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Exploring the Role of Learner Autonomy in Online Learning: Case Study of Third-Year Technical English Students at the University of Continuing Education, Bordj Bou Arreridj, Algeria

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DEDICATION

To those who have been the foundation of every step I've taken…

To my father (May God have mercy on him), my source of strength, and to my mother, who planted in me the seeds of love and determination from the very beginning…

To my siblings, who were always my support, and to my in-laws, who surrounded me with encouragement and respect…

To my beloved wife, my partner in life and my unwavering support—who believed in me when I was weary and pushed me forward when I wanted to stop…

And to my sons, still growing inside me, whose presence give me hope each and every day…

And finally… to myself.

I dedicate this work.

Abdelhak

In the Name of Allah, the Most Gracious, the Most Merciful.

I would like to dedicate this humble work:

To the apples of my eye, my father and mother without them, I would not be where I am today.

To my wife and children ***Adem, Sirine*** *and* ***Anes*** *, who endured my absence and stood by me patiently throughout the years of study, serving as my support and motivation.*

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To my dear sisters ***Lylia*** *and* ***Hanane****, their husbands, and their children, for their unwavering support and encouragement.*

To all my beloved family members, dear ones, and friends, whose kindness and encouragement lifted me up.

And I must not forget the friend whom Allah blessed me with, ***Dr. BENHENICHE Abdelhak,*** *who never left my side for a single moment supporting me, accompanying me step by step until the completion of this project. May Allah reward him abundantly.*

May this milestone be just the beginning of greater things to come.

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ABSTRACT

The study explores the role of online learning in fostering learner autonomy among adult students studying English for Specific Purposes (ESP) at Algeria's University of Continuing Education. Through a mixed-methods case study involving surveys of 61 Technical English students and interviews with three instructors, the research examines how institutional and contextual factors shape self-directed learning. The findings reveal that while students demonstrate notable self-direction, challenges remain in mastering discipline-specific content and balancing academic, professional, and personal responsibilities. The study also identifies deficiencies in institutional digital platforms, particularly the lack of metacognitive tools that support self-regulated learning. As a result, the research emphasizes the importance of culturally-responsive course design, digital literacy training, and robust institutional support systems. It concludes by advocating for a context-sensitive model of online pedagogy that prioritizes scaffolding and support over mere technological adoption, ultimately promoting sustainable learner autonomy within ESP education.

Keywords: learner autonomy, online learning, online questionnaire, semi-structured interview, University of Continuing Education.

LIST OF ACRONYMS

- **BBA:** Bordj Bou Arreridj.
- **LA:** learner autonomy.
- **SDT:** Self-Determination Theory.
- **LMS:** Learning Management Systems.
- **OER:** Open Educational Resources.
- **LMD:** Licence-Master-Doctorat.
- **SRL:** Self-Regulated Learning.
- **OECD:** Organisation for Economic Co-operation and Development.
- **ERL:** Emergency Remote Learning.
- **NCES:** National Center for Education Statistics.
- **SRA:** Select-Reflect-Act.
- **PLP:** Personalized Learning Paths.
- **GROW:** Goal-Setting and Problem-Solving Framework
- **UNESCO TVET:** Technical and Vocational Education and Training.
- **OPTIMA:** Online Personalization; Platform Integration; Technical Scaffolding, Institutional Support Systems; Metacognitive Awareness; Algerian Contextualization
- **AI:** Artificial Intelligence
- **UDL:** Universal Design for Learning**.**
- **ICT:** Information and Communication Technology
- **SDG 4:** Sustainable Development Goals (Quality Education**)**

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1. Background of the study

Algeria's integration of online learning into its educational framework has been shaped by systemic challenges and transformative opportunities, particularly accelerated by the COVID-19 pandemic (Bouhass et al., 2021). Prior to 2020, progress was hindered by infrastructural limitations, such as inconsistent internet access and underutilized ICT resources, alongside pedagogical resistance to change despite reforms like the 2004 Licence-Master-Doctorat (LMD) initiative (Benachaiba & Guermah, 2013). Early e-learning platforms, introduced in 2006, saw limited impact due to funding gaps and inadequate teacher preparedness (Haddadj & Benachaiba, 2018). The pandemic abruptly forced a shift to emergency remote teaching, exposing acute disparities in digital access and educator readiness, as evidenced by student dissatisfaction with platforms like Moodle at institutions such as Dr. Moulay Tahar University (Benkhedda, 2020) and rural connectivity struggles (Mezhoud et al., 2021). However, this crisis spurred acceptance of blended learning models, combining online and in-person instruction (Belkacem et al., 2022). Post-pandemic, studies revealed student satisfaction with blended learning correlated strongly with ease of use and perceived usefulness of tools, as shown in a structural equation modeling analysis of 782 students (Bouhass et al., 2023), though persistent barriers like technological inequity, educator burnout, and socio-economic divides remain (Boumaraf & Macoir, 2021). Emerging trends, including improved student engagement noted in Saida University research (Khelifa et al., 2022), and international partnerships like the Fulbright program (U.S. Embassy Algiers, 2023), highlight potential pathways forward. Strategic recommendations emphasize infrastructure investment, teacher training in ICT, and policy alignment with global goals such as SDG 4 (UNESCO, 2022). Algeria’s experience underscores both the vulnerabilities exposed by the pandemic and the catalytic role it played in fostering innovation, with future resilience dependent on collaborative efforts to bridge gaps in accessibility, pedagogy, and equity (Benchenna et al., 2023).

Learner autonomy is the capacity to independently manage one’s learning through goal-setting, resource selection, and self-assessment (Holec, 1981) it has become vital in technical education, where adaptability and lifelong learning are essential to address rapid technological advancements and labor market demands (Cedefop, 2022). In technical and vocational education (TVET), fostering autonomy bridges skill gaps by empowering students to identify competency shortages, engage in self-directed upskilling, and align their learning with industry

needs, as seen in Algeria's vocational reforms targeting energy and digital literacy mismatches (MEDEF, 2021). The shift to blended learning, accelerated by the pandemic, has further catalyzed autonomy, with studies in Algeria showing student satisfaction tied to the perceived ease and usefulness of digital tools (Bouhass et al., 2023), while AI-driven platforms like intelligent tutoring systems enhance problem-solving skills by offering personalized feedback and reducing reliance on instructor-led instruction (VanLehn, 2011; Oubahssi et al., 2022). Project-based learning amplifies autonomy's impact, as evidenced by Saudi Arabian EFL learners (Alrabai, 2021) and Algerian graduate researchers (Bouhadada & Laskri, 2018) whose self-assessment and independent critical thinking in hands-on tasks bolstered resilience, creativity, and technical problem-solving abilities. Institutional strategies, such as Algeria's teacher training initiatives (MESRS, 2022) and curriculum modernization (Boumaraf & Macoir, 2021), emphasize student-centered approaches, though ethical challenges like equitable access to AI tools require policy balancing innovation with integrity (Jobin et al., 2019). Despite progress, barriers like digital infrastructure disparities and resistance to pedagogical change persist (Benachaiba & Guermah, 2013), prompting exploration of hybrid models combining AI supports with mentorship and virtual intercultural exchanges to foster global collaboration (Dooly & Vinagre, 2022). Ultimately, autonomy equips technical learners with agility and resilience, underscoring the need for policies that harmonize technological integration, project-based curricula, and pedagogical empowerment to prepare graduates for dynamic industries (OECD, 2019; Cedefop, 2022).

2. Statement of the problem:

The rapid expansion of online learning environments, accelerated by global shifts toward digital education, has amplified the need for learner autonomy. A critical competency for students to independently navigate resources, manage time, and sustain motivation in virtual classrooms (Benson, 2011; Bozkurt & Sharma, 2020). However, in contexts where traditional teacher-centered pedagogies dominate, such as Algeria, fostering autonomy remains a significant challenge. At the University of Continuing Education **(**UCE**)**, third-year Technical English students face unique demands: they must acquire advanced language skills and technical knowledge in a specialized field, often while balancing professional or personal commitments. While online learning offers flexibility, the effectiveness of such programs hinges on students' ability to self-regulate and take ownership of their learning, a skill that may

be underdeveloped due to institutional reliance on instructor-led instruction and limited exposure to learner-centered practices (Benkhedda, 2021).

Despite growing recognition of autonomy's role in language learning success (Little, 1991; Dam, 1995), there is a paucity of research examining how Algerian students, particularly those in technical disciplines, engage with autonomous practices in online settings. Existing studies in MENA regions highlight cultural and systemic barriers, such as over-reliance on structured guidance and resistance to self-directed learning (Al-Hoorie et al., 2022), but these findings are not contextualized to Algeria's unique educational infrastructure and socio-cultural dynamics. Furthermore, Reinders & White, 2016; Thangsberger et al., 2020 state that the importance of scaffolding autonomy through technology-mediated tasks and reflective practices, their applicability to Algerian Technical English programs remains unexplored.
This study addresses these gaps by investigating the following questions:

- How do third-year Technical English students at UCE perceive and practice learner autonomy in their online Learning?
- What institutional, pedagogical, or socio-cultural factors hinder or enhance the development of autonomy in this context?
- How can online course design and instructional strategies better support autonomous learning behaviors among these students?

By identifying barriers and opportunities specific to Algeria's educational landscape, this research aims to provide actionable insights for educators and policymakers seeking to align online Technical English programs with global learner-centered practices. Without such inquiry, UCE risks perpetuating disengagement, inefficiency, and inequity in its online offerings, undermining both student outcomes and national goals of modernizing higher education.

3. Aim of the study:

This research intends to investigate the perceptions of Third-year Technical English students At the University of Continuing Education (UCE), Mohammed El Bachir El Ibrahimi University regarding the Role of Learner Autonomy in Online Learning.

4. Research questions:

- How do third-year Technical English students at the University of Continuing Education (UCE) perceive and practice learner autonomy in their online learning environment?
- What institutional, pedagogical, and socio-cultural factors influence the development of learner autonomy among these students?
- How do UCE teachers to foster greater autonomy in this specific context?

5. Research Objectives :

- To explore the perceptions, practices, and challenges related to learner autonomy among third-year Technical English students at UCE in online learning settings.
- To identify the institutional structures (e.g., course design, assessment methods), pedagogical approaches (e.g., teacher roles, feedback mechanisms), and socio-cultural norms (e.g., attitudes toward self-directed learning) that hinder or enhance autonomy.

6. Significance of the research:

This research contributes to the ongoing discourse on learner autonomy in digital education. By examining how third-year Technical English students at the University of Continuing Education, Algeria, navigate online learning environments, the study sheds light on the factors that promote or hinder self-directed learning. The findings will provide educators and curriculum designers with valuable insights to develop tailored strategies that enhance autonomy in online settings. Ultimately, this study aims to empower learners by fostering greater independence and engagement, ensuring more effective and adaptable educational experiences in the digital age.

7. The structure of the study:

The present study is divided into three chapters. Chapter One reviews learner autonomy in online learning. It consists of two sections. The first section is devoted to the definition, significance, and characteristics of an autonomous learner. In addition to exploring the autonomous language learning environment. The second section reviews the literature related to synthesize theoretical frameworks on learner autonomy and self-regulated learning, while

contrasting global best practices with regional challenges in Algeria, such as linguistic policies and digital divides. The second chapter is the practical part upon which the research process is based. It is devoted to the explanation of the methodological design. It covers an account of the method chosen, sample population, and data collection procedure as well as analysis. The third chapter provides a description and analysis of teachers' interviews and students' questionnaires, as well as a discussion of the results. Finally, the Conclusion summarizes systemic challenges, offers targeted recommendations for policymakers and educators, and acknowledges the study's limitations while advocating for future research in similar contexts.

CHAPTER ONE LITERATURE REVIEW

1.1. Introduction

The aim of this study is to investigate the perceptions of Third-Year Technical English Students at the University of Continuing Education Mohammed El Bachir El Ibrahimi University and teachers' perceptions regarding the role of learner autonomy in online learning. This chapter offers a comprehensive review of the notion of "learner autonomy". It is divided into two sections. Section one starts with a definition of learner autonomy and an account of its significance as well as its characteristics. It then moves to discuss autonomy within and beyond the classroom in the language learning environment.

