs at home . . .

Woman: She pushed you?

Man: No, no! I was walking down the stairs at home when I [tripped over our dog] and fell and broke my arm and injured my shoulder.

Woman: Boy, how's the dog? You look really sore, too.

Man: Well, I am, but I am going to physical therapy three times a week, and they're trying to teach me some exercises to increase [my strength].

Woman: Good. So, how long are your appointments?

Man: They last about 50 minutes.

Woman: Is this office nearby?

Man: Actually, it is [across the street from my office], so it's really convenient.

Woman: You can't beat that.

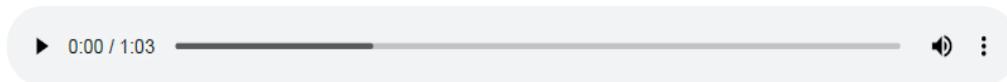
Man: Yeah, and it should help me get back to where I was before the accident, and I really want to play tennis again.

Woman: Well, maybe now, at least I have a chance to [beat you].

Man: In your dreams.

2. Recording physical therapy.mp3

0 répondant



3. Listen to the recording and fill in the blank

50 répondants

Text : Physical therapy

Woman: Hey, what happened to you?

Man: It's a long story.

Woman: Okay, I love long stories.

Man: Well,

Woman: Let me guess. You forgot your **wife's birthday** (11 👤), and she got angry.

Man: No. Actually, I was carrying some boxes down the stairs at home . . .

Woman: She pushed you?

Man: No, no! I was walking down the stairs at home when I **tripped over our dog** (6 👤) and fell and broke my arm and injured my shoulder.

Woman: Boy, how's the dog? You look really sore, too.

Man: Well, I am, but I am going to physical therapy three times a week, and they're trying to teach me some exercises to increase **my strength** (27 👤).

Woman: Good. So, how long are your appointments?

Man: They last about 50 minutes.

Woman: Is this office nearby?

Man: Actually, it is **across the street from my office** (10 👤), so it's really convenient.

Woman: You can't beat that.

Man: Yeah, and it should help me get back to where I was before the accident, and I really want to play tennis again.

Woman: Well, maybe now, at least I have a chance to **beat you** (16 👤).

Man: In your dreams.

Exo 16 Street market

Nombre de participants : 52

Text : Street market

Merchant: Well hi there. What are you looking for today?

Customer: Uh, I'm just looking.

Merchant: Well, how about afor someone special?

Customer: There IS no one special.

Merchant: Well, take a look at this CD player. A great.....today only.

Customer: Nah. I already have one, plus the handle is cracked.

Merchant: Okay. Well what about this genuine leather jacket? It would look great on you.

Customer: Hum. Let me take a look at it.

Merchant: Sure.

Customer: Umm. There are stains on the sleeves. I'll pass.

Merchant: Well okay. Well, wouldn't you like to walk home with some of these great records? Some of the best hits from the 1960's.

Customer: Yeah, let's see. Yeah Now here's something I'd . . . Ah, these records are scratched.

Merchant: Laughter Just in a couple places. Listen. I'll sell you these tenfor fifty dollars. A steal!

Customer: Whoa! They're way too I'll give you twenty-five bucks for them.

Merchant: Ah, come on. I can't.....you less than thirty dollars and break even.

Customer: Well, that guy over there is selling similar records for a much better price Ah!, so thanks anyway.

Merchant: Wait, wait, wait, wait. You Twenty-eight dollars, and that's my final offer.

Customer: Huh . . . I'll think about it.

Merchant: Wait, wait, wait, wait. Listen. I'll evenin this vase.

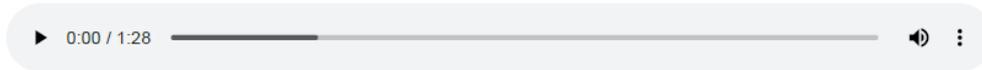
Customer: Now what am I going to do with a vase?

Merchant: Well, you can give it to that someone special when you find her. . . and this ring would look great with it.

Customer: Oh, I'llwith the records

2. Recording street market.mp3

0 répondant



3. Listen to the recording and fill in the blank in the text

45 répondants

Text : Street market

Merchant: Well hi there. What are you looking for today?

Customer: Uh, I'm just looking.

Merchant: Well, how about a **ring** (34 👤) for someone special?

Customer: There IS no one special.

Merchant: Well, take a look at this CD player. A great **bargain** (17 👤) today only.

Customer: Nah. I already have one, plus the handle is cracked.

Merchant: Okay. Well what about this genuine leather jacket? It would look great on you.

Customer: Hum. Let me take a look at it.

Merchant: Sure.

Customer: Umm. There are stains on the sleeves. I'll pass.

Merchant: Well okay. Well, wouldn't you like to walk home with some of these great records? Some of the best hits from the 1960's.

Customer: Yeah, let's see. Yeah Now here's something I'd . . . Ah, these records are scratched.

Merchant: Laughter Just in a couple places. Listen. I'll sell you these ten **records** (38 👤) for fifty dollars. A steal!

Customer: Whoa! They're way too **expensive** (41 👤) . I'll give you twenty-five bucks for them.

Merchant: Ah, come on. I can't **charge** (20 👤) you less than thirty dollars and break even.

Customer: Well, that guy over there is selling similar records for a much better price Ah!, so thanks anyway.

Merchant: Wait, wait, wait, wait. You **drive a hard bargain** (12 👤) . Twenty-eight dollars, and that's my final offer.

Customer: Huh . . . I'll think about it.

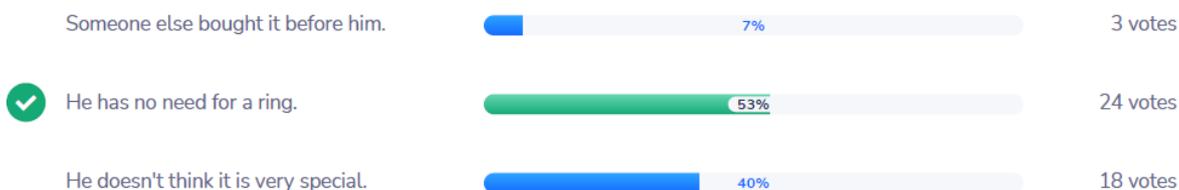
Merchant: Wait, wait, wait, wait. Listen. I'll even **throw** (19 👤) in this vase.

Customer: Now what am I going to do with a vase?

Merchant: Well, you can give it to that someone special when you find her. . . and this ring would look great with it.

Customer: Oh, I'll **stick** (34 👤) with the records

5. Why did the man not buy the ring for sale? 24 bonnes réponses sur 45 répondants



6. What is the problem with the CD player? 28 bonnes réponses sur 45 répondants



Exo 7 Class reunion

Nombre de participants : 49

Amanda: Hey, I know you. You're James, [right]? James Roberts.

James: Amanda Brown. Wow! It's been a long time.

Amanda: Yeah. Oh, are you going to the class [reunion] in two weeks?

James: Uh, I [heard] about it, but I'm not sure. Where is it?

Amanda: The [reunion] is going to be held at the Mountain Country Club across from City Park.

James: And what time does it start?

Amanda: I think it starts at 6:00.

James: And how much does it cost?

Amanda: It's twenty dollars a ticket, and that includes dinner and []entertainment.

James: What kind of entertainment are they going to have?

Amanda: They're going to have a [live jazz] band and dancing.

James: And who is organising the event?

Amanda: Do you remember Chad Phillips?

James: Uh, wasn't he the quarterback on the football team?

Amanda: Right. Well, he married Sarah Rogers, and they are in charge of the event. So, what do you think? Are you going?

James: I don't know. I never really fit in in high school. I was kind of a loner. I also remember asking Sarah out on a date, and she [turned me down] . She said she was sick, and it turned out she went out with someone that same night. It could be a little [awkward].

Amanda: Hey, why don't we go together?

James: Are you sure?

Amanda: Yeah.

James: Well, sure. Why not. Can I be honest? I always thought you were very nice. I just never had the [guts] to ask you out.

Amanda: Well, here's your chance.

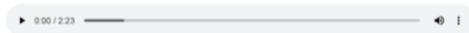
James: Sounds great. So, what's your number so I can call you?