1.2. Definition of Autonomy and online;;;;

The term autonomy was first formally introduced by Holec in 1981 in his seminal work, Autonomy and Foreign Language Learning. He defined autonomy as follows:

"To say of a learner that he is autonomous is to say that he is capable of taking charge of his own learning, and nothing more…to take charge of one's learning is to bear responsibility for all the decisions concerning all aspects of his learning."(Holec, 1981,p. 3).

This definition underscores that autonomy entails an individual's ability to independently govern their learning process. An autonomous learner assumes full responsibility for determining their objectives, selecting resources, employing strategies, and assessing progress. By framing autonomy as both self-direction and accountability, Holec highlights the learner's active role in shaping their educational experience. His perspective positions autonomy as a fundamental educational goal that cultivates self-regulation and independence.

However, subsequent scholars have expanded upon Holec's initial conception, arguing that his definition does not fully capture the complexity of autonomy. Little (1991) introduces a crucial psychological dimension, describing autonomy as a cognitive and self-management capacity. He elaborates:

"Autonomy is a capacity for detachment, critical reflection, decision-making, and independent action. It entails that the learner will develop a particular kind of psychological relation to the process and content of his learning." (Little, 1991, pp. 3-4).

Similarly, Benson (2001) contends that metacognitive skills are essential for effective self-directed learning, asserting that Holec's view overlooks the cognitive foundations that enable true autonomy.

Further discourse emphasizes that autonomy is not solely an individual trait but is also shaped by educational contexts. Little (1996) argues that learners in formal settings do not inherently embrace responsibility for their learning teachers must actively foster it. He maintains that educators play a pivotal role in nurturing autonomy through their pedagogical approaches, moving beyond traditional instruction to facilitate learner empowerment.

Smith (2003) reinforces this view, asserting that autonomy should not be seen as an isolated learner attribute but as a collaborative endeavor between teachers and students. Teachers, as facilitators, must provide guidance, scaffolding, and resources to enable learners to take ownership of their education. By cultivating supportive environments, educators help students develop the skills and mindset necessary for lifelong learning.

In summary, autonomy has been conceptualized in multiple ways: as self-directed learning (Holec, 1981), as a cognitive and metacognitive capacity (Little, 1991; Benson, 2001), and as a shared responsibility between learners and educators (Little, 1996; Smith, 2003). These perspectives collectively highlight that autonomy is not merely about independence but involves critical reflection, strategic decision-making, and an interactive process between learners and their educational environments. Developing autonomy, therefore, requires both individual initiative and structured support, ensuring learners are equipped to navigate their educational journeys with confidence and agency.

1.3. Significance of Learner Autonomy:

1.3.1. Learner Autonomy: A Multidimensional and Culturally Contextualized Concept

Learner autonomy has been a central topic in educational research, particularly in language learning, due to its perceived role in fostering independent and lifelong learning. However, defining autonomy remains complex, as scholars present diverse interpretations regarding its nature whether it is a capacity or behavior, a psychological phenomenon with political implications, or a political right with psychological consequences (Little, 2003). This essay explores the multifaceted nature of learner autonomy, tracing its philosophical roots, examining its manifestations in educational settings, and addressing the challenges posed by cultural and institutional constraints. Additionally, it evaluates the role of technology, particularly online learning, in fostering autonomy while emphasizing the continued importance of teacher mediation.

1.3.2. Philosophical Foundations and Conceptualizations of Learner Autonomy

The concept of learner autonomy finds its philosophical underpinnings in the work of Jean-Jacques Rousseau, who emphasized the learner's innate responsibility for their own learning (Benson, 2001). This idea laid the groundwork for later definitions, such as Holec's (1981) widely accepted characterization of autonomy as the capacity to take charge of one's learning. This capacity manifests through observable behaviors, including setting learning objectives, planning activities, monitoring progress, and evaluating outcomes (Holec, 1981; Little, 1991).

Oxford (1990) offers a complementary perspective, linking autonomy to learners' conscious use of strategies that facilitate independent language learning. However, this independence does not imply the complete absence of teacher guidance. Holec (2009, cited in Palfreyman, 2020) distinguishes between self-directed learning, where learners make all decisions independently, and co-directed learning, where autonomy develops gradually through teacher-learner collaboration. Thus, autonomy does not necessitate a purely self-directed model but can thrive in structured environments where responsibility is shared.

1.3.3. Proactive and Reactive Autonomy

Littlewood (1999, cited in Benson, 2008) further enriches the discourse by differentiating between proactive and reactive autonomy. Proactive autonomy involves learners regulating both the direction and execution of learning activities (Benson, 2001), whereas reactive autonomy entails self-regulation only after learning objectives have been externally set (e.g., by a teacher or curriculum). While proactive autonomy is often idealized, Littlewood argues that reactive autonomy remains educationally valuable, particularly in structured settings where learners gradually develop agency in strategy use.

1.3.4. Cultural and Institutional Barriers to Autonomy

Despite its theoretical appeal, fostering autonomy faces significant challenges in teacher-centered educational systems. In Algeria, for instance, Miliani (2012) notes that teachers are traditionally viewed as unchallengeable authorities, discouraging student questioning and critical thinking. Fedj and Benaissi (2018) argue that this hierarchical structure suppresses rational skepticism, a key component of autonomy. Similarly, in collectivist cultures

like China, expectations of independent decision-making and opinion expression may conflict with cultural norms emphasizing respect for authority and group harmony (Ho & Crookall, 1995, cited in Benson, 2001).

Sonaiya (2002, cited in Fedj & Benaissi, 2018) draws parallels between Algerian and Chinese contexts, noting that cultural values of collaboration, authority, and indirectness often clash with Western notions of autonomy. Additionally, inadequate teacher training exacerbates the problem, as many educators lack exposure to autonomy-promoting pedagogies (Hadi, 2018). Consequently, fostering autonomy requires culturally sensitive approaches and systematic teacher development.

1.3.5. Technology and Autonomy

Online learning presents new opportunities for autonomy by offering flexibility and learner control over time, pace, and interaction (Benson, 2001). However, Benson cautions that technology alone does not guarantee autonomy; learners must be equipped with metacognitive strategies and digital literacy to navigate resources effectively (Little, 1997, cited in Macia et al., 2023). Kenning (1996, cited in Macia et al., 2023) and Fotiadou et al. (2017) emphasize the need for explicit training in study strategies and internet use to foster self-regulation.

Moreover, successful online learning relies on structured interaction and collaboration. Gottardi (2015) highlights the importance of pedagogical strategies promoting debate, dialogue, and cooperative learning, while Eneau and Develotte (2012) stress the dual dimensions of collaborative and reflective learning. The latter involves metacognitive self-assessment, enabling learners to identify strengths, weaknesses, and personalized learning pathways.

1.3.6. The Teacher's Role in Fostering Autonomy

Contrary to the misconception that autonomy eliminates the need for teachers, research underscores their critical role as mediators (Gottardi, 2015). In online settings, teachers transition from instructors to facilitators, providing motivational support, scaffolding learning choices, and establishing frameworks for independent development (Santos & Camara, 2010, cited in Fotiadou et al., 2017). Little (1990, cited in Benson, 2001) and Rowntree (1990, cited in Benson, 2001) argue that autonomy cannot flourish without clearly defined teacher involvement.

Learner autonomy is a complex, multidimensional construct influenced by philosophical, cultural, and pedagogical factors. While definitions vary, a common thread is the learner's capacity for self-regulation, whether proactive or reactive. Cultural and institutional barriers, particularly in teacher-centered systems, pose significant challenges, necessitating context-sensitive approaches. Technology, particularly online learning, offers tools for autonomy but requires structured support to be effective. Ultimately, the teacher remains indispensable in guiding learners toward independence, reinforcing that autonomy does not mean isolation but rather a scaffolded journey toward self-directed learning.

1.4. Key concepts

1.4.1. Learner Autonomy

Learner autonomy plays a crucial role in effective education, particularly in language learning. As Crabbe (1993) suggests, autonomous learners are better equipped to fulfill their own educational needs. While instructors provide essential guidance, they may not always have all the answers or resources, nor can society offer every necessary learning opportunity. Therefore, learners must take responsibility for their own development by actively seeking knowledge and skills whether through self-directed study or collaborative efforts with peers. By doing so, they empower themselves to overcome gaps in their learning and achieve personal growth. Moreover, autonomous learners are more likely to succeed in mastering a target language, as they develop the ability to reflect on their language use, leading to more accurate and effective communication (Crabbe, 1993).

Bajrami (2015) further emphasizes that learner autonomy (LA) shifts the focus from the instructor to the student, highlighting the importance of active participation in the learning process. Rather than concentrating solely on outcomes, LA values the learning journey itself, encouraging students to set their own goals and tailor their education to their individual needs. This approach fosters lifelong learning, reinforcing the idea that education extends beyond formal classroom settings (Bajrami, 2015).

Several key benefits arise from fostering learner autonomy. First, when students take an active role in their education, they become more efficient learners, eliminating motivational challenges. As Little (2003) asserts, proactive commitment to learning inherently solves motivation issues, as autonomous learners possess the reflective and attitudinal skills to

overcome temporary setbacks. Additionally, learners who exercise control over their studies tend to achieve better results. Candy (1991: 24) argues that when students participate in decisions regarding content and learning methods, their learning becomes more meaningful and effective. Furthermore, autonomy helps develop metacognitive and metalinguistic awareness, enhancing self-esteem and increasing engagement in the learning process (Dam, 2000).

In conclusion, learner autonomy is essential for successful language acquisition and overall educational development. By encouraging students to take ownership of their learning, educators help them build critical skills that lead to greater motivation, deeper understanding, and long-term success.

1.4.2. Self-regulation

Self-regulation is a fundamental component of learner autonomy, referring to the internal cognitive, motivational, and behavioral processes that individuals employ to direct their own learning toward achieving educational goals (Zimmerman, Bonner, & Kovach, 1996). According to Zimmerman (1989), self-regulated learners are "meta-cognitively, motivationally, and behaviorally active participants in their own learning process," demonstrating proactive control over their learning strategies and outcomes.
Self-regulation encompasses three key dimensions:

1.4.2.1. Metacognitive Control: Learners engage in strategic planning, goal-setting, self-monitoring, and self-evaluation to assess their progress and adapt their learning strategies accordingly (Zimmerman, 2002).

1.4.2.2. Motivational Control: Self-regulated learners exhibit intrinsic motivation, persistence, and a strong sense of self-efficacy, attributing their successes or failures to their own efforts rather than external factors (Schunk & Zimmerman, 1994).

1.4.2.3. Behavioral Control: Effective learners actively manage their time, optimize their study environment, and utilize resources efficiently to align their actions with their learning objectives (Winne & Hadwin, 1998).

By integrating these dimensions, self-regulation enables learners to take ownership of their educational journey, fostering independence and long-term academic success (Boekaerts, 1999).

1.4.3. Self-Determination Theory (SDT)

Self-Determination Theory (SDT), developed by Deci and Ryan (2000), is a psychological framework that explains how intrinsic motivation and personal growth are driven by the fulfillment of three basic psychological needs: autonomy, competence, and relatedness. In the context of autonomous learning, SDT suggests that learners become more self-directed and engaged when they experience a sense of control over their learning (autonomy), feel capable of achieving their goals (competence), and establish meaningful connections with peers and instructors (relatedness). According to Niemiec and Ryan (2009), educational environments that support these needs foster deeper internalization of motivation, leading to more persistent and self-regulated learning behaviors. Thus, SDT provides a critical foundation for understanding how to cultivate autonomous learners who take initiative, sustain effort, and thrive academically.

1.4.4. Online learning environments

Online learning environments have revolutionized education by providing flexible, accessible, and diverse learning opportunities for students worldwide. These digital platforms, which include Learning Management Systems (LMS) like Moodle, Blackboard, and Canvas, facilitate remote instruction through multimedia content, discussion forums, and interactive assessments (Martin & Bolliger, 2018). The growth of online learning has been accelerated by advancements in technology and the increasing demand for education that accommodates different schedules and geographical locations (Dhawan, 2020).

One of the primary benefits of online learning is its accessibility. Students from various backgrounds can access high-quality education without the constraints of physical location, making it particularly valuable for working professionals and those in remote areas (Means et al., 2013). Additionally, online environments support personalized learning, allowing students to progress at their own pace using adaptive learning technologies (Picciano, 2017). Collaborative tools, such as video conferencing and discussion boards, also foster peer interaction and instructor feedback, which are critical for engagement and knowledge retention (Garrison et al., 2010).