Amanda: It's 435-923-6017. James: 6017, Okay. Where do you live?

Amanda: I only live two blocks south of the old high school.

James: Okay. I remember where you live. Let me call you a few days before to [confirm] things.

Amanda: Sounds good. It should be fun.



Amanda: Hey, I know you. You're James, right? James: Right.
James: Amanda Brown. Wow! It's been a long time.
Amanda: Yeah. Oh, are you going to the class reunion in two weeks?
James: Uh, I heard about it, but I'm not sure. Where is it?
Amanda: The reunion is going to be held at the Mountain Country Club across from City Park.
James: And what time does it start?
Amanda: I think it starts at 6:00.
James: And how much does it cost?
Amanda: It's twenty dollars a ticket, and that includes dinner and entertainment.
James: What kind of entertainment are they going to have?
Amanda: They're going to have a live jazz band and dancing.
James: And who is organizing the event?
Amanda: Do you remember Chad Phillips?
James: Uh, wasn't he the quarterback on the football team?
Amanda: Right. Well, he married Sarah Rogers, and they are in charge of the event. So, what do you think? Are you going?
James: I don't know. I never really fit in in high school. I was kind of a loner. I also remember asking Sarah out on a date, and she turned me down. She said she was sick, and it turned out she went out with someone that same night. It could be a little awkward.
Amanda: Hey, why don't we go together?
James: Are you sure?
Amanda: Yeah.
James: Well, sure. Why not. Can I be honest? I always thought you were very nice. I just never had the guts to ask you out.
Amanda: Well, here's your chance.
James: Sounds great. So, what's your number so I can call you?
Amanda: It's 435-923-6017. James: 6017, Okay. Where do you live?
Amanda: I only live two blocks south of the old high school.
James: Okay. I remember where you live. Let me call you a few days before to confirm things.
Amanda: Sounds good. It should be fun.

*Listen to the recording and answer the questions

 **5. What is the woman's name?**

44 bonnes réponses
sur 44 répondants

<input type="checkbox"/>	Her name is Ashley.	<div style="width: 0%;"><div style="width: 0%;"></div></div> 0%	0 votes
<input type="checkbox"/>	The woman's name is Amber	<div style="width: 0%;"><div style="width: 0%;"></div></div> 0%	0 votes
<input checked="" type="checkbox"/>	Her name is Armanda	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100%	44 votes

 **6. Where is the reunion going to be held?**

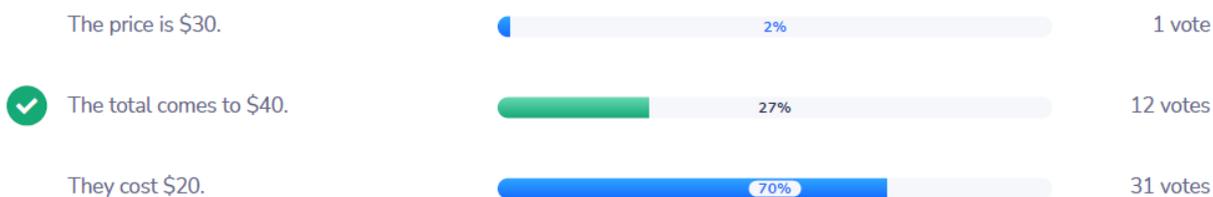
43 bonnes réponses
sur 44 répondants

<input type="checkbox"/>	Mesa Country Club	<div style="width: 0%;"><div style="width: 0%;"></div></div> 0%	0 votes
<input type="checkbox"/>	Meadow Country Club	<div style="width: 2%;"><div style="width: 2%;"></div></div> 2%	1 vote
<input checked="" type="checkbox"/>	Mountain Country Club	<div style="width: 98%;"><div style="width: 98%;"></div></div> 98%	43 votes

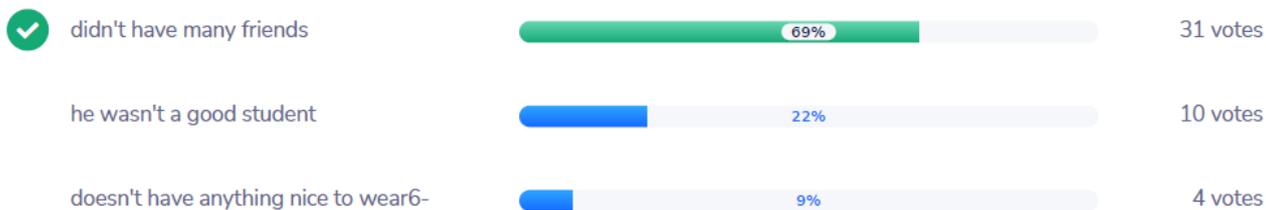
7. The reunion starts at _____. **2 bonnes réponses**
sur 44 répondants



8. How much do two tickets cost for the reunion? **12 bonnes réponses**
sur 44 répondants



9. James feels uncomfortable going to the reunion because he _____. **31 bonnes réponses**
sur 45 répondants



10. Put the parts in order to form a sentence

44 répondants

Les combinaisons les plus fréquentes :

32	✓	5	✗	4	✗
4 Emily is	✓	1 the	✗	6 this year	✗
2 in charge	✓	2 in charge	✓	4 Emily is	✗
5 of	✓	3 classroom reunion	✗	2 in charge	✗
1 the	✓	4 Emily is	✗	5 of	✗
3 classroom reunion	✓	5 of	✗	1 the	✗
6 this year	✓	6 this year	✓	3 classroom reunion	✗

6. Survey submitted at the end of the listening comprehension experiment

survey on listening comprehension experiment

You have participated in the experiment on "teaching listening comprehension using a digital tool (Woodclap). Now we are interested in your feedback about your participation and the achievement of the experiment. Thank you for taking 5 minutes to answer this survey.

* Indicates required question

Part A: Background information

1. Full name

2. 1. What is your gender

Mark only one oval.

Male

Female

3. 2. How did you find the experiment?

Tick all that apply.

Amazing

Boring

Helpful

Not important and having no effect on my orale proficiency

4. 3. Have you enjoyed taking part in the experiment?

Tick all that apply.

Yes

No

-
5. 4. Have you ever participated in a distance learning given by the université Joseph KI-Zerbo?

Tick all that apply.

- Yes
 No

6. 5. Have you ever participated in an online collaborative educational project? :

Tick all that apply.

- Yes
 No

7. 6. Have you ever attended a listening comprehension course?

Mark only one oval.

- Yes
 No

8. 7. If yes how do you compare it from the one you have just completed

9. 8. What do you think about listening comprehension course?

10. 9. How often do you use ICT tools to practice listening comprehension outside of the classroom?

Tick all that apply.

- A. Rarely
- B. Sometimes
- C. Often
- D. Almost always

11. 10. Which of the following ICT tools have you used to practice listening comprehension? (Select all that apply)

Tick all that apply.

- A. Podcasts
- B. Videos
- C. Interactive online activities
- D. Virtual reality simulations
- E. Other:

12. 11. How do you prefer to practice listening comprehension using ICT tools?

Mark only one oval.

- A. Alone
- B. With a partner
- C. In a small group
- D. In a large group

13. 12. How effective do you find ICT tools for practicing listening comprehension?

Mark only one oval.

- A. Not effective at all
- B. Somewhat effective
- C. Moderately effective
- D. Very effective

14. 13. How do you feel about using ICT tools to practice listening comprehension compared to more traditional methods (e.g. listening to a teacher or audio recording in class)?

Tick all that apply.

- A. Prefer ICT tools
- B. Prefer traditional methods
- C. No preference

15. 14. What are some potential benefits of using ICT tools for practicing listening comprehension? (Select all that apply)

Tick all that apply.

- A. Exposure to a wider range of listening materials
- B. Engaging and interactive learning experiences
- C. More opportunities to practice listening skills
- D. Access to authentic language sources
- E. Other

16. 15. What are some potential challenges of using ICT tools for practicing listening comprehension? (Select all that apply)

Tick all that apply.

- A. Technical issues
- B. Concerns about the quality and authenticity of online materials
- C. Difficulty in staying focused during online practice
- D. Limited access to technology outside of the classroom
- E. Other

17. 16. How do you feel about your level of listening comprehension after practicing with ICT tools Wooclap?

Tick all that apply.

- A. No improvement
- B. Slight improvement
- C. Moderate improvement
- D. Significant improvement

18. 17. How do you think teachers can improve the use of ICT tools for teaching listening comprehension?

Tick all that apply.

- A. Providing more guidance and feedback on practice
- B. Selecting more engaging and authentic listening materials
- C. Encouraging more opportunities for group practice
- D. Offering more support with technical issues
- E. Other

19. 18. What types of listening activities do you find most helpful in improving your listening skills

Tick all that apply.

- Dialogues
- Lectures
- News reports
- Songs
- Speeches

20. Other (please specify):

21. 19. How did you prepare yourself for listening activities in this experiment?

Tick all that apply.

- I tried to predict what the speaker will say
- I focused on key words and phrases
- I listened for context clues
- I asked questions to clarify information

22. 20. What do you think about the tool (wooclap) used in the experiment?

23. 21. What do you think about the integration of the digital tool wooclap in the learning system of université Joseph KI-ZERBO? for example the teaching of listening comprehension and the exams as well.

24. 22. In case you find the tool not useful for teaching listening comprehension, what do you suggest then?

25. 23. What is/are the limit(s) of the tool wooclap according to you?

26. 24. How can you measure your motivation during the experiment?

Tick all that apply.

- I was not motivated at all
- I was a bit motivated
- I was really motivated
- Other: _____

27. 25. At the very beginning of the experiment did you have difficulty understanding native speakers

Tick all that apply.

- yes
- No
- A bit
- Other: _____

28. 26. What challenges do you face when trying to understand spoken language?

Tick all that apply.

- The speed of the speaker
- Unfamiliar vocabulary or expressions
- Regional accents or dialects
- Background noise or other distractions

29. Other (please specify):

30. 27. How did you typically approach listening activities that you find difficult?

Tick all that apply.

- I try to listen for familiar words or phrases
- I listen to the audio again
- I use context clues to guess the meaning

31. 28. How do you feel about being assessed on your listening comprehension skill?

Tick all that apply.

- I am comfortable with it
- I feel anxious about it
- I think it is necessary to measure my progress
- I don't think it accurately reflects my ability

32. Other (please specify)

33. 29. What strategies do you use to improve your listening comprehension outside of the classroom?

Tick all that apply.

- Listening to podcasts or radio programs
- Watching TV shows or movies in the target language
- Practicing with English native speakers
- Listening to music in the target language

34. Other (please specify)

35. 30. At the end of the experiment do you think it offered you the opportunity to improve your listening skill?

Mark only one oval.

- Yes
- No
- A bit

36. 31. How do you feel about your current listening comprehension skills after attending the experiment? *

Mark only one oval.

- Excellent
- Good
- Average
- Below average
- Poor

37. 32. What recommendations do you have for the integration of listening comprehension teaching in L2 learning?

38. 33. How do you evaluate the conditions(in terms of organisation and management) under which you participated in the experiment?

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Google Forms

C. Data on the VEC

1. VSC ethics certificate



**ATTESTATION DE CONFORMITE A L'ETHIQUE DE LA
RECHERCHE**

Référence/Ref. : 2022-033

Le Comité d'éthique de la recherche de l'université Rennes 2 a examiné le projet de recherche intitulé « **Observatoire du Défi Environnemental Virtuel (ou Virtual Environmental Challenge)** » piloté par CHRISTINE EVAÏN, et a jugé qu'il est conforme aux pratiques habituelles et aux règles éthiques en vigueur dans les Sciences Humaines et Sociales. Le projet respecte notamment les règles de protection des données personnelles du Règlement Général sur la Protection des Données (UE 2016/679).

DESCRIPTIF DU PROJET DE RECHERCHE

RESEARCH PROJECT DESCRIPTION

- Responsable scientifique du projet : EVAÏN Christine
- Statut : Professeure des universités
- Etablissement : Université Rennes 2
- E-mail : christine.evain@univ-rennes2.fr ; n° portable : 06 82 95 55 30
- Domaine disciplinaire : Linguistique et didactique des langues
- Personnes impliquées dans le projet (nom prénom, statut, affiliation) :
- Établissement porteur du projet : Université Rennes 2
- Unité de recherche : LIDILE, EA 3874
- Sous-domaine scientifique du projet : Didactique
- Durée du projet : 4 ans
- Objet du projet : Le "défi environnemental virtuel" (VEC/DEV), réalisé en collaboration avec les universités européennes partenaires de l'Alliance eMERGE, génère des données exploitables pour la recherche en didactique des langues. Dans le cadre du projet Erasmus KA2 TRIP, les partenaires du DEV souhaitent analyser les données collectées afin de mesurer les progrès des participants en langues, mais aussi en conduite de projet et animations de séance.
- Financier du projet : Agence européenne (Erasmus KA2)

MODALITES D'APPLICATION

La présente attestation est valable pour le projet tel qu'il a été validé par l'université Rennes 2 et tel qu'il a été décrit dans le document de demande d'attestation. Si des modifications importantes sont apportées au protocole de recherche, elles devront nous être communiquées. Tout événement ou renseignement pouvant affecter l'intégrité de la recherche devra nous être communiqué, ainsi que toute suspension ou cessation du projet (temporaire ou définitive).

Fait à Rennes, le 25/11/2022

La Vice-Présidente chargée de la recherche, Gaïd Le Maner-Idrissi :



Contact :

adm-comrech-drv@listes.univ-rennes2.fr

2. Questions of the pre and post-tests

Quiz on ecology

Test your knowledge in ecolinguistics

***Obligatoire**

1. Name and first name

2. University and country *

I. Choose the correct(s) answer(s)

3. 1. What is ecology?

1 point

Plusieurs réponses possibles.

- The study of Earth's Mantle
- The study of relationships between living things and their environment
- The study of humans and their impact on Earth
- The study of plants

4. 2. The way that three-dimensional forms are combined to make up the total building bulk.

1 point

Plusieurs réponses possibles.

- Building footprint
- Pattern language
- Building mass
- Building massing

5. 3. The employment of land for the primary purpose of obtaining a profit in money by raising, harvesting, and selling crops, of feeding, breeding, managing, selling, or producing livestock, poultry, fur-bearing animals, or honey bees, or by dairying and the sale of dairy products, by any other horticultural, foricultural, or viticultural use, by animal husbandry, or by any combination thereof.

1 point

Plusieurs réponses possibles.

- Environmental corridor
- Agricultural use
- Light-rails transit
- Rails-to-trails

6. 4. Special physical characteristics of a structure or area (e.g. architecture, landscaping, natural features, open space, types and styles of housing, number and size of roads and sidewalks) that set it apart from its surroundings and contribute to its individuality. 1 point

Plusieurs réponses possibles.

- Infrastructure
- Diversity
- Human scale
- Character

7. 5. In a community, producers are _____ which convert light energy to chemical energy in a process called _____. 1 point

Plusieurs réponses possibles.

- heterotrophs, photosynthesis
- autotrophs, photosynthesis
- heterotrophs, respiration
- autotrophs, respiration

8. 6. The employment of land for the primary purpose of obtaining a profit in money by raising, harvesting, and selling crops, of feeding, breeding, managing, selling, or producing livestock, poultry, fur-bearing animals, or honey bees, or by dairying and the sale of dairy products, by any other horticultural, foricultural, or viticultural use, by animal husbandry, or by any combination thereof. 1 point

Plusieurs réponses possibles.

- Neighborhood character
- Mixed-use development
- Agricultural use
- Social network

9. 7. The way that three-dimensional forms are combined to make up the total building bulk. 1 point

Plusieurs réponses possibles.

- Building footprint
- Pattern language
- Building mass
- Building massing

10. 8. A dwelling unit used for both dwelling purposes and any non residential use permitted in the zoning district in which the unit is located, provided that not more than two person swho do not reside in the unit are employed on the premises. 1 point

Plusieurs réponses possibles.

- Contextual zoning
- Live/work dwelling
- Previous (permeable)
- Workforce development

11. 9. The minimum distance by which any building or structure must be separated from a streetright-of-way or lot line 1 point

Plusieurs réponses possibles.