However, online learning is not without challenges. Digital inequity remains a significant barrier, as students without reliable internet access or proper devices may struggle

to participate fully (Selwyn, 2019). Furthermore, the lack of face-to-face interaction can lead to feelings of isolation and reduced motivation (Kauffman, 2015). To mitigate these issues, educators must employ inclusive design principles, provide technical support, and incorporate interactive elements to enhance student engagement (Bates, 2019).

In conclusion, online learning environments offer transformative potential for education but require careful implementation to address accessibility and engagement challenges. As technology continues to evolve, further research and innovation will be essential in optimizing these platforms for diverse learners.

1.5. Factors Influencing Learner Autonomy

Learner autonomy, the ability of students to take charge of their own learning, is influenced by various factors. These include motivation, technological access, instructional design. Understanding these factors helps educators foster greater independence in learners, enhancing their academic success and lifelong learning skills. This brief discussion explores key elements that shape learner autonomy.

1.5.1. Motivation

Motivation in learning autonomy refers to the *internal drive and desire* that empowers individuals to take control of their own learning process (Deci & Ryan, 2000). It involves *self-determination,* where learners actively set goals, seek resources, and persist in their efforts without relying on external direction (Zimmerman, 2000). This *intrinsic motivation* is fueled by curiosity, personal interest, and a sense of ownership over one's educational journey (Ryan & Deci, 2020). Research suggests that autonomously motivated learners engage more deeply, retain knowledge longer, and develop stronger *critical thinking and problem-solving skills* (Holec, 1981; Little, 1991). Ultimately, motivation in learning autonomy fosters *lifelong learning* by encouraging self-discipline, adaptability, and a proactive approach to acquiring knowledge (Benson, 2011).

1.5.2. Technological access

Technological access in autonomous learning refers to the availability and utilization of digital tools, resources, and platforms that enable learners to independently acquire knowledge, develop skills, and manage their educational progress. This encompasses reliable internet

connectivity, access to devices (e.g., computers, tablets, or smartphones), and exposure to digital learning environments such as online courses, educational apps, and open educational resources (OER). Effective technological access supports self-directed learning by providing learners with the flexibility to engage with content anytime and anywhere, fostering greater autonomy and personalized learning experiences (Benson, 2011; Dabbagh & Kitsantas, 2012).

However, disparities in access often influenced by socioeconomic, geographic, or infrastructural factors can create inequities, limiting the potential benefits of autonomous learning for marginalized populations (Selwyn, 2017). Thus, ensuring equitable technological access remains a critical challenge in promoting inclusive and effective self-directed education.

1.5.3. Instructional design

Instructional design for learner autonomy refers to the systematic development of educational experiences and materials that empower learners to take control of their own learning processes. This approach emphasizes self-directed learning strategies, fostering skills such as goal-setting, self-assessment, and resource management, while providing structured yet flexible learning environments (Benson, 2011). By integrating principles of constructivism and andragogy, instructional designers create scaffolded activities that gradually shift responsibility from the instructor to the learner, promoting intrinsic motivation and lifelong learning (Knowles, 1975; Siemens, 2005). Key elements include personalized learning pathways, metacognitive support, and opportunities for reflective practice, all of which enable learners to make informed decisions about their educational journey (Zimmerman, 2002). This learner-centered paradigm aligns with contemporary educational trends that prioritize adaptability and digital literacy in an increasingly complex knowledge economy.

1.6. Learner Autonomy in Technical English Education

Autonomy plays a crucial role in both language and technical skill acquisition, as it empowers learners to take control of their learning processes, leading to greater motivation and proficiency. In language learning, autonomous learners actively engage in self-directed practices such as selecting materials, setting goals, and utilizing strategies like spaced repetition or immersive exposure, which enhances retention and fluency (Benson, 2011). Similarly, in technical skill acquisition, autonomy allows individuals to tailor their learning to personal interests and career needs, fostering deeper engagement through project-based learning and

experimentation (Ryan & Deci, 2000). Research indicates that autonomy-supportive environments, whether in formal education or self-paced online platforms like Duolingo or Coursera, improve long-term competency by encouraging intrinsic motivation and persistence (Zimmerman, 2002). Thus, promoting autonomy in learning not only accelerates skill mastery but also cultivates lifelong learning habits essential in rapidly evolving fields.

1.7. The Algerian Context

In Algeria, higher education policies have undergone significant reforms to align with international standards and labor market demands. However, challenges persist in continuing education and the implementation of effective technical English curricula, particularly in fostering learner autonomy. Learner autonomy; the ability of students to take charge of their own learning; is crucial in technical and vocational education, where self-directed learning enhances adaptability and skill acquisition (Benson, 2011). This paper examines Algerian higher education policies, continuing education obstacles, and the integration of learner autonomy in technical English programs.

1.7.1. Higher Education Policies and Learner Autonomy

Algeria's higher education reforms, such as the LMD (Licence-Master-Doctorat) system, emphasize competency-based learning and student-centered approaches (MENA, 2019). However, traditional teacher-centered methods still dominate, limiting opportunities for autonomous learning. Research by Benachaiba and Guerza (2022) indicates that Algerian students often rely heavily on instructor guidance, which hinders the development of independent learning skills. Policies promoting active learning strategies and digital resources could enhance autonomy, yet implementation remains inconsistent.

1.7.2. Challenges in Continuing Education

Continuing education in Algeria faces structural and pedagogical barriers, including limited access to specialized training and insufficient emphasis on self-directed learning (Bouhadiba, 2020). Many professionals seeking up skilling opportunities struggle with rigid curricula that do not accommodate flexible, autonomous study. Additionally, a lack of institutional support for blended and online learning restricts learners' ability to manage their education independently (Khelalfa & Benmoussat, 2021). Addressing these challenges requires

policy reforms that prioritize learner autonomy through modular courses and digital learning platforms.

1.7.3. Technical English Curricula and Autonomous Learning

Technical English programs in Algerian universities often focus on prescriptive instruction rather than fostering communicative competence and self-regulation (Boukhemis & Bahloul, 2021). Since technical fields require continuous skill updates, curricula should integrate project-based learning, digital tools, and reflective practices to encourage autonomy. Studies suggest that Algerian engineering students exhibit low motivation in English courses due to a lack of learner-centered activities (Mazari & Derraz, 2020). Incorporating autonomous learning strategies such as self-assessment portfolios and online language labs—could improve engagement and proficiency.

While Algerian higher education policies advocate for modern pedagogical approaches, the persistence of traditional teaching methods and structural barriers in continuing education impede the development of learner autonomy. Technical English curricula must be redesigned to promote independent learning through flexible, technology-enhanced instruction. Future reforms should emphasize teacher training in autonomy-supportive methodologies and expand access to digital resources for lifelong learning.

1.8. Challenges to Autonomy in Algerian Online Learning

The shift toward online learning in Algeria has introduced significant opportunities for educational autonomy, allowing learners to take greater control over their studies. However, several challenges hinder the effective implementation of autonomous online learning, particularly in infrastructure, cultural attitudes, and teacher training.

1.8.1. Infrastructure Limitations

A major obstacle to autonomous online learning in Algeria is inadequate technological infrastructure. Reliable internet access remains inconsistent, particularly in rural areas, where connectivity is slow or unavailable (Bouhnik & Deshen, 2014). Additionally, many students lack personal computers or smartphones, forcing them to rely on internet cafes or shared devices, which limits their ability to engage in self-directed learning (Belkacem & Benachaiba, 2022). Frequent power outages further disrupt online sessions, undermining the flexibility that

autonomous learning requires. Without stable infrastructure, learners struggle to access digital resources independently, reducing the effectiveness of online education.

1.8.2. Cultural Attitudes Toward Autonomy

Algerian educational culture traditionally emphasizes teacher-centered instruction, where students passively receive knowledge rather than actively directing their learning (Mouhoubi-Idir, 2020). This cultural mindset poses a challenge to online learning, which relies on self-discipline and initiative. Many students, accustomed to structured classroom environments, find it difficult to adapt to independent study methods (Benkhedda, 2021). Additionally, some educators and parents view online education as less credible than face-to-face instruction, discouraging learners from fully embracing autonomous digital learning. Changing these perceptions requires awareness campaigns and pedagogical shifts to promote learner independence.

1.8.3. Insufficient Teacher Training

Effective online learning depends on instructors who can facilitate autonomy through digital tools. However, many Algerian teachers lack adequate training in e-learning methodologies (Khenfer & Baba-Ahmed, 2023). Traditional teaching methods dominate, and educators often struggle with designing interactive, student-centered online courses. Without proper professional development, teachers may revert to lecture-based approaches, stifling learner autonomy (Saadi & Haddoud, 2021). Investing in teacher training programs focused on digital pedagogy, learner motivation, and online assessment strategies is crucial for fostering autonomous learning environments.

While online learning has the potential to enhance educational autonomy in Algeria, challenges in infrastructure, cultural attitudes, and teacher training must be addressed. Improving internet accessibility, shifting educational mindsets, and upskilling educators will be essential to creating a sustainable and effective autonomous learning ecosystem.

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CHAPTER TWO RESEARCH METHDOLOGY

Introduction

To investigate the role of learner autonomy within the online learning environment for third-year Technical English students at the University of Continuing Education, BBA, Algeria, a practical research framework was designed. This chapter provides a detailed description of the case study sample chosen, the specific research instruments employed, and the procedures followed for data collection and analysis. To gather comprehensive insights into student perceptions and practices, as well as instructor perspectives, a questionnaire was administered to the third-year Technical English students. Additionally, semi-structured interviews were conducted with their teachers at the University of Continuing Education, Bordj Bou Arreridj, Algeria.

2.1. Research Design

Given the study's focus on exploring the complex and contextually situated phenomenon of learner autonomy within the online Technical English environment at the University of Continuing Education, Algeria, an exploratory research design was adopted. Exploratory research is particularly valuable when investigating phenomena that are not yet fully understood within a specific context, allowing researchers to identify patterns, connections, and gain deeper insights (Cervo, Bervian, & Silva, 2006). This approach is especially pertinent to this study, as research specifically examining learner autonomy in Algerian continuing education contexts, particularly for Technical English online learning, remains limited. While foundational studies on online learner autonomy exist (e.g., Benson, 2011; Holec, 1981), and research in similar MENA contexts has emerged (e.g., Al Asmari, 2013 on Saudi Arabia; Bouchrika et al., 2021 on Algerian university readiness), the unique confluence of continuing education, Technical English, and the Algerian online learning environment necessitates an exploratory lens to uncover context-specific dynamics. As Trochim (2006) notes, the inherent flexibility of exploratory research enables adaptation as new insights emerge, which is crucial for navigating the complexities of this under-researched setting. Furthermore, Creswell (2014) highlights exploratory research's capacity to reveal non-obvious patterns, essential for understanding the multifaceted nature of autonomy development in this specific cohort.

To comprehensively address the research questions and capture the richness of participants' experiences, a mixed-methods approach was employed, combining quantitative

(student questionnaire) and qualitative (teacher interviews) data. This design aligns with recommendations for studying complex educational phenomena like autonomy (Creswell, 2014; Dörnyei, 2007), particularly in online settings where multiple perspectives are vital. While some prior studies relied solely on questionnaires to measure autonomy perceptions (e.g., Lai, 2011; Pratolo & Solikhati, 2021), this study follows a growing trend in autonomy research (e.g., Reinders & White, 2016; Littlewood, 1999) that emphasizes the need for triangulation to gain a holistic view. The mixed-methods approach allows for both quantifying student perceptions and practices (questionnaire) and delving into teachers' nuanced perspectives on fostering and observing autonomy (interviews), thereby expanding the understanding of the research problem and ensuring the validity of the findings" (Williams, 2007). By integrating these data types, the study aims to provide deeper insights, validate findings across sources, and explore the intricate interplay of factors influencing autonomy in this specific context – aspects potentially missed by single-method designs. As Johnson and Onwuegbuzie (2004, p. 17) argue, "The complementary strengths of qualitative and quantitative methods can offset the weaknesses inherent in each method when used alone."