- Setback
- street wall
- Densit Bonus
- Bike lane

12. 10. In addition to producers and consumers, healthy communities must have _____, bacteria and fungi which recycle detritus 1 point

Plusieurs réponses possibles.

- utotrophs
- Decomposers
- spontaneous combustion
- viruses

13. 11. Each organism has its own _____ or function in a community, and is part of the _____ or web of life. 1 point

Plusieurs réponses possibles.

- niche, food chain
- location, food chain
- specialty, chaos
- habitat, niche

14. 12. In a typical ecological pyramid, cows are good examples of _____ consumers because they are 1 point

Plusieurs réponses possibles.

- primary, herbivores
- secondary, omnivores
- tertiary, herbivores
- primary, carnivores

15. 13. . Humans are considered to be _____ consumers because we eat carnivores, omnivores, herbivores, and producers 1 point

Plusieurs réponses possibles.

- Primary
- Tertiary
- Secondary
- Quaternary

16. 14. When two organisms live in a close association, and both benefit, the relationship is called 1 point

Plusieurs réponses possibles.

- Commensalism
- Symbiosis
- Parasitism
- Pathogenesis

17. 15. . The _____ is the maximum number of individuals that a habitat can support 1 point

Plusieurs réponses possibles.

- carrying capacity
- population mean
- J curve
- population growth rate

18. 16. In an environment with unlimited resources and space, and which lacks competition or predation, the expected population growth rate would be: 1 point

Plusieurs réponses possibles.

- logistic
- exponential
- arithmetic
- negative

19. 17. In an ecological succession, lichens are _____ while trees would be members of the _____ 1 point

Plusieurs réponses possibles.

- pioneer organisms, climax community
- seral organisms, pioneer community
- climax organisms, pioneer community
- omnivores, primary producers

20. 18. . Desertification, deforestation, and pesticide pollution can all cause a/an _____ in the biodiversity of a community. 1 point

Plusieurs réponses possibles.

- Increase
- Reduction
- Stabilization
- Explosion

21. 19. Nonliving parts of the environment such as soil, water, sunlight. 1 point

Plusieurs réponses possibles.

- Decomposers
- Biotic
- Abiotic
- Scavenger

22. 20. An organism that uses light energy to make its own food. 1 point

Plusieurs réponses possibles.

- Consumer
- Parasite
- Host
- Autothrop

23. 21. A subdivision of the environment that includes all living and nonliving portions of the planet 1 point

Plusieurs réponses possibles.

- Ecological Niche
- Habitat
- Population
- Biosphere

24. 22. The largest population of any single species an area can hold that is determined by the available energy, water, oxygen and minerals available as well as by the interaction of organisms (food supply and competition) 1 point

Plusieurs réponses possibles.

- Carrying capacity
- Limiting Factor
- Ecological Niche
- Ecological Succession

25. 23. All the different populations that live and interact in an environment: 1 point

Plusieurs réponses possibles.

- Community
- Population
- Biosphere
- Niche

26. 24. What are 3 basic needs for a living thing? 1 point

Plusieurs réponses possibles.

- Hair brush, ecosystem, and donuts
- Food, Water, and Clothes
- Food, Oxygen, and electronics
- Food, Water, and Oxygen

27. 25. All living and nonliving parts of an environment found in a specific location 1 point

Plusieurs réponses possibles.

- Habitat
- Ecosystem
- Population
- community

28. 26. Identify an example of an Abiotic Factor 1 point

Plusieurs réponses possibles.

- Panda
- Turtle
- Butterfly
- sunlight

29. 27. This is the part of the Earth that supports life 1 point

Plusieurs réponses possibles.

- Lithosphere
- Hydrosphere
- Biosphere
- Geosphere

30. 28. A _____ is a large region of Earth that has a certain climate and certain types of living things 1 point

Plusieurs réponses possibles.

- Ecosystem
- Biosphere
- Biome
- Community

31. 29. Water is a/an _____ 1 point

Plusieurs réponses possibles.

- Biotic Factor
- Abiotic Factor

32. 30. The non-living aspects of an Ecosystem. 1 point

Plusieurs réponses possibles.

- Abiotic factors
- Biotic factors

33. 31. What is the original source of almost all energy in most ecosystems? 1 point

Plusieurs réponses possibles.

- carbohydrates
- sunlight
- water
- carbon

34. 32. Factors that are least likely to affect populations of organisms on earth are: 1 point

Plusieurs réponses possibles.

- number of cyclones and droughts
- movements of planets and stars in other solar systems
- amount of food and disease

35. 33. Relationship in which two species live closely together 1 point

Plusieurs réponses possibles.

- resource
- mutualism
- succession
- symbiosis

36. 34. What is the original source of almost all energy in most ecosystems? 1 point

Plusieurs réponses possibles.

- carbohydrates
- sunlight
- water
- carbon

37. 35. The living portions of the ecosystem. 1 point

Plusieurs réponses possibles.

- Biotic factors
- Abiotic factors

38. 36. A collection of organisms that make up a community as well as all of the nonliving aspects of the environment. 1 point

Plusieurs réponses possibles.

- Population
- Community
- Habitat
- Ecosystem

39. 37. The role or function or job of a species in a community.

1 point

Plusieurs réponses possibles.

- habitat
- diet
- niche
- ecosystem

40. 38. Planting a tree will give you

1 point

Plusieurs réponses possibles.

- Fresh air
- Fresh flowers
- Dirty air
- Healthy fruits

41. 39. An organism that uses light energy to make its own food.

1 point

Plusieurs réponses possibles.

- Consumer
- Parasite
- Host
- Autotroph

Plusieurs réponses possibles.

- respiration
- Bphotosynthesis
- Ccombustion

Passer à la question 43

II. Multiple choices questions

43. 1. The following process(es) is/are part of the carbon cycle in an ecosystem

1 point

Une seule réponse possible.

- Photosynthesis
- Microbial decomposition
- formation of fossil fuels
- combustion to power cars and heat homes

44. 2. A district intended to accommodate unique land use, urban design, and other distinctive characteristics of older established neighborhoods. The district, used in combination with a base district, allows variations in permitted uses and site development regulation that are adapted to the needs of a specific neighborhood. The overlay is used to retain the character of earlier periods of development, stabilize and improve property values, encourage rehabilitation of existing housing, and to promote new construction that is compatible with the character of the area. 1 point

Une seule réponse possible.

- Tax Incremental Financing (TIF)
- High density land use
- Planned Unit Development
- Conservation district(neighborhood overlay)

45. 3. A trail is a footpath or extended trek through a wilderness or wild region; as, an Indian trail along the banks of the river. A river trail may be an unpaved "soft trail" that may have originated from common use, or may be a moderately surfaced trail placed to reinforce or modify an existing pathway. 1 point

Une seule réponse possible.

- Charette
- River trail
- Infrastructure
- Live/ work dwelling

46. 4. The face of a building. All wall planes of a building which are visible from one side or perspective. The front Facade faces and is most closely parallel to the front lot line 1 point

Une seule réponse possible.

- Pattern language
- Wayfinding
- Pedestrian-friendly
- Facade

47. 5. An area within the property boundaries of a lot or tract within which an allowed building or structure may be placed (does not include paved surfaces) 1 point

Une seule réponse possible.

- Bus Rapid Transit(BRT)
- Building lot coverage
- Historic preservation
- Corridor mixed-used

48. 6. The region, sphere, or domain within which anything occurs, prevails, or dominates available to anyone. From a land use standpoint, public realm is all public open space and right-of-way (streets, sidewalks, alleys, hike and biketrails, etc.); also public space that is formed by architecture or landscape features to create commons, courtyards, quadrangles, urban parks, woonerf, etc. 1 point

Une seule réponse possible.

- Public realm
- Urbain design
- Streetscape
- New urbanisme

49. 7. Examples of abiotic or physical factors in the environment are 1 point

Une seule réponse possible.

- tide height and number of parasites
- temperature and amount of water
- amount of food and light

50. 8. How can you save the environment? 1 point

Une seule réponse possible.

- Waste papers
- Use less papers
- plant trees
- chop down trees

51. 9. Structures that incorporate the principles of sustainable design - design in which the impact of a building on the environment will be minimal over the lifetime of that building. Green buildings incorporate principles of energy and resource efficiency, practical applications of waste reduction and pollution prevention, good indoor air quality and natural light to promote occupant health and productivity, and transportation efficiency in design and construction, during use and reuse. 1 point

Une seule réponse possible.

- Green building
- Urban design
- New urbanism
- Demographics

52. 10. The Targeted Investment Neighborhood (TIN) Program is a neighborhood revitalization strategy in which the City of Milwaukee, working with a neighborhood community partner, focuses resources in a relatively small area (6 to 12 city blocks) in an effort to stabilize and increase owner-occupancy, provide high quality affordable rental housing, strengthen property values and improve the physical appearance of the neighborhood. The program includes forgivable loans for home rehab and rent rehab and incentives for owners to buy investment properties in the neighborhood 1 point

Une seule réponse possible.

- Hope VI principles:
- Facade (street-active, street- friendly)
- Context sensitive street design
- Targeted Investment Neighborhood (TIN)

53. 11. The image of a community or area as defined by such factors as its built environment, natural features and open space elements, type of housing, architectural style, infrastructure, and the type and quality of public facilities and services. 1 point

Une seule réponse possible.

- Riverwalk:
- Life Ventures Center:
- Conservation district
- Community character:

54. 12. The granting of the allowance of additional density in a development in exchange for the provision by the developer of other desirable amenities from a public perspective (e.g. public open spaces, plazas, art, landscaping, etc.). 1 point

Une seule réponse possible.

- Redevelopment
- Rails-to-trails
- Density bonus
- Placemaking

55. 13. The process of reintegrating the components of modern life - housing, workplace, shopping, and recreation - into compact, pedestrian-friendly, mixed-use neighborhoods linked by transit and set in a larger regional open space framework. Initially dubbed "neotraditional planning," the principles that define new urbanism can be applied successfully to infill and redevelopment sites within existing urbanized areas. 1 point

Une seule réponse possible.

- Streetscape
- New urbanism
- Remediation
- River trail

56. 14. Compact or clustered development, resulting in a higher overall number of units built in the same area and possibly reducing the demand for development in other areas. Higher density development does not necessarily mean multifamily development or high-rise buildings. Higher densities can be achieved by building homes on smaller lots, by building attached homes (rowhouses or townhomes) or by building multifamily structures (apartment buildings). But higher densities may be feared due to connotation with overcrowded housing in the late 19C. 1 point

Une seule réponse possible.

- High density land use
- High intensity land use
- Hope VI Principles
- Environmental corridor

57. 15. A curb break, or a place or way provided for vehicular ingress (entrance) or egress (exit) between property and an abutting public street 1 point

Une seule réponse possible.

- Option 1 Density bonus:
- Streetscape:
- Curb cut:
- Green space

58. 16. The atmosphere or physical environment which is created by the combination of land use and buildings within an area. Neighborhood character is established and influenced by land-use types and intensity, traffic generation, and also by the location, size, and design of structures as well as the interrelationship of all these features. 1 point

Une seule réponse possible.

- Urban-to-rural transect:
- Neighborhood character
- Historic preservation

59. 17. A grant by a property owner to the use of land by the public, a corporation, or persons for specific purposes as the construction of utilities, sidewalks, drainage ways, or roadways. 1 point

Une seule réponse possible.

- Brownfield:
- Bike lane
- Amenity
- Easement

-
60. 18. The construction of a building on a vacant parcel located in a predominately built-up area. The local zoning regulations determine whether the new building fits harmoniously into the neighborhood.

1 point

Une seule réponse possible.

- Contextual zoning:
- Infill development:
- Urban agriculture
- Incompatible land use:

61. 19. The wall or part of the building nearest to the street or property line

1 point

Une seule réponse possible.

- Parking, shared:
- Streetscape:
- Streetcar:
- Street wall:

62. 20. One side of a street or the building facades that make up one side of a street between two consecutive intersections. For example, a block face can be one side of a city block 1 point

Une seule réponse possible.

- Floor area ratio (FAR):
- Accessible or handicapped-accessible:
- Sustainable development:
- Block face or block front:

Passer à la question 63

III. Answer by True or False

63. 1. An open urban space with plant life or the natural environment; also any natural area, landscaped area, yard, garden or park accessible to the public. → Redevelopment: 1 point

Plusieurs réponses possibles.

- True
- False

64. 2. Heterotrophs make their own food from air, water, and the sun's energy 1 point

Une seule réponse possible.

- True
- False

65. 3. A fee levied on the developer of a project by a city, county, or other public agency as compensation for otherwise-unmitigated impacts the project will produce. This fee is intended as total or partial reimbursement for the cost of providing additional facilities or services needed as a result of the new development (e.g. wider roads, new sewers, etc.). → Development impact fee: 1 point

Une seule réponse possible.

- True
- False

66. 4. A zoning district with designated land uses characterized by commercial office activities, services, and retail sales. Ordinarily these areas have large numbers of pedestrians and a heavy demand for parking space during periods of peak traffic. → Commercial district

Une seule réponse possible.

- True
 False

67. 5. Public art refers to art placed in public settings for the purpose of enriching the community by evoking meaning in the public realm. Public art can take a variety of forms: (1) Architectural design elements (carvings, embedded relief sculptures); (2) Landscape features; (3) Streetscape design (benches, artist gardens); (4) Sculptures (site-specific monumental works); (5) Civic enhancement projects (placed symbols, wayfinding signs and markers); (6) Exhibits, extemporaneous performances, indigenous artwork "found objects" located in public spaces; (7) Community Art (engravings, murals, vernacular pieces); (8) Ephemeral Art (sidewalk poetry, ice sculpture). → Public art:

Une seule réponse possible.

- True
 False

68. 6. Development that is sensitive and responsive to the context in which it occurs. This type of development seeks to balance development goals with other desirable outcomes (e.g. historic preservation, environmental sustainability, and the creation of vital public spaces). → Context sensitive development:

Une seule réponse possible.

- True
 False

69. 7. Sunlight, water, rocks are all Biotic Factors of an ecosystem.

Une seule réponse possible.

- True
 False

70. 8. Worms, plankton and frogs are all Biotic Factors

Une seule réponse possible.

- True
 False

71. 9. Is it possible for a carnivore to be a producer. 1 point

Une seule réponse possible.

- True
 False

72. 10. The volume of space for building as defined by the minimum setbacks and the maximum allowable height. → Building envelope: 1 point

Une seule réponse possible.

- True
 False

73. 11. The Community Development Block Grant (CDBG), one of the longest-running programs of the U.S. Department of Housing and Urban Development, funds local community development activities such as affordable housing, anti-poverty programs, and infrastructure development. → Block Grant: 1 point

Une seule réponse possible.

- True
 False

74. 12. A strategically planned and managed network of wilderness, parks, greenways, conservation easements, and working lands with conservation value that supports native species, maintains natural ecological processes, sustains air and water resources, and contributes to the health and quality of life of communities. → Green infrastructure: 1 point

Une seule réponse possible.

- True
 False

75. 13. The development of a tract of land or building or structure with two or more differing uses such as residential, office, retail, service, public, or entertainment, in a compact urban form. These types of developments can result in measurable reductions in traffic impacts. → Mixed-use development: 1 point

Une seule réponse possible.

- True
 False

76. 14. Any proposed expansion, addition, or major Facade change to an existing building, structure, or parking facility or proposed development on a formerly occupied site. → Redevelopment: 1 point

Une seule réponse possible.

- True
 False

77. 15. The rehabilitation and resettlement of low- and moderate-income urban neighborhoods by middle- and high-income professionals. → Gentrification: 1 point

Une seule réponse possible.

- True
 False

78. 16. The region, sphere, or domain within which anything occurs, prevails, or dominates available to anyone. From a land use standpoint, public realm is all public open space and rights-of-way (streets, sidewalks, alleys, hike and bike trails, etc.); also public space that is formed by architecture or landscape features to create commons, courtyards, quadrangles, urban parks, woonerf, etc. → Urban design: 1 point

Une seule réponse possible.