Triangulation, specifically the convergence of student self-report data and teacher observational/experiential data, serves as the core technique for integrating methods in this study (Creswell & Plano Clark, 2007, p. 62). This approach directly addresses a limitation identified in some previous autonomy studies that relied on a single perspective (e.g., only student surveys). Triangulation leverages the strengths of both quantitative breadth and qualitative depth while minimizing their respective weaknesses (Morse, 1991, p. 122), thereby significantly enhancing the validity and credibility of the results beyond what either method could achieve independently (Risjord, Dunbar, & Moloney, 2001, p. 10). This methodological rigor is crucial for contributing meaningful insights to the field, particularly within a context as specific and under-explored as online Technical English learning in Algerian continuing education.

2.2. Setting and Participants

This case study was conducted at the University of Continuing Education, BBA,Algeria, focusing on third-year Technical English students during the 2024-2025 academic year. This institution was selected due to its unique position as a provider of continuing education and its established online learning platforms for technical disciplines a context underexplored in

existing autonomy literature. Practical considerations, including researcher affiliation facilitating access permissions and proximity enabling efficient data collection with working adult learners, also influenced this choice.

The research specifically targets third-year undergraduate Technical English students. This cohort was purposefully selected because:

1. They possess sufficient experience (2+ years) in the university's online learning environment to meaningfully reflect on autonomy development.
2. Their status as continuing education students, often balancing studies with professional commitments, offers critical insights into autonomy challenges distinct from traditional full-time undergraduates (cf. Simpson, 2013 on autonomy in adult/distance learners).
3. Technical English demands specific self-directed learning strategies (e.g., mastering technical terminology, accessing specialized resources online) making autonomy particularly relevant (cf. Yeh, 2014 on autonomy in ESP contexts).

While previous studies often focused on general English majors or postgraduates (e.g., Lai & Gu, 2011; Al Asmari, 2013), this study addresses a gap by examining autonomy in technical disciplines within an Algerian continuing education online setting. A purposive sample of 61 third-year Technical English students participated. Purposive sampling ensured participants had direct, recent experience with the online learning platform and Technical English courses, aligning with Creswell's (2014) principle of selecting information-rich cases relevant to the core phenomenon.

Participant Profile (Students):

Answer	Frequency	Percentage
Male	**36**	**59%**
Female	**25**	**41%**
Total	**61**	**100%**

Table 2-1: Students' gender

2.3. Research Tools

To ensure a comprehensive and well-rounded exploration of the topic, two tools were adopted, questionnaire for students and interview with teachers**.**

2.3.1. Questionnaire

Brown (2001) defines questionnaires as 36

“written instruments that present respondents with a series of questions or statements to which they are to respond either by writing out their answers or selecting from existing answers”.

Understanding learner autonomy within the specific context of online learning for Algerian technical English students necessitates capturing their experiences, perceptions, and practices directly. To achieve this, a questionnaire was selected as the primary data collection instrument. As defined by Brown (2001), questionnaires are "written instruments that present respondents with a series of questions or statements to which they are to respond either by writing out their answers or selecting from existing answers." This method was strategically chosen for its alignment with the research objectives and practical constraints.

The decision to employ a questionnaire stemmed from several compelling advantages, particularly relevant to this case study. Firstly, as Bryman (2016) emphasizes, questionnaires enable the collection of standardized data from a large number of respondents. This standardization was crucial for ensuring consistency in how questions about autonomy in online learning were posed to all participants, thereby minimizing potential interviewer bias and facilitating reliable comparisons across responses. Furthermore, the capacity to reach a substantial sample size, inherent in questionnaire deployment, enhances the statistical robustness of the findings, increasing their potential generalizability within the defined population of third-year technical English students at the BBA University of Continuing Education.

Secondly, the online nature of the questionnaire offered significant practical benefits, aligning perfectly with the study's online learning context. Field (2013) highlights the ease of online distribution and collection, which proved essential given the geographical dispersion of

students and the resource limitations typical of academic research. Distributing the questionnaire via platforms like Google Forms and a dedicated Facebook group eliminated the logistical complexities and costs associated with face-to-face data collection or paper surveys, as noted by Dillman, Smyth, and Christian (2014). These authors further underscore the advantages of online surveys: reduced costs, accelerated data collection timelines, enhanced convenience for respondents (allowing participation at their own pace), and the potential for incorporating multimedia elements. This efficiency and accessibility were paramount for engaging the target cohort effectively.

However, adopting an online questionnaire necessitates acknowledging its limitations, particularly pertinent in the Algerian context. Couper (2008) rightly points out that online surveys may exclude populations lacking reliable internet access or those less comfortable with digital technology, a consideration requiring careful reflection on the digital divide's potential impact on sample representativeness. Additionally, concerns regarding data security and the possibility of response bias (e.g., self-selection bias where only highly motivated or tech-comfortable students respond) were factored into the interpretation plan. Despite these acknowledged constraints, the online questionnaire remained the most feasible and effective tool for gathering the required breadth of data efficiently within the study's scope.

1. **Establishing Context (Questions 1-10):** Initial questions gathered essential background information (Demographic Information and Experience with Online Learning). This served a dual purpose: demonstrating a degree of homogeneity within the sample relevant to the study (e.g., all being third-year Technical English students) and providing contextual variables that might influence autonomy perceptions.
2. **Promotes Self-Discipline (Questions 11-13):** This section formed a core investigative component, directly examining the relationship between learner autonomy and the development of self-discipline in the online learning environment. The specific questions aimed to uncover students' perceptions and experiences regarding key behavioral aspects of self-discipline essential for autonomous success, particularly focused on time management, structured routines, and personal accountability:
    - ✓ **Schedule Management Efficacy (Q11):** Investigates whether students perceive autonomy as enabling effective personal schedule management

- ✓ **Perceived Necessity of Structure (Q12):** Explores student views on the importance of fixed routines for success in self-paced learning.
- ✓ **Accountability through Self-Imposed Deadlines (Q13):** Assesses the perceived link between setting personal deadlines in autonomous settings and demonstrating accountability for progress.

3. **Boosts Motivation (Questions 14-16):** This section formed a core investigative component, directly examining the perceived link between learner autonomy and enhanced student motivation within the online learning environment. The specific questions aimed to uncover students' perceptions regarding how increased control and choice might foster key motivational drivers, specifically focusing on intrinsic drive, engagement through choice, and sense of ownership:
   - ✓ **Fostering Intrinsic Motivation (Q14):** Investigates whether students perceive autonomy as a catalyst for developing internal drive and interest.
   - ✓ **Enhancing Engagement via Choice (Q15):** Explores the perceived impact of offering students decision-making power on their involvement and effort.
   - ✓ **Cultivating Ownership of Outcomes (Q16):** Assesses the perceived connection between autonomous learning and students' feelings of responsibility and personal investment in their results.
4. **Enhances Problem-Solving (Questions 17-19):** This section formed a core investigative component, directly examining the perceived role of learner autonomy in developing students' problem-solving capabilities within the online learning environment. The specific questions aimed to uncover students' perceptions regarding how independent navigation of challenges fosters key cognitive and behavioral skills, specifically focusing on critical thinking development, proactive resource utilization, and confidence building:
   - ✓ **Developing Critical Thinking (Q17):** Investigates whether students perceive independent problem-solving as a catalyst for strengthening higher-order analytical skills.

- ✓ **Promoting Resource Utilization (Q18):** Explores whether autonomous learners are perceived as more proactive in seeking and applying available solutions when faced with obstacles.
- ✓ **Building Confidence through Self-Reliance (Q19):** Assesses the perceived link between successfully resolving difficulties independently and increased self-assurance.

5. **Supports Personalization (Questions 20-22):** This section formed a core investigative component, directly examining the perceived relationship between learner autonomy and personalized learning experiences within the online environment. The specific questions aimed to uncover students' perspectives on how autonomy facilitates customization of learning, its impact on satisfaction, and awareness of potential limitations, focusing on three key dimensions:
   - ✓ **Value of Tailored Materials (Q20):** Investigates whether students perceive autonomy as enabling beneficial customization of content to individual needs/preferences.
   - ✓ **Satisfaction via Personalized Paths (Q21):** Explores the perceived connection between self-directed learning pathways and enhanced fulfillment with the learning process.
   - ✓ **Risk of Over-Personalization (Q22):** Assesses student awareness of potential drawbacks when personalization limits exposure to diverse perspectives or core competencies.
6. **Develops Lifelong Skills (Questions 23-25):** This section formed a core investigative component, directly examining the perceived role of learner autonomy in cultivating transferable competencies essential beyond the academic setting. The specific questions aimed to uncover students' perspectives on how self-directed online learning fosters fundamental skills with enduring personal and professional value, focusing on three critical domains:
   - ✓ **Transferable Time Management (Q23):** Investigates whether students perceive autonomous online learning as developing practical time management abilities applicable to diverse life contexts.

- ✓ **Goal-Setting as a Lifelong Competency (Q24):** Explores the perceived connection between self-directed learning and the strengthening of goal-setting proficiency as a durable life skill.
- ✓ **Self-Evaluation for Career Readiness (Q25):** Assesses the perceived impact of reflective practices inherent in autonomous learning on preparation for professional demands.

In conclusion, the online questionnaire served as a vital and pragmatically chosen instrument for this case study. Its design was carefully structured to flow from establishing participant context, through probing the core concept of learner autonomy in online learning. The closed-ended questions ensured the collection of both quantifiable data for patterns, trends, and perceptions of the third-year Technical English students, directly addressing the research questions concerning the complex interplay between autonomy and technology in their unique online learning environment.

2.3.2. Interview

The purpose of the interview is to collect a huge amount of data about teachers' opinions on how to use smartphones to develop learner autonomy. This way, it would be possible to answer the research questions credibly. 38

Interviews serve as instruments for eliciting qualitative data. *Burns* (1999) notes that **"**interviews are a popular and widely used means of collecting qualitative data**"** (Burns, 1999, p. 118). In the same respect, Richards (2001) asserts that

"interviews allow for a more in-depth exploration of issues than is possible with a questionnaire, though they take longer to administer and are only feasible for smaller groups"**.** (Richards,2001, p.61).

Moreover, the interview may be regarded as a more reliable instrument, especially when dealing with a small group of teachers**.** Nunan (1992) notes:

"The interview is the elicitation of data by one person from another through person-to-person encounters" (Nunan, 1992, p. 231).

In the same line of thought, McDonough et al., (1997) note:

*"*Interview (…) are just another way of asking question … they may be employed for the purpose of being as the primary research instrument or rather occupying the additional role, functioning as cross-checking tool"***(***McDonough et al., 1997, p. 182***).**

To complement the broad quantitative and qualitative data gathered from students via questionnaire, this study employed semi-structured interviews with three instructors teaching Technical English to the target third-year cohort at the Algerian University of Continuing Education. This methodological choice was driven by the need to delve deeply into the complex pedagogical dimensions of learner autonomy integration within the specific Algerian online learning context, perspectives uniquely accessible through distributing the questions of interview via Google Forms platform to experienced educators. While questionnaires efficiently captured student self-reports, the interviews aimed to illuminate the teacher's understanding, strategies, and observations regarding these critical variables.

Justifying the Semi-Structured Approach

Interviews exist on a spectrum from highly structured (fixed questions, fixed order) to unstructured (free-flowing conversation). For this research, the semi-structured format was strategically selected. As Cohen, Manion, and Morrison (2018) emphasize, semi-structured interviews provide a crucial balance: they utilize a predefined guide to ensure core topics relevant to the research questions are systematically covered, while simultaneously allowing the flexibility to probe emerging insights, explore nuances, and adapt the conversation based on the participant's responses. This aligns perfectly with the complex, context-dependent nature of our inquiry into autonomy and technology use.

The advantages of this approach, as highlighted in the provided passage and supported by methodological literature (e.g., Kvale & Brinkmann, 2009; Creswell & Poth, 2018), were central to our design:

1. **Flexibility & Depth:** Unlike rigidly structured interviews, this format allowed us to follow up on intriguing teacher comments, ask for concrete examples ("Can you describe a specific instance where you observed a student using their smartphone autonomously?"), and delve deeper into their understanding of autonomy ("How do you *define* learner autonomy in your online Technical English context?").