- True
 False

79. 17. A region lying beyond the suburbs or the "outer ring" of a city, especially one inhabited principally by wealthy people as in exclusive enclaves, or one experiencing a shift from rural to "leapfrog" low-density urban development. → Curb cut: 1 point

Une seule réponse possible.

- True
 False

80. 18. Measure that can be taken, usually by a governing agency, to encourage certain types of developments. → Park, neighborhood: 1 point

Une seule réponse possible.

- True
 False

81. 19. The portions of a Facade which face and are most closely parallel to a street lot line, that engage pedestrians and help to create street activity through features such as storefront windows, welcoming storefront signs, etc. → Accessible or handicapped-accessible: 1 point

Une seule réponse possible.

- True
 False

82. 20. Many or varied, may also mean multi-ethnic or multi-cultural. → Diverse

1 point

Une seule réponse possible.

True

False

Passer à la question 83

IV. Definition

Select the term(s) define(s) here

83. 1. A tall building or structure, typically a minimum of twelve stories, thus requiring mechanical vertical transportation. 1 point

This building type includes a rather limited range of building uses, primarily residential apartments, hotels and office buildings, though occasionally they include retail and educational facilities.

Une seule réponse possible.

Agricultural use:

Highrise building:

Historic district:

Live/work dwelling:

84. 2. Next generation manufacturing refers to a constant process of research, product design and development - and ongoing refinement and "reinvention" of existing products. The cycle of design, creating a prototype, testing it, and moving into high-volume production is compressed. Customers often take a role in design. Products have a shorter shelf-life. 1 point

Une seule réponse possible.

- Targeted Investment Neighborhood (TIN):
- Context sensitive street design:
- Planned Unit Development (PUD):
- Next generation manufacturing:

85. 3. A designated geographic area where property owners voluntarily collect annual assessments that are spent on projects that enhance the local business environment. These may include improvements to the streetscape, marketing efforts, business recruitment activity, and security programs. 1 point

Une seule réponse possible.

- Accessible or handicapped-accessible:
- Lighted Schoolhouse Programs:
- Targeted Investment Neighborhood (TIN):
- Business Improvement District (BID):

Une seule réponse possible.

- Development standards
- Bollards (fold-down):
- Redevelopment:
- Pedestrian friendly

87. 5. A fee, also called a development fee, levied on the developer of a project by a city, county, or other public agency as compensation for otherwise unmitigated impacts the project will produce. 1 point

Une seule réponse possible.

- Impact fee:
- Rails-to-trails
- Mass transit:
- Riparian habitat:

88. 6. A surface that presents an opportunity for precipitation to infiltrate into the ground by virtue of the surface material's porous nature or by large spaces in the material (e.g. gravel, stone, crushed stone, open pavingblocks). 1 point

Une seule réponse possible.

- Pervious (permeable) surface:
- Live/work dwelling:
- Bollards (fold-down):
- Commercial corridor:

89. 7. A district or zone designated by a local authority or state or federal government within which buildings, structures, appurtenances 1 point

Une seule réponse possible.

- Historic district:
- Highrise building:
- Overlay district:
- Pedestrian-friendly:

90. 8. Special physical characteristics of a structure or area (e.g. architecture, landscaping, natural features, open space, types and styles of housing, number and size of roads and sidewalks) that set it apart from its surroundings and contribute to its individuality. 1 point

Une seule réponse possible.

- Character
- Human scale:
- Wayfinding:
- Infrastructure:

91. 9. Passenger services provided by public, private, or non-profit entities such as the following surface transit modes: commuter rail, rail rapid transit, light rail transit, light guideway transit, express bus, and local fixed bus routes 1 point

Une seule réponse possible.

- Charette:
- Mass transit:
- Wayfinding:
- Bus Rapid Transit (BRT):

92. 10. Term for the Milwaukee metro "preferred" transit solution for federal funding purposes. Typically, evaluation measures are selected to assess how well (or poorly) each alternative meets the goals and objectives defined for transportation improvements, e.g., effective problem-solving, environmental impacts, cost effectiveness, financial feasibility, and equity of costs and benefits across different population groups. 1 point

Une seule réponse possible.

- Locally Preferred Alternative (LPA):
- Transit-oriented development (TOD)
- Best Management Practices BMP):
- Targeted Investment Neighborhood (TIN):

93. 11. The development of a tract of land or building or structure with two or more differing uses such as residential, office, retail, service, public, or entertainment, in a compact urban form. These types of developments can result in measurable reductions in traffic impacts. 1 point

Une seule réponse possible.

- Mixed-use development:
- Agricultural use:
- Sustainable development:
- Planned Unit Development (PUD):

94. 12. The proximity of one or more land uses to another use when the former is not compatible with the latter; for example, an odious factory next to a rose garden. 1 point

Une seule réponse possible.

- Pedestrian-friendly:
- Infill development:
- Incompatible land use:
- Building lot coverage:

95. 13. Aesthetic or other characteristics of a development (natural or man-made) that increase its desirability to a community or its marketability to the public. Amenities may include things such as a unified building design, recreational facilities, security systems, views, landscaping and tree preservation, attractive site design, permanent open space, public art, etc. 1 point

Une seule réponse possible.

- Remediation:
- Amenity
- Right-of-way:
- Density:

96. 14. The process of reintegrating the components of modern life - housing, workplace, shopping, and recreation - into compact, pedestrian-friendly, mixed-use neighborhoods linked by transit and set in a larger regional open space framework. Initially dubbed "neotraditional planning," the principles that define new urbanism can be applied successfully to infill and redevelopment sites within existing urbanized areas. 1 point

Une seule réponse possible.

- Public realm:
- Streetscape:
- River trail:
- New Urbanism:

97. 15. Products currently in strong market sectors (nationally and/or internationally) or part of growing market sectors, that export goods or services outside of the Milwaukee metro region, and as a result: (1) Create new jobs, (2) Attract new investment, and (3) Retain and attract talent. Export drivers are also known as "high multiplier" jobs because they create regional wealth, related industry jobs, and jobs from direct and indirect spending. 1 point

Une seule réponse possible.

- Social network:
- Traffic calming:
- Smart growth:
- Export drivers:

98. 16. Any hard-surfaced (e.g. asphalt, concrete, roofing material, brick, paving block, plastic), man-made area that does not readily absorb or retain water, including but not limited to building roofs, parking and driveway areas, graveled areas, sidewalks, and paved recreation areas. 1 point

Une seule réponse possible.

- Corridor, mixed-use:
- Context sensitive development:
- Biotech or Biomedical Technology:
- Impervious (impermeable) surface:

99. 17. The process of reintegrating the components of modern life - housing, workplace, shopping, and recreation - into compact, pedestrian-friendly, mixed-use neighborhoods linked by transit and set in a larger regional open space framework. Initially dubbed "neotraditional planning," the principles that define new urbanism can be applied successfully to infill and redevelopment sites within existing urbanized areas. 1 point

Une seule réponse possible.

- Green building:
- Remediation:
- Pattern language:
- New Urbanism:

100. 18. A tall building or structure, typically a minimum of twelve stories, thus requiring mechanical vertical transportation. This building type includes a rather limited range of building uses, primarily residential apartments, hotels and office buildings, though occasionally they include retail and educational facilities. 1 point

Une seule réponse possible.

- Overlay district:
- Purchasing power:
- Live/work dwelling:
- Highrise building:

101. 19. Special physical characteristics of a structure or area (e.g. architecture, landscaping, natural features, open space, types and styles of housing, number and size of roads and sidewalks) that set it apart from its surroundings and contribute to its individuality. 1 point

Une seule réponse possible.

- Character
- Streetcar
- Facade

3. Survey questionnaire on the VEC 2021

Surveys

You participated in the Virtual Environmental Challenge(VEC) project. Now we are interested in your opinion in order to complete an article we are writing on the"VEC in Burkina Faso"

Thank you for taking 5 minutes to answer this questionnaire.



ziganirabiyatou88@gmail.com (non partagé)

[Changer de compte](#)



***Obligatoire**

Name and first name *

Votre réponse

1. How did you find the project? *

Votre réponse

2. Have you already participated in a distance learning given by the university Joseph KI-Zerbo? *

Yes

No

3. Have you already participated in a collaborative educational project? : *

Yes

No

4. Have you already participated in a MOOC? *

Yes

No

5. Have you enjoyed working on this project? *

Yes

No

6. Have you enjoyed working collaboratively with your team members ? *

Yes

No

7. What do you think about collaborative learning? *

Votre réponse

8. What do you think about distance learning? *

Votre réponse

9. What do you think about integrating distance, online and collaborative learning *
in the curriculum of your university?

Votre réponse

10. How do you find the collaboration between your team members? *

Votre réponse

11. How do you evaluate the motivation of your team members during the *
project?

12. How did you find the tools(pMOOC padlet, zoom, VIA, YouTube) used in this project? *

Option 1

13. Have you developed skills in *

- Culture
- Linguistics
- Oral
- Project management
- Debate
- Use of digital technology

14. Did this experience offer you the opportunity to progress in English? *

Votre réponse

15. What difficulties have you encountered during the realization of the VEC activities? *

- Internet connectivity
- Time management
- Unfamiliarity with the tools
- Lack of knowledge of some tools

3. Questions added to the surveys on VEC 2022

Comparison between the first and second edition of the VEC.
The following questions are for those who took part to the first edition of the VEC.

16. Did you participate in the first edition of the VEC challenge?

yes

No

17. How would you rate your progres in both the VEC first and second editions, especially in terms of the use of digital tools ?

Votre réponse

18. How would you evaluate your level in terms of use of digital tools after your participation in the VEC project?

Votre réponse

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D. Data on the training seminar

1. Pre- questionnaire of Moodle training created by B. Geer

A propos de vous

Cette partie sert à comprendre le public. (1.5m)

* Indicates required question

1. Email *

2. Quel est votre statut professionnel ? *

Tick all that apply.

- doctorant.e
- professeur.e/enseignant.e niveau licence
- professeur.e/enseignant.e niveau master
- professeur.e/enseignant.e niveau doctorat
- administrateur.trice de l'Université
- Other: _____

3. Quel est votre tranche d'âge ? *

Mark only one oval.

- 18-24
- 25-34
- 34-44
- 45-54
- 55-64
- 65+

4. Comment avez-vous entendu parler de la formation ? *

Vos connaissances des plateformes d'apprentissage

Cette section sert à connaître votre expérience avec les plateformes d'apprentissage comme Moodle. (2m)

5. Avez-vous déjà utilisé ou créé un espace cours sur Moodle ou une autre plateforme d'apprentissage (Canvas, Blackboard...) ? *

Tick all that apply.

- Jamais
- Non, mais je connais quelqu'un qui en a utilisé un
- Non, mais je connais quelqu'un qui en a créé un
- Oui, j'en ai utilisé un en tant qu'étudiant
- Oui, j'en ai utilisé un en tant qu'enseignant.e
- Oui, j'en ai créé un
- Oui, j'en ai utilisé un et j'en ai créé un

6. Si vous avez déjà utilisé une telle plateforme, laquelle ?

7. Comment évalueriez-vous l'efficacité des plateformes d'apprentissage que vous avez rencontrées ? *

Mark only one oval.

C'était une expérience... oubliable

1

2

3

4

5

J'ai adoré!

8. Pourquoi avez-vous mis cette note ? *

[Skip to question 9](#)

Vos connaissances de Moodle

Cette section sert à comprendre vos connaissances et préjugés sur Moodle.

9. Quelles sont les fonctionnalités de Moodle que vous utilisez dans votre espace cours ? (si vous n'en disposez pas, veuillez choisir les fonctionnalités que vous connaissez) *

Tick all that apply.

- Création : Titre
- Création : Sections
- Création : Blocs
- Mise en forme : Photo qui représente votre cours
- Mise en forme : Description du cours (moins de 250 caractères)
- Mise en forme : Groupes
- Mise en forme : Tags
- Organisation (blocs) : Activités
- Organisation (blocs) : Articles
- Organisation (blocs) : Commentaires
- Organisation (blocs) : Points saillants (activité récente, dernières annonces, badges...)
- Organisation (blocs) : Navigation (cours, liens vers sections, HTML)
- Organisation (blocs) : Recherche (globale, d'activité, du cours/du site)
- Organisation (blocs) : Calendrier, événements à venir
- Organisation (blocs) : Résumé du cours
- Organisation (blocs) : Utilisateurs connectés, utilisateurs en ligne
- Activités : Collaboration (atelier, chat, forum, Wiki)
- Activités : Communication (chat, Jitsi)
- Activités : Notage (consultation, devoir, feedback, SCORM, sondage, test)
- Activités : Outils didactiques (Base de données, BigBluebuttonBN, outil externe)
- Ressources : Simple (Dossier, fichier, livre, URL)
- Ressources : Pacquetage IMS content (sauvegarde le stockage)
- Fonctionnalités principales : Badges
- Fonctionnalités principales : Compétences du cours
- Fonctionnalités principales : Notes (Rapport de l'évaluateur)
- Fonctionnalités principales : Mon propre tableau de bord
- Fichiers personnels : Dossiers
- Fichiers personnels : Seulement les fichiers directement sur ma base de données

10. Je suis à l'aise dans la création d'un espace cours sur Moodle. (Choisissez selon votre propre opinion) *

Mark only one oval.

Pas du tout d'accord

1

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Tout à fait d'accord

11. Qu'est-ce qui vous fait choisir cette réponse ? Avez-vous un exemple qui nous aidera à comprendre votre choix ?

12. D'après vous, de quoi compose un bon espace cours en ligne ? *

13. Je suis à l'aise dans l'organisation d'un espace cours sur Moodle. (Choisissez * selon votre propre opinion)

Mark only one oval.

Pas du tout d'accord

1

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5

Tout à fait d'accord

14. Qu'est-ce qui vous fait choisir cette réponse ? Avez-vous un exemple qui nous aidera à comprendre votre choix ?

15. Ajouteriez-vous d'autres aspects qui vous sont indispensables ?

16. Je suis à l'aise dans l'entretien d'un espace cours sur Moodle. (Choisissez selon votre propre opinion) *

Mark only one oval.

Pas du tout d'accord

1

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5

Tout à fait d'accord

17. Changement de question : quels sont les fonctionnalités que vous VOUDRIEZ * utiliser/voir dans votre espace cours (y compris celles que vous utilisez déjà)

Tick all that apply.

- Création : Titre
- Création : Sections
- Création : Blocs
- Mise en forme : Photo qui représente votre cours
- Mise en forme : Description du cours (moins de 250 caractères)
- Mise en forme : Groupes
- Mise en forme : Tags
- Organisation (blocs) : Activités
- Organisation (blocs) : Articles
- Organisation (blocs) : Commentaires
- Organisation (blocs) : Points saillants (activité récente, dernières annonces, badges...)
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- Ressources : Pacquetage IMS content (sauvegarde le stockage)
- Fonctionnalités principales : Badges
- Fonctionnalités principales : Compétences du cours
- Fonctionnalités principales : Notes (Rapport de l'évaluateur)
- Fonctionnalités principales : Mon propre tableau de bord
- Fichiers personnels : Dossiers
- Fichiers personnels : Seulement les fichiers directement sur ma base de données

18. Avez-vous d'autres fonctionnalités que vous voudriez utiliser dans votre espace cours ?

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2. Post- questionnaire of Moodle training created by B. Geer

Votre participation dans la formation

Cette partie sert à comprendre votre participation et engagement dans la formation. (2m)

* Indicates required question

1. Email *

2. Depuis la formation, avez-vous créé votre propre espace cours sur Moodle ? *

Mark only one oval.

Oui

Non

Other: _____

3. Comment avez-vous assisté à la formation du 19 février ? *

Mark only one oval.

en présentiel à l'Université Joseph Ki-Zerbo

en distanciel via Zoom

en visionnant la vidéo de la formation

Other: _____

4. Tout au long de la formation, je me sentais inclus.e et [actif.ve](#) dans la conversation. *

Mark only one oval.

Pas du tout d'accord

1

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5

Tout à fait d'accord

5. Je crois que les formateurs étaient bien préparés pour me former sur Moodle.

Mark only one oval.