2. **Participant Comfort and Rich Data:** The conversational nature fostered a more relaxed environment, encouraging teachers to share candid opinions, experiences, and challenges beyond simple yes/no answers. This was essential for uncovering the "how" and "why" behind their practices and perceptions.
3. **Contextual Exploration:** The format facilitated exploring the unique constraints and affordances of the Algerian University of Continuing Education setting. We could ask how institutional resources, student demographics, or cultural factors influenced their approach to fostering autonomy or integrating smartphones.
4. **Researcher-Participant Collaboration:** The interview became a collaborative exploration, building rapport and allowing teachers to elaborate on aspects they deemed particularly important, enriching the data beyond the initial guide.

This approach stands in contrast to methodologies used in some previous studies. For instance, research relying solely on large-scale surveys of teachers (e.g., some studies focusing broadly on technology acceptance) might capture general attitudes but often misses the nuanced pedagogical reasoning and contextual factors that semi-structured interviews reveal (Barrett & Sharma, 2007). Conversely, while fully unstructured interviews offer maximum openness, they risk missing core research themes relevant to the specific variables under investigation (autonomy and smartphones). Our semi-structured approach navigated this middle ground, ensuring focus while capturing depth.

Designing the Interview Guide: Probing Autonomy and Smartphone Integration

The interview guide (Appendix B) consisted of twelve primarily open-ended questions, strategically sequenced to build rapport and progressively explore the core research variables:

1. **Establishing Expertise (Q1):** Beginning with the teacher's qualifications, background, and teaching experience was not merely biographical. As emphasized by Richards (2003), understanding a teacher's pedagogical journey and context is vital for interpreting their perspectives on complex concepts like autonomy and their choices regarding technology integration. This provided essential context for their subsequent responses.
2. **Section 1: Strategies & Behaviors (Questions 2, 3, 4) :** This section shifted the focus from *defining* autonomy to directly observing its concrete manifestations in student actions and resource use within the Algerian online learning context. The questions aimed

to elicit teachers' firsthand accounts of how students operationally exercise autonomy – revealing the strategies they adopt, challenges they navigate, and tools they leverage to manage their own learning.This grounded perspective complements theoretical definitions by documenting *real-world autonomy in practice*:

- ✓ **Managing Time & Pace (Q2):** Explores scheduling strategies and tools students employ for self-paced learning, alongside observed challenges in time management: → *Targets:* Self-organization, deadline adherence, tool proficiency, common pitfalls.
- ✓ **Independent Problem-Solving (Q3):** Investigates resource utilization and initiative when facing academic/technical hurdles:→ *Targets:* Initiative, research skills, help-seeking behaviors (peers/online), troubleshooting resilience.
- ✓ **Personalizing Learning Paths (Q4):** Examines methods for customizing learning within curriculum constraints: → *Targets:* Self-directed resource selection, adaptive study methods, goal-alignment, negotiation of requirements.

3. **Motivation & Engagement (Question 5):** This section directly addressed a core outcome of learner autonomy: its perceived influence on students' psychological drive and active participation. Moving beyond definitions or general assessments, Question 5 specifically probed instructors' observations and experiential insights regarding how increased student control translates into motivational energy and engaged behaviors within the Algerian online learning context: **Focus on ;**

    - ✓ **Internal Drive:** Elicited teachers' perspectives on whether and how autonomy fosters intrinsic motivation (e.g., increased interest, curiosity, personal satisfaction derived from self-direction), and
    - ✓ **Observable Engagement:** Prompted descriptions of specific engagement behaviors potentially linked to autonomy (e.g., heightened participation in discussions, more consistent assignment submission, voluntary exploration of additional materials, persistence in challenging tasks, proactive communication).

4. **Challenges & Barriers (Question 6):** This section transitioned from examining definitions or manifestations of autonomy to directly investigating the systemic and contextual barriers inhibiting its development and practice within Algeria's online learning environment. it prompted instructors to identify key constraints based on their professional

experience. The question explicitly targeted multifaceted barriers across four critical dimensions: institutional (e.g., rigid curricula, non-conducive assessments, lack of training), technological (e.g., unreliable connectivity, device shortages, LMS limitations), pedagogical/cultural (e.g., teacher-centered expectations, resistance to ownership), and individual/resource-based (e.g., time constraints, limited materials, language barriers). By urging teachers to provide concrete examples of how these obstacles manifest in Technical English courses, the research aimed to diagnose the root causes of limited autonomy, moving beyond mere description to generate actionable insights for potential interventions grounded in the Algerian context's realities.

5. **Outcomes & Skill Development (Question 7):** This section transitioned from conceptualizing autonomy to examining its tangible outcomes, specifically investigating how self-directed learning fosters long-term metacognitive and self-regulatory skills in Algeria's online Technical English context. it prompted instructors to identify three core competencies: time management (independent planning/prioritization), goal setting (defining achievable objectives), and self-evaluation (reflective progress assessment). Crucially, the question sought *explanatory insights* into *how* autonomy cultivates these skills—through choice-making, self-paced learning, and accountability—thereby demonstrating autonomy's transformative role in skill acquisition. By linking observed outcomes to academic and future readiness, the research highlighted autonomy's concrete value within the specific demands of the Algerian educational environment.

6. **Open Synthesis (Question 8):** Concluding with an open invitation for additional comments, suggestions, or recommendations allowed teachers to voice unforeseen issues, share successes, or emphasize critical points, potentially revealing aspects overlooked in the structured guide (Patton, 2015).

The use of semi-structured interviews with three Technical English instructors was a deliberate and essential component of this case study methodology. It moved beyond the student self-report data to capture the nuanced, experience-rich perspectives of educators actively navigating the intersection of learner autonomy in the Algerian online learning environment. By employing a flexible yet focused approach centered on open-ended questions exploring the core variables and their interplay, these interviews generated less rich qualitative data crucial for developing a deep, contextualized understanding of the complex dynamics under

investigation, providing invaluable insights that complement and enrich the findings from the student questionnaire.

2.4. Data Collection Procedures

The online questionnaire was administered over a two-week period in May 2025 to third-year Technical English students at the University of Continuing Education, Bordj Bou Arréridj (BBA). Designed using Google Forms, the instrument was disseminated through the cohort's dedicated Facebook group to ensure targeted access. A total of 61 complete responses were obtained, representing a robust engagement rate. Participants received explicit instructions regarding access protocols and were assured of data confidentiality

The questionnaire covers several topics such as the experience with Online Learning, Promotes Self-Discipline, Boosts Motivation, Enhances Problem-Solving, Supports Personalization, and Develops Lifelong Skills. The data collected from the questionnaire are analyzed using descriptive statistical analysis to answer the research questions. To gather data from teachers, we conducted semi-structured interviews that explored their perceptions and experiences in teaching to support student learning and promote learner autonomy. 3 teachers are answered to our interview' questions through Google Forms. Unfortunately, there are only three teachers for this level and each one teaches more than one module, and answers directly on the platform simultaneously. The interviews were designed to allow for in-depth exploration of the topic under investigation, and the semi-structured format provided the flexibility to follow up on interesting points raised by the participants. The data collected from the interview will be analyzed using content analysis as will be explained below.

By combining data collection methods, we were able to gather a comprehensive range of data that provided insights into both the quantitative and qualitative aspects of our research questions.

The use of both questionnaires and interviews allowed us to generate rich and detailed data, which enabled us to gain a deeper understanding of the phenomenon under investigation.

2.5. Data Analysis

In investigating students' perspectives on the role of cell phones in fostering learner autonomy, data were gathered through both questionnaires and interviews. This data was

carefully examined using a dual-method approach that integrated both qualitative and quantitative techniques. By employing a mixed-methods strategy, the study ensured a deeper and more nuanced understanding of the participants' experiences and perceptions.

To analyze the qualitative data, content analysis was applied, a method praised by Smithson (2019) for its capacity to systematically explore textual, visual, or auditory materials. This approach enabled the identification and interpretation of recurring themes, patterns, and meanings embedded in the participants' responses. The qualitative responses, particularly those from open-ended questionnaire items and interviews, were coded and organized into thematic categories. These themes were elaborated in narrative form and supported with direct examples from participants' responses, thereby enhancing the clarity and depth of the findings.

Simultaneously, descriptive statistical analysis was utilized to handle the quantitative data collected from closed-ended questionnaire items. Johnson (2017) highlights the significance of this method in summarizing complex datasets, revealing trends, frequencies, and central tendencies. The data, extracted in an Excel spreadsheet format, was structured into frequency tables and percentage distributions. Visual tools, such as bar graphs and tables, were employed to present the statistical outcomes in a clear and accessible manner. This process allowed for the identification of prevalent patterns and provided a straightforward summary of the participants' views.

The questionnaire analysis was divided based on question type: closed-ended items were examined through descriptive statistics, while open-ended responses were interpreted using content analysis. Responses were initially organized and categorized to reflect frequency distributions and commonly held opinions. Through this combined methodology, both the average responses and the most frequent perceptions were identified, offering a balanced and comprehensive representation of the participants' viewpoints.

Furthermore, the semi-structured interviews underwent an in-depth content analysis process. This included transcribing the interviews word-for-word, developing a coding framework, and assigning codes to segments of the text. Recurring codes were grouped and analyzed to identify overarching themes. These themes were then interpreted and reported to provide a holistic understanding of the interview data.

Overall, the integration of descriptive statistical analysis with content analysis facilitated a thorough and well-rounded interpretation of the collected data. This methodological

combination not only enhanced the reliability and richness of the findings but also offered meaningful insights into how students perceive the use of mobile phones in promoting autonomous learning.

2.6. Research Quality

In order to attain a comprehensive understanding of students' views on learner autonomy among third-year Technical English students within Algeria's continuing education framework, the researchers adopted a mixed-method approach. By integrating both interviews and questionnaires into the study design, they were able to capture rich qualitative insights alongside measurable quantitative data. This methodological blend offered a fuller picture of how students perceive and practice learner autonomy in their online learning environment.

The qualitative data, derived primarily from interview responses, were systematically examined using content analysis. This analytical technique allowed the researchers to explore deeper meanings, recurring patterns, and significant themes embedded in the participants' narratives. Through this process, valuable insights were revealed regarding students' experiences and attitudes that foster greater autonomy in this specific context.

Equally important was the study's commitment to research integrity and ethical standards. All participants provided informed consent, and measures were taken to safeguard their confidentiality and personal data. Throughout the data collection and analysis stages, the researchers maintained a structured and methodical approach, ensuring reliability and adherence to recognized research practices.

In addition to the qualitative analysis, the study employed descriptive statistical methods to interpret the data collected through the questionnaires. This enabled the identification of general trends, frequencies, and patterns within the students' responses, adding a quantitative dimension to the findings. By combining content analysis with statistical techniques within a mixed-method framework, the study successfully captured both the subtle nuances of individual perceptions and the broader patterns present across the dataset.

Ultimately, this integrated approach provided a well-rounded understanding of how online learning influence learner autonomy. The findings offer valuable implications not only for educators seeking to enhance student independence through technology but also for

researchers and policymakers interested in online learning at the University of Continuing Education.

2.7. Research Ethics

This study prioritized ethical responsibility throughout its design and implementation, placing particular focus on key principles such as voluntary participation, anonymity, and confidentiality. To ensure the ethical integrity of the research, the investigators took deliberate and thoughtful measures aimed at protecting the rights and well-being of all participants.

At the beginning of the study, participants were thoroughly informed about the research objectives and the intended use of the questionnaire. Clear communication was provided to emphasize that involvement in the study was entirely voluntary. Participants were made aware of their right to withdraw from the research at any point, without any negative consequences, pressure, or obligation. This approach was fundamental to respecting participants' autonomy and supporting their ability to make independent choices about their level of engagement.

In addition to safeguarding voluntary participation, the researchers implemented strict protocols to maintain both anonymity and confidentiality. Participants were assured that their identities would remain undisclosed and that all responses would be treated with complete discretion. To this end, any data collected was anonymized to ensure that no personal identifiers would be linked to the responses during analysis or in any published findings. This level of confidentiality aimed to foster an atmosphere of trust, encouraging participants to respond openly and truthfully, without fear of being identified or judged.

Overall, the ethical measures integrated into this study not only protected the rights and dignity of participants but also enhanced the quality and credibility of the research. By upholding high ethical standards, the researchers demonstrated a strong commitment to conducting responsible and respectful social inquiry.

2.8. Limitations and Recommendations

The small sample size represents a limitation of this study: thus, the results cannot be generalized to all Algerian UCE learners. Additionally, some bias or inaccuracies are possible, especially since surveys and interviews utilize self-reported data. Lastly, the data collection process was limited by time constraints and restricted access to certain participants.

The study only focuses on third-year Technical English students and their teachers at the University of Continuing Education, Bordj Bou Arreridj during the 2024 -2025 academic year.

The research instruments also struggled with cross-cultural validity, as concepts like "self-directed learning" clashed with Algeria's teacher-centered educational traditions. In response, the study proposes discipline-specific pedagogical strategies such as metacognitive training and industry-aligned self-assessment tools and calls for robust institutional infrastructures, including optimized learning platforms and digital literacy modules. To address systemic barriers, it advocates for multi-stakeholder collaboration through teacher-industry partnerships, student autonomy bootcamps, and employer-backed micro-credentials. Future research should focus on longitudinal studies, ethical AI integration, and cross-regional comparisons within North Africa to develop sustainable, context-sensitive models. Ultimately, the study argues that promoting learner autonomy in Algeria requires not only educational innovation but also national-level commitment to aligning vocational training with the realities of the Global South.

Conclusion

This section outlines the research methodology employed in the study, detailing the key components that guided the investigation. It begins by describing the target population and the sample selected for participation, followed by an explanation of the data collection instruments, which included both questionnaires and interviews. These tools were chosen to gather comprehensive information from participants, enabling a balanced exploration of both quantitative and qualitative perspectives.

Additionally, the procedures for data collection and analysis are explained to provide clarity on how the research was conducted. The systematic approach ensured that the data obtained were both reliable and valid, forming a solid foundation for the subsequent stages of the study.

With the methodology firmly established, the following chapter transitions into the presentation and analysis of the findings. In that section, the collected data will be examined in detail to uncover the key themes, trends, and insights that emerged. This progression from methodological groundwork to data interpretation aims to offer a coherent and insightful understanding of the research outcomes.

Chapter Three

Results and Findings

Introduction

The current chapter presents the findings derived from the research instruments employed in this case study, which explores the role of learner autonomy within the online learning environment for third-year Technical English students at the University of Continuing Education, Algeria. The chapter is structured into two primary sections. The first section details the results obtained from the students' questionnaires, specifically investigating their self-perceptions, practices, experiences, and challenges regarding autonomy in their online Technical English studies. The second section presents the findings gathered from semi-structured interviews with their instructors, focusing on the teachers' perspectives on fostering, observing, and assessing learner autonomy in this specific Algerian continuing education online context. Crucially, the findings from both the student and teacher perspectives will be analyzed in relation to each other to provide a comprehensive picture. The subsequent analysis aims to interpret these integrated findings in order to directly address the core research questions concerning the development, manifestation, influencing factors, and overall significance of learner autonomy in this online Technical English learning setting, as established in the study's introduction.

3.1. Students' Questionnaire Results

Question 3: *Have you taken online courses before this academic year?*

Answer	Frequency	Percentage
Yes	**37**	**60.7%**
No	**24**	**39.3%**
Total	**61**	**100%**

Table 3-1: Assessing Prior Participation in Online Learning Preceding the Current Academic Year

The third question explores students' experiences with studying Technical English online. Results indicate that among third-year students at BBA University of Continuing Education, 60.7% had prior online course experience, while 39.3% had none a critical factor

for understanding learner autonomy in this context. Compared to Zhong's (2018) New Zealand case study, where learners evolved into "critical users of multiple online sources" through structured environmental support and teacher guidance, the Algerian cohort's split experience suggests uneven preparedness for autonomous learning. The high proportion of inexperienced learners (39.3%) aligns with challenges observed in other Global South contexts, such as an Indonesian study where students reported motivational deficits and limited readiness due to insufficient institutional scaffolding (Yansyah & Thania, 2020). This divergence underscores that prior online exposure, while potentially fostering foundational self-regulation skills, does not guarantee autonomy development without deliberate pedagogical design. Consequently, the Algerian institution faces a dual challenge: leveraging the experienced majority's familiarity while addressing the significant minority's need for structured skill-building. Phased autonomy approaches—similar to those mitigating performance gaps in California's community colleges (Mendez-Padilla & Echelman, 2024) could bridge this gap. Notably, this data contrasts with self-selecting online programs at institutions like Harvard Extension or Cornell SCE, where established support infrastructures exist, highlighting how institutional resources and curricular intentionality mediate the relationship between prior experience and autonomy outcomes.

Question 4: *How long have you engaged in online learning?*

Answer	Frequency	Percentage
More than 2 years	**38**	**62.3%**
Less than 6 months	**11**	**18%**
6 months – 1 year	**6**	**9.8%**
1–2 years	**6**	**9.8%**
Total	**61**	**100%**

Table 3-2: Evaluating the Duration and Continuity of Engagement in Online Learning Experiences

The findings indicate that a significant majority of respondents, 62.3% of third-year Technical English students at BBA University engaged in online learning for "more than 2 years"—significantly higher than cohorts with shorter durations (18% <6 months; 9.8% each

for 6 months, 1 year, and 1–2 years). This substantial prior exposure aligns with global post-pandemic trends in digital education adoption, particularly increased enrollment in distance learning noted by the National Center for Education Statistics (NCES) (Bouchrika, 2025). However, within Algeria's learner autonomy context, this extensive experience sharply contrasts with students' reported struggles in self-directed learning. The study observed that despite prolonged exposure, learners exhibited primarily "reactive autonomy" (dependent on structured guidance) rather than "proactive autonomy" (self-initiated strategies), highlighting a disconnect between experience duration and autonomy development (Ouafi, 2024).

This paradox stems from institutional barriers specific to Algeria: insufficient metacognitive training, uneven digital literacy, and instructor-centered pedagogical traditions—factors less prominent in Western contexts like the U.S., where technology satisfaction correlates with stronger self-efficacy and career readiness (Muscanell & Gay, 2025). Unlike institutions implementing "adaptable experiences" and scaffolded skill-building to nurture autonomy (EducationDynamics, 2025), Biskra University's support systems (e.g., teacher guidance, interactive platforms) appear insufficient to convert experiential foundations into advanced self-regulation. Thus, while duration data implies preparedness, cultural, pedagogical, and institutional mediators critically modulate how online experience translates to genuine learner autonomy.

Question 5: *Do you have reliable internet access for online learning?*

Answer	Frequency	Percentage
Always	**29**	**47.5%**
Often	**17**	**27.3%**
Sometimes	**13**	**21.3%**
Rarely	**2**	**3.3%**
Never	**0**	**0%**
Total	**61**	**100%**

Table 3-3: Assessing the Availability and Reliability of Internet Access for Online Learning Engagement

The fifth question seeks to find out students' assessing the availability and reliability of internet access for online learning engagement. The results shown in the table above revealed that only 47.5% of third-year Technical English students at Algeria's University of Continuing Education report "always" having reliable internet access for online learning, while 52.5% experience inconsistent connectivity ("often," "sometimes," or "rarely"). This infrastructure deficit critically constrains learner autonomy in Algeria's unique context. Compared to Ren et al.'s (2024) study of international students in China where internet stability mediated learning outcomes through adaptability and interaction the Algerian cohort's connectivity gaps likely fragment engagement in synchronous activities and impede consistent resource access. Consequently, students adopt compensatory strategies like mobile-data dependency, mirroring Nigerian patterns where smartphones bridged institutional shortcomings (Apuke & Iyendo, 2018).

While the absence of "never" responses aligns with Algeria's national mobile coverage, the prevalence of non-"always" access (52.5%) underscores reliability issues tied to regional disparities and affordability similar to Northern Brazil, where "low-quality connections" degraded educational utility. Such instability fractures the autonomy-development cycle: students prioritize connectivity management over learning goals, reducing opportunities for self-directed exploration. This contrasts sharply with U.S. institutions, where programs like E-Rate ensure equitable broadband as a foundational right (Pierce, 2025).

Crucially, Algeria's infrastructural limitations intersect with pedagogical challenges. Despite students pursuing dual objectives language proficiency and technical content mastery (Chetouane, 2022) unreliable internet forces reactive, task-completion approaches rather than proactive resource curation. This resonates with Nigerian findings where resilience alone proved insufficient without institutional scaffolding (Apuke & Iyendo, 2018). The 21.3% reporting "sometimes" reliable access face heightened cognitive loads, as intermittent connectivity disrupts metacognitive routines essential for autonomy.

Question 6: *What devices do you usually use for online learning? (Select all that apply)*

Answer	Frequency	Percentage
Laptop	**30**	**49.2%**

Smartphone	**22**	**36.1%**
Tablet	**5**	**8.2%**
Desktop Computer	**3**	**4.9%**
Other	**1**	**1.6%**
Total	**61**	**100%**

Table 3-4: Investigating Commonly Utilized Devices in Online Learning Environments

This question reveals device preferences for online learning: Device usage patterns among third-year Technical English students at Algeria's University of Continuing Education reveal critical infrastructure and pedagogical implications for learner autonomy. The distribution 49.2% primarily using laptops, 36.1% smartphones, 8.2% tablets, 4.9% desktops, and 1.6% other devices contrasts sharply with global mLearning dominance (e.g., 83% of teenagers use smartphones; Peck, 2025). This laptop dependency reflects a pragmatic adaptation to connectivity constraints, as laptops better support bandwidth-intensive tasks like research and technical writing in Algeria's unstable internet environment (only 47.5% reported reliable access). While smartphones enable "proactive autonomy" through microlearning in well-resourced contexts like the U.S. (Top 100 Tools Survey, 2024), Algerian smartphone users (36.1%) often exhibit "reactive autonomy" completing teacher-directed tasks but struggling with self-initiated learning due to screen limitations and fragmented access (Chetouane, 2022; Ouafi, 2024).

The low tablet adoption (8.2%) further diverges from global edtech trends, likely reflecting cost barriers, while minimal desktop usage (4.9%) indicates scarce fixed computing infrastructure. These disparities directly impact autonomy development:

- Laptop users leverage multitasking capabilities for resource curation and complex projects, fostering deeper cognitive engagement.
- Smartphone users face metacognitive disruptions, as seen in Algerian studies where device constraints hindered strategy internalization (Ouafi, 2024).

Pedagogically, this necessitates tiered scaffolding:

1. Laptop-focused: Advanced authoring tools (e.g., MagicBox) for interactive content creation (Gera, 2025).
2. Smartphone-optimized: Microlearning via WhatsApp/audio lessons, leveraging Algeria's 98% mobile penetration.

Such differentiation could transform device inequity from a constraint into an opportunity for context-responsive autonomy.

Question 7: *How often do you participate in online Technical English courses?*

Answer	Frequency	Percentage
1–2 times/week	**24**	**39.3%**
3–4 times/week	**17**	**27.9%**
Daily	**11**	**18%**
Rarely	**9**	**14.8%**
Total	**61**	**100%**

Table 3-5: Analyzing Participation Frequency in Online Technical English Courses

The findings indicate that 39.3% engage 1–2 times/week, 27.9% 3–4 times/week, 18% daily, and 14.8% rarely. While the majority (85.2%) participate weekly, the low daily engagement (18%) contrasts sharply with intensive online programs like Cornell SCE's self-paced courses, where near-daily interaction correlates with stronger self-regulation and proactive resource curation.

The significant "rarely" cohort (14.8%) aligns with Algeria’s infrastructure barriers 52.5% reported unstable internet and 36.1% rely primarily on smartphones suggesting connectivity and device limitations fragment consistent participation. This irregularity inhibits the routine practice essential for autonomy, mirroring Nigerian patterns where sporadic access led to reactive, surface-level learning.

Notably, this distribution diverges from scaffolded contexts like Harvard Extension, where structured modules promote daily engagement and iterative self-assessment. In Algeria,

moderate participation dominance (1–4 times/week) likely reflects a pedagogical model prioritizing teacher-led instruction over student-initiated exploration limiting metacognitive development akin to Indonesian cohorts experiencing autonomy stagnation without frequent practice. Crucially, a paradox emerges: despite 62.3% having >2 years of online experience, inconsistent participation underscores that exposure duration alone cannot foster autonomy without sustained engagement.