Pas du tout d'accord

1

2

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4

5

Tout à fait d'accord

6. Je crois que la formation a répondu à toutes mes questions. *

Mark only one oval.

Pas du tout d'accord

1

2

3

4

5

Tout à fait d'accord

7. Question particulière : Quelle est l'importance de ces aspects de l'entretien d'un *
espace cours, selon vous ?

Tick all that apply.

	Peu important	Assez important	Très important
Nommage significatif	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilisation des dossiers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vérification des liens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suppression docs inutiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supp.vieux commentaires	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feed-back des élèves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changement de couleurs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changement d'images	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changement de fichiers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mise-à-jour du calendrier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compiler les ressources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ajouter nouveaux blocs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ajouter divers outils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organisation du site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ordre des

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Date:

8. Après la formation, je me sens prêt.e pour créer mon propre espace cours. *

Mark only one oval.

Pas du tout d'accord

1

2

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Tout à fait d'accord

9. Après la formation, je me sens prêt.e pour organiser mon propre espace cours. *

Mark only one oval.

Pas du tout d'accord

1

2

3

4

5

Tout à fait d'accord

10. Après la formation, je me sens prêt.e pour évaluer mon propre espace cours. *

Mark only one oval.

Pas du tout d'accord

1

2

3

4

5

Tout à fait d'accord

11. Après la formation, je me sens prêt.e pour entretenir mon propre espace cours. *

Mark only one oval.

Pas du tout d'accord

1

2

3

4

5

Tout à fait d'accord

12. Que voulez-vous ajouter aux prochaines formations ? *

Votre avis

Cette partie sert à avoir votre retour sur chaque partie de la formation.

13. Comment évalueriez-vous le remue-méninge de la formation ? *

Mark only one oval.

Inutile

1

2

3

4

5

Très utile

14. Qu'est-ce qui vous fait choisir cette réponse ? Avez-vous un exemple qui nous aidera à comprendre votre choix ?

15. Comment évalueriez-vous la présentation de la formation ? *

Mark only one oval.

Inutile

1

2

3

4

5

Très utile

16. La présentation était-elle interactive ? Que changeriez-vous ? Qu'ajouteriez-vous ?

17. Comment évalueriez-vous la partie d'"évaluation d'un espace cours" de la formation ? *

Mark only one oval.

Inutile

1

2

3

4

5

Très utile

18. Pensez-vous que nous devions garder cette section ?

19. Comment évalueriez-vous l'activité de "création d'un espace cours en groupe" *
de la formation ?

Mark only one oval.

Inutile

1

2

3

4

5

Très utile

20. Si c'était votre formation, auriez-vous regroupé les participants, ou laissé les participants travailler sur leur propre espace cours ? Quel est, selon vous, le raisonnement pédagogique de cette méthode ?

21. Je vais profiter de l'intelligence et du bienveillance de mes collègues pour solliciter leur avis sur mes espaces cours dans l'avenir. *

Mark only one oval.

Pas du tout d'accord

1

2

3

4

5

Tout à fait d'accord

22. Je crois que Moodle peut être utile dans la gestion de mes cours. *

Mark only one oval.

Pas du tout d'accord

1

2

3

4

5

Tout à fait d'accord

23. Comment, selon vous, Moodle peut-il vous être utile ? *

24. Je crois que Moodle peut être utile pour mes élèves. *

Mark only one oval.

Pas du tout d'accord

1

2

3

4

5

Tout à fait d'accord

25. Comment, selon vous, Moodle peut-il servir les élèves ? *

26. La formation a-t-elle répondu à vos attentes ? *

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Titre : Usage des TIC dans l'enseignement de l'Anglais : Défis et perspectives pour l'Université Joseph KI-ZERBO dans un contexte de collaboration internationale.

Mots clés : Enseignement de l'Anglais, compréhension orale, TICE, Enseignement à distance, apprentissage collaboratif, apprentissage basé sur les défis.

Cette thèse propose une approche novatrice pour améliorer la maîtrise de l'anglais chez les étudiants du département d'anglais de l'Université Joseph KI-Zerbo (UJKZ) au Burkina Faso, en se concentrant sur l'enseignement de la compréhension orale (CO). Basée sur une méthodologie de collecte de données sur une période de deux ans à l'UJKZ, l'objectif de la thèse est d'explorer les avantages potentiels de l'introduction de dispositifs s'appuyant sur les TIC pour renforcer les compétences en CO des étudiants.

Les expériences menées dans le cadre de cette thèse reposent sur un constat récent : les technologies éducatives sont devenues indispensables dans l'enseignement des langues, notamment depuis la crise de la COVID-19. Alors que de nombreuses universités européennes ont mis en place des dispositifs d'enseignement à distance pour assurer la continuité de l'apprentissage, l'UJKZ a été confrontée à des défis majeurs lors de cette transition, comme de nombreuses universités en Afrique, en Asie et en Amérique du Sud.

Dans le cadre de cette recherche, plusieurs dispositifs innovants ont été mis en place. L'étude exploite les possibilités offertes par le projet collaboratif international VEC, qui propose un environnement d'apprentissage collaboratif à distance utilisant des REL. En participant à ce projet, les étudiants ont pu

développer leurs compétences linguistiques en travaillant en équipe avec des étudiants d'autres pays pour relever des défis liés à l'environnement. L'utilisation des outils TIC a permis aux étudiants de participer activement à des exercices d'écoute basés sur des enregistrements audio et des textes à compléter. L'étude s'est appuyée sur des concepts théoriques tels que l'apprentissage collaboratif, le tutorat par les pairs, l'apprentissage basé sur les défis et l'apprentissage à distance. Les données ont été analysées à l'aide d'approches statistiques descriptives et multivariées.

Cette étude a permis de mettre en évidence les modalités d'intégration des TICE et les dynamiques de travail pour améliorer la CO, ce qui a conduit à des progrès significatifs dans l'apprentissage des langues, notamment en ce qui concerne la CO. Les résultats de l'étude démontrent l'efficacité de l'enseignement de la compréhension orale et son impact positif sur les compétences linguistiques des étudiants de l'UJKZ. De plus, la thèse met en évidence l'intégration pédagogique des TIC dans l'enseignement supérieur en montrant le potentiel des expériences d'apprentissage collaboratif et des plateformes virtuelles pour favoriser un apprentissage efficace et développer des compétences essentielles.

Title: Use of ICT in Teaching English: Challenges and Perspectives for the University Joseph KI-ZERBO in an International Collaborative Context.

Keywords: English language teaching, listening comprehension, ICT, distance learning, collaborative learning, challenge-based learning

This thesis proposes an innovative approach to improving English language proficiency among students in the University Joseph KI-Zerbo (UJKZ) English department in Burkina Faso, focusing on teaching listening comprehension (LC). Based on a data collection methodology over two years at the UJKZ, we aim to explore the potential benefits of introducing new ICT to enhance students' LC skills.

The experiments conducted in this thesis are based on a recent observation: educational technologies have become necessary in language teaching, particularly since the COVID-19 crisis. While many European universities have set up distance learning systems to ensure continuity of learning, the University JKZ has faced challenges during this transition, like many universities in Africa, Asia, and South America.

Several innovative systems have been put in place in this research. Firstly, the study exploits the possibilities offered by an international collaborative project called the VEC, which provides a collaborative distance learning environment using OER. By participating in this project, students developed their language skills by

working in teams with students from other countries to tackle environmental challenges and exchange best practices and ideas. Secondly, using ICT tools enabled students to actively participate in listening exercises based on audio recordings and gap-filling texts. The study draws on theoretical concepts such as collaborative learning, peer tutoring, challenge-based learning, and distance learning. The data is analysed using descriptive and Multivariate statistical approaches.

This study enables us to highlight how ICTE can be integrated and the dynamics of work to improve LC, which leads to significant progress in language learning, particularly concerning LC. The results of the study demonstrate the effectiveness of LC teaching and its positive impact on the language skills of UJKZ students. In addition, it highlights the pedagogical integration of ICT in higher education, showing the potential of collaborative learning experiences and virtual platforms to foster effective learning and develop essential skills.