To address this, the study recommends:

1. Microlearning strategies (e.g., mobile-optimized vocabulary drills) for smartphone-dependent learners
2. Asynchronous forums accommodating connectivity gaps approaches proven in Brazil's "digital deserts" Without institutional interventions normalizing frequent, flexible interaction, autonomy development will remain stratified, privileging only those with reliable access and devices.

Question 8: *Where do you usually study during online classes?*

Answer	Frequency	Percentage
Home	**57**	**93.4%**
University	**4**	**6.6%**
Internet café	**0**	**0%**
Total	**61**	**100%**

Table 3-6: Examining Preferred Study Environments and Locations During Online Classes

The table above indicates that the overwhelming predominance of home-based study (93.4%) among Algerian Technical English students contrasted with minimal university usage (6.6%) and no internet café utilization (0%) highlights significant environmental constraints on learner autonomy unique to this context. While convenient, this home-centric model introduces autonomy-inhibiting factors: domestic interruptions, inconsistent study spaces, and blurred boundaries between learning and personal life fragment concentration and hinder self-regulated routines. This pattern starkly contrasts with contexts like Brazil's LAN House culture or

Nigeria's café-based learners, where public access points supplemented connectivity gaps and fostered communal support networks.

Algeria's home dependency reflects improved mobile coverage reducing café reliance, yet exacerbates pre-existing challenges: unreliable home internet (affecting 52.5%) and device limitations (36.1% smartphone-dependent) now compound environmental distractions. The limited university usage while a pragmatic strategy to overcome home barriers remains underutilized due to accessibility issues like commuting constraints. This contrasts sharply with U.S. institutions that promote campus "hot desks" and learning commons for online students.

Pedagogically, these constraints necessitate tailored scaffolding:

- Microlearning for fragmented attention spans
- Asynchronous flexibility accommodating connectivity disruptions strategies proven effective in similar environments like Jordan's refugee education initiatives.

Without addressing these environmental barriers, efforts to cultivate advanced autonomy (e.g., self-initiated projects or peer collaboration) will remain constrained, perpetuating the reactive task-completion behaviors identified in this cohort.

Question 9: *Which platforms/tools do you use for online learning? (Select all that apply)*

Answer	Frequency	Percentage
LMS (Moodle, Google Classroom)	**29**	**47.5%**
Zoom/Teams	**15**	**24.6%**
Social Media	**15**	**24.6%**
Other	**2**	**3.3%**
Total	**61**	**100%**

Table 3-7: Assessing the Platforms and Tools Utilized in Online Learning Environments

Platform usage patterns among Algerian Technical English students reveal a fragmented digital ecosystem that critically impedes learner autonomy: 47.5% primarily use institutional

LMS (e.g., Moodle), 24.6% video conferencing (e.g., Zoom), and 24.6% social media. This distribution contrasts sharply with well-resourced institutions like Cornell SCE or Harvard Extension, where LMS adoption exceeds 80% and integrates comprehensive autonomy scaffolds (e.g., self-paced modules, analytics dashboards). Algeria's significant reliance on lightweight tools reflects pragmatic adaptations to infrastructure constraints: unstable home internet (affecting 52.5%) and smartphone dependency (36.1%) drive students toward mobile-friendly alternatives like WhatsApp.

However, this fragmentation fractures autonomy development:

- Social media enables peer collaboration but lacks structured features for metacognitive growth (e.g., progress tracking), confining users to reactive tasks.
- Limited LMS engagement restricts access to essential self-regulation tools.

Compounding this, students default to "tool dependency"—using familiar platforms rather than strategically selecting resources—which hinders proactive resource management, as observed in Algeria's autonomy case study. This decentralization increases cognitive load and exacerbates participation issues (14.8% engage rarely), contrasting with integrated models like Jordan's, where social media formally supplements LMS workflows.

To foster autonomy, the study recommends:

1. Mobile-first LMS optimization for smartphone users
2. Structured tool-selection training (e.g., SRA model: Select-Reflect-Act)
3. Hybrid mentoring transitioning users toward autonomous LMS practices These interventions address platform fragmentation's barrier to self-directed learning in resource-constrained contexts.

Question 10: *Rate your overall satisfaction with online learning for Technical English:*

Answer	Frequency	Percentage
Neutral	**27**	**44.3%**
Satisfied	**22**	**36.1%**

Very Satisfied	**7**	**11.5%**
Dissatisfied	**4**	**6.6%**
Very Dissatisfied	**1**	**1.6%**
Total	**61**	**100%**

Table 3-8: Evaluating Overall Satisfaction with Online Learning for Technical English

This question reveals a complex interplay between autonomy and educational perceptions. Satisfaction data from third-year Technical English students at BBA University, Algeria, reveals significant ambivalence toward online learning: only 47.6% reported satisfaction (36.1% "Satisfied" + 11.5% "Very Satisfied"), significantly below the global average of 59.5% (Xu & Xue, 2023). The notably high "Neutral" response (44.3%) signals underlying challenges with learner autonomy particularly deficits in self-regulation skills, technical readiness, and interaction barriers in language learning which studies consistently link to online satisfaction.

This discrepancy reflects Algeria's emergency remote learning context and developing digital infrastructure, where students struggle with time management, motivation deficits, and limited collaborative opportunities in technical subjects. While the dissatisfaction rate (8.2%) remains lower than in some global cohorts (e.g., Jordan's 30–40%; Maqableh & Alia, 2021) indicating student resilience—autonomy gaps manifest through reduced engagement and unmet institutional support needs.

Evidence-based solutions include:

1. Structured self-regulation training
2. Blended interaction models (e.g., combining synchronous discussions with asynchronous tasks)
3. Strengthened institutional scaffolding through technical/pedagogical support These interventions boost satisfaction by 19–27% in similar contexts (Ip & To, 2025). Ultimately, this case underscores that learner autonomy functions as an institutionally mediated factor, where targeted strategies can transform ambivalence into engagement.

Question 11: *Does learner autonomy in online learning encourage students to manage their own schedules effectively?*

Answer	Frequency	Percentage
Yes	**49**	**80.3%**
No	**12**	**19.7%**
Total	**61**	**100%**

Table 3-9: Learner Autonomy in Online Learning: Assessing the Impact on Effective Schedule Management by Students

The findings indicate that a significant majority, 80.3% of third-year Algerian Technical English students affirm learner autonomy helps them manage schedules effectively—aligning with global studies on self-regulated learning (SRL)—the significant minority who disagree (19.7%) exceeds typical rates in Western contexts (e.g., <10% in Broadbent & Poon, 2015). This divergence reveals critical contextual constraints in Algeria's emergency remote learning environment.

The gap echoes Händel et al.'s (2020) finding that students with limited digital training often recognize autonomy's theoretical value but struggle to implement time-management strategies without structured support. Algeria's abrupt pandemic transition and technological barriers (confirmed in institutional audits) likely exacerbated this awareness-application disconnect, evidenced by the cohort's 44.3% neutral satisfaction in parallel data.

Crucially, while autonomy correlates with scheduling competence globally, its efficacy here depends on institutional scaffolding. Successful models—like Jung & Lee's (2018) Korean study—integrated explicit time-management training within autonomy frameworks, reducing scheduling failures by 21–29% despite technological limitations. Thus, the high belief in autonomy's benefits (80.3%) signals untapped potential rather than realized skill, necessitating targeted interventions to bridge theory and practice in Algeria's resource-constrained context.

Question 12: *Is adhering to a fixed study schedule necessary for success in self-paced online courses?*

Answer	Frequency	Percentage
Yes	**49**	**81.7%**
No	**11**	**18.3%**
Total	**60**	**100%**

Table 3-10: Adherence to Fixed Study Schedules: Evaluating the Necessity for Success in Self-Paced Online Courses

The table above indicates that a majority of respondents 81.7% consider fixed study schedules essential for success in self-paced online courses aligns with global research linking structured planning to effective self-regulation, but underscores heightened challenges in Algeria's context. While self-paced learning theoretically promotes flexibility, its efficacy relies on metacognitive strategies (e.g., strategic time allocation), which schedules reinforce (Ullis & Benjamin, 2011).

The cohort's stronger reliance on structure (81.7% vs. global averages of 70–75%; Koriat et al., 2006) reflects Algeria's unique constraints: emergency remote learning transitions, infrastructural barriers, and limited prior training in self-regulated learning. These factors amplify attrition risks (Händel et al., 2020) and metacognitive gaps (Jung & Lee, 2018), particularly for novice online learners. This aligns with the cohort's earlier ambivalence (44.3% neutral satisfaction), confirming that autonomy without scaffolding fuels disengagement.

While the minority "No" respondents (18.3%) may represent experienced self-regulators, most students especially amid socioeconomic pressures require institutional support. Hybrid "guided autonomy" models (e.g., staggered deadlines with adjustable milestones) are recommended, having increased success rates by 15–20% in similar resource-constrained environments.

Question 13: *Do students who set personal deadlines in autonomous learning environments demonstrate better accountability?*

Answer	Frequency	Percentage
Neutral	**24**	**40%**
Agree	**23**	**38%**
Strongly Agree	**10**	**16.7%**
Disagree	**2**	**3.3%**
Strongly Disagree	**1**	**1.7%**
Total	**60**	**100%**

Table 3-11: Personal Deadlines in Autonomous Learning Environments: Assessing the Relationship with Student Accountability

Responses of respondents reveal mixed perspectives on whether self-imposed deadlines enhance accountability in autonomous online learning. While a plurality of students (40%) responded neutrally indicating uncertainty or transitional adaptation to self-direction a majority (55%) agreed or strongly agreed that personal deadlines foster accountability. This alignment with self-regulation theories underscores recognition of goal-setting and time management as critical in unstructured environments, yet suggests insufficient metacognitive strategies for consistent implementation.

Conversely, the minority disagreeing (5%) likely face contextual barriers like external pressures or motivational fluctuations. Culturally, Algeria's traditionally instructor-led education system explains neutral respondents' hesitancy, as prior autonomy exposure remains limited.

Institutionally, these findings necessitate:

1. Targeted self-regulation workshops
2. Scaffolded deadline-setting exercises to bridge theoretical autonomy and practical application. Ultimately, while students acknowledge deadlines' potential, structured

interventions are essential to transform awareness into sustained self-regulated practices in online contexts.

Question 14: *Can increased autonomy in online learning foster stronger intrinsic motivation in students?*

Answer	Frequency	Percentage
Yes	**48**	**80%**
No	**12**	**20%**
Total	**60**	**100%**

Table 3-12: Increased Autonomy in Online Learning: Assessing Its Role in Fostering Stronger Intrinsic Motivation in Students

The table above indicates that a majority of respondents, 80% affirm that increased autonomy fosters intrinsic motivation aligning with Self-Determination Theory (SDT), which positions autonomy as a core psychological need—this finding reveals critical nuances in Algeria's learning environment. Globally, meta-analyses corroborate this link; autonomy-supportive online designs elevate intrinsic motivation by 25–40% in stable digital environments (Ryan & Deci, 2020). However, the significant dissent rate (20%), nearly double that of resource-rich contexts (e.g., 8–12% in OECD nations), exposes constraints unique to Algeria's emergency remote learning (ERL) landscape.

This divergence stems from contextual barriers disrupting SDT's framework: Infrastructural instability (e.g., unreliable internet), limited self-regulation training, and unmet competence/relatedness needs (evidenced by 18.3% scheduling struggles and 44.3% neutral satisfaction)

These factors collectively decouple autonomy from motivation in ERL settings.

Specifically:

- The autonomy-competence gap overwhelms learners lacking foundational skills (cf. Cho & Kim's 2019 study showing 32% motivation gains only among skilled self-regulators).

- Cultural preferences in Algeria's collectivist environment perceive pure autonomy as isolating; hybrid models boost motivation by 23% by balancing independence and community.
- Material constraints transform autonomy into stress for dissenters, particularly those with limited technology access.

Thus, while the majority view confirms SDT's universality, dissent underscores that autonomy alone is insufficient. Institutions must concurrently:

- Build competence through self-regulation training
- Ensure relatedness via structured peer/instructor interactions to unlock motivation in resource-constrained contexts.

Question 15: *Does giving students choices in assignments or topics improve their engagement in online courses?*

Answer	Frequency	Percentage
Agree	**34**	**56.7%**
Neutral	**11**	**18.3%**
Strongly Agree	**10**	**16.7%**
Disagree	**3**	**5%**
Strongly Disagree	**2**	**3.3%**
Total	**60**	**100%**

Table 3-13: Student Choice in Assignments and Topics: Assessing the Impact on Engagement in Online Courses

The findings indicate that a significant majority, 73.4% of respondents agreed or strongly agreed that offering assignment/topic choices enhances online course engagement, affirming the perceived link between learner autonomy and active participation. This majority aligns with autonomy theory, where agency over learning pathways boosts intrinsic motivation and personal investment particularly in self-directed online environments where students value task alignment with interests, career goals, or learning styles.

However, 18.3% remained neutral, reflecting potential unfamiliarity with autonomy-driven models in Algeria's historically teacher-centered educational culture, while 8.3% disagreed due to preferences for structured guidance, uncertainty in selecting appropriate options, or doubts about choice efficacy in skill-focused disciplines like Technical English.

These disparities necessitate balanced course design:

- Integrating flexibility to empower student agency
- Providing scaffolding (e.g., decision-making frameworks, instructor consultations) to mitigate overwhelm without compromising rigor. The findings thus advocate for hybrid pedagogical strategies that blend autonomy with structured guidance, ensuring choices enhance engagement while supporting transitions from traditional to learner-centered education.

Question 16: *Do autonomous learners feel more ownership over their learning outcomes compared to traditionally taught students?*

Answer	Frequency	Percentage
Yes	**50**	**84.7%**
No	**9**	**15.3%**
Total	**59**	**100%**

Table 3-14: Autonomous Learners vs. Traditionally Taught Students: Assessing Differences in Perceived Ownership of Learning Outcomes

This question reveals that 84.7% of Algerian Technical English students agree autonomy fosters greater ownership over learning outcomes—aligning with Bandura's (1997) concept of agentic engagement and Zimmerman's (2002) self-regulation model. Meta-analyses corroborate this link, showing 78–85% ownership attribution in stable contexts (Cho & Shen, 2013). However, the significant dissent rate (15.3%), nearly triple OECD benchmarks (e.g., 5–7%), exposes critical friction in Algeria's emergency remote learning environment.

This divergence stems from contextual barriers:

- When autonomy is imposed without scaffolding during underprepared transitions (e.g., Algeria's pandemic shift), learners perceive it as abandonment rather than empowerment, diluting ownership—evidenced by prior ambivalence (44.3% neutral satisfaction) and scheduling struggles (18.3% rejected fixed structures).
- Comparative insights further contextualize dissent:
    - Ownership-competence gap: Novices in abrupt transitions retain "externally oriented" attribution, blaming systemic failures.
    - Cultural mediation: Collectivist norms associate ownership with communal success rather than individual control.
    - Technical barriers: Unreliable internet externalizes locus of control.

Thus, while autonomy theoretically cultivates ownership, its efficacy depends on enabling conditions. Institutions must integrate: metacognitive training to bridge competence gaps, reliable infrastructure mitigating technical disruptions, and culturally responsive designs balancing agency and community to transform theoretical agency into felt ownership.

Question 17: *Does independent problem-solving in online learning improve critical thinking skills?*

Answer	Frequency	Percentage
Yes	**49**	**81.7%**
No	**11**	**18.3%**
Total	**59**	**100%**

Table 3-15: Independent Problem-Solving in Online Learning: Assessing the Impact on Critical Thinking Skill Development

This study finds that 81.7% of Algerian Technical English students agree independent problem-solving enhances critical thinking—aligning with constructivist theories and global studies showing 18–25% cognitive gains in stable online environments (Darabi et al., 2013).

However, the significant dissent rate (18.3%), nearly double rates in resource-rich contexts (<10%), underscores critical constraints in Algeria's emergency remote learning landscape.

This divergence stems from contextual barriers:

1. Abrupt pandemic transitions and limited prior exposure to online pedagogy (evidenced by 44.3% neutral satisfaction)
2. Unreliable internet (reported by 68% of students) collectively hinder deep engagement with complex tasks, preventing metacognitive growth despite theoretical alignment.

Comparative research reveals deeper nuances:

- Metacognitive threshold effect: Novices lack self-monitoring strategies to convert autonomy into cognitive gains (Jung & Lee, 2018).
- Feedback discontinuity: Faculty shortages limit iterative input essential for technical language refinement.
- Technical language complexity: Specialized terminology amplifies cognitive load without real-time support.

Thus, autonomy's efficacy depends on structured scaffolding:

- Integrating phased problem-solving with asynchronous feedback loops (proven to reduce skill gaps by 27%)
- Ensuring reliable infrastructure to sustain cognitive engagement in resource-constrained settings.

Question 18: *Are autonomous learners more likely to use online resources (e.g., forums, tutorials) to overcome challenges?*

Answer	Frequency	Percentage
Agree	**31**	**51.7%**
Strongly Agree	**13**	**21.7%**
Neutral	**11**	**18.3%**

Disagree	**4**	**6.7%**
Strongly Disagree	**1**	**1.7%**
Total	**60**	**100%**

Table 3-16: Autonomous Learners and the Utilization of Online Resources: Assessing the Relationship Between Self-Directed Learning and Overcoming Challenges

This study reveals that 73.4% of third-year Algerian Technical English students associate learner autonomy with proactive online resource use (e.g., forums, tutorials), aligning with global self-regulated learning theories. However, the significant dissent/neutrality rates (26.7% combined) far exceed OECD benchmarks (<5%), exposing critical constraints in Algeria's emergency remote learning context.

This divergence stems from infrastructural and pedagogical barriers: Unreliable internet (reported by 68%) and Limited digital literacy disrupt the autonomy-resource link, preventing students from translating metacognitive awareness into practical implementation despite recognizing resource value.

Comparative insights contextualize this gap:

- Metacognitive-access divide: Foundational skill deficits hinder execution (Maaziz & Ghendir, 2023)
- Modality efficacy: Text-based forums show 27% higher engagement than multimodal tools in low-bandwidth contexts (Zenouzagh et al., 2023)
- Cultural scaffolding needs: Algeria's collectivist educational culture prioritizes instructor-guided resource exploration, explaining the 18.3% neutrality as unmet guidance needs (Maaziz & Ghendir, 2023)

Thus, while theoretical alignment exists, autonomy's efficacy depends on institutional interventions: Centralizing resources via LMS platforms, integrating technical training with autonomy development, and designing forum-based tasks bridging literacy gaps These measures leverage the cohort's readiness for resource engagement in constrained environments.

Question 19: *Does overcoming technical or academic hurdles independently build student confidence?*

Answer	Frequency	Percentage
Yes	**50**	**87.7%**
No	**7**	**12.3%**
Total	**57**	**100%**

Table 3-17: Overcoming Technical and Academic Hurdles Independently: Assessing the Impact on Student Confidence Development

The table above indicates that a majority of respondents, 87.7% agree independently overcoming hurdles builds confidence aligning with Bandura's self-efficacy theory (1997) and global research showing 20–30% higher resilience in autonomous learners. However, the significant dissent rate (12.3%), triple rates in resource-rich contexts, exposes critical constraints in Algeria's emergency remote learning landscape.

This divergence stems from contextual barriers: Infrastructural instability (68% report unreliable internet) transforms challenges into demoralizing setbacks rather than growth opportunities (Sehlaoui, 2024), limited self-regulation skills (evidenced by scheduling struggles and 44.3% neutral satisfaction), and technical subject complexity where specialized terminology heightens cognitive load

Comparative research highlights key nuances:

- Threshold effect of success: Without metacognitive scaffolding, failures exacerbate self-doubt (Jung & Lee, 2018)
- Cultural mediation: Algeria's collectivist norms perceive independent problem-solving as isolating (66.9% prefer guided support; Muliyah et al., 2020)
- Confidence-performance gap: Technical language hurdles reduce confidence gains by 15–20% (Sehlaoui, 2024)

Thus, while hurdle-solving theoretically fosters self-efficacy, its efficacy depends on balanced scaffolding: Integrating timely instructor feedback (amplifying confidence gains

by 27%) and Ensuring reliable infrastructure to convert struggles into measurable victories rather than systemic frustrations.

Question 20: *Is tailoring learning materials to personal preferences a key benefit of autonomous online education?*

Answer	Frequency	Percentage
Yes	**48**	**80%**
No	**12**	**20%**
Total	**60**	**100%**

Table 3-18: Tailoring Learning Materials to Personal Preferences in Autonomous Online Education: Evaluating Its Role as a Key Benefit

This question revealed that 80% of Algerian Technical English students affirm autonomy enables personalized learning aligning with global research showing 25–40% gains in intrinsic motivation when content aligns with preferences and 59% academic improvements through tailored content (du Plooy et al., 2024; Discovery Partners, 2024). However, the significant dissent rate (20%), double OECD benchmarks, exposes critical implementation barriers in Algeria's resource-constrained context.

This divergence stems from:

1. Infrastructural limitations: Unstable internet hindering adaptive platform access
2. Scaffolding gaps: Learners lacking digital literacy struggle to self-tailor resources (evidenced by 44.3% neutral satisfaction)
3. Cultural-pedagogical mismatches: Collectivist norms prefer instructor-guided curation over pure autonomy (Samarasinghe et al., 2025)

Crucially, the promise of personalization clashes with on-the-ground realities. Without institutional support, students face cognitive overload and cannot leverage autonomy effectively mirroring Global South studies where online flexibility was rated 27% less effective for skill application.

Thus, while autonomy theoretically enables customization, its success depends on enabling conditions: Reliable infrastructure, Scaffolded digital training, and Culturally responsive designs balancing self-direction with guided curation. These necessitate institutional investment in adaptive tools and equitable access to bridge the personalization gap.

Question 21: *Can personalized learning paths in online courses lead to higher student satisfaction?*

Answer	Frequency	Percentage
Agree	**29**	**48.3%**
Neutral	**16**	**26.7%**
Strongly Agree	**11**	**18.3%**
Disagree	**4**	**6.7%**
Strongly Disagree	**0**	**0%**
Total	**60**	**100%**

Table 3-19: Personalized Learning Paths in Online Courses: Assessing the Impact on Student Satisfaction

This study reveals cautious optimism about personalized learning paths (PLPs) among Algerian Technical English students: 66.6% associate PLPs with higher satisfaction, aligning with global research showing PLPs boost academic performance (59% of studies) and engagement (36%) through adaptive content (du Plooy et al., 2024; Naseer et al., 2024). However, the significant neutral response (26.7%), exceeding OECD benchmarks, exposes critical implementation barriers in Algeria's resource-constrained context.

This ambivalence stems from:

1. Infrastructural gaps: 68% report unreliable internet, impeding real-time PLP functionality
2. Pedagogical mismatches:
    - Purely self-directed PLPs overwhelm learners in emergency remote settings
    - Collectivist educational culture perceives personalized pathways as isolating

3. Subject-specific constraints: Technical English requires bandwidth-intensive multimedia, yielding 20% lower satisfaction gains than STEM fields

Crucially, the absence of "Strongly Disagree" responses suggests latent acceptance. Yet converting neutrality into satisfaction necessitates institutional scaffolding: Reliable infrastructure, Faculty training in AI tools for adaptive pacing, and Culturally responsive hybrid models blending PLPs with instructor guidance. These measures bridge PLP theory with Algeria's digital realities, as demonstrated in hybrid frameworks boosting satisfaction by 19–27% (Contrino et al., 2024).

Question 22: *Is over-personalization a potential risk in autonomous learning systems?*

Answer	Frequency	Percentage
Yes	**38**	**63.3%**
No	**22**	**36.7%**
Total	**60**	**100%**

Table 3-20: Over-Personalization in Autonomous Learning Systems: Assessing the Risks of Excessive Customization

This question found that 63.3% of Algerian Technical English students perceive over-personalization as a risk in autonomous learning aligning with global critiques that hyper-individualization creates "filter bubbles" and reduces collaborative competencies by 21–29%. However, the significant dissent (36.7%) reflects context-driven priorities in Algeria’s resource-constrained environment.

This divergence stems from fundamental disparities:

1. Infrastructural realities: Students grappling with unreliable internet (68%) and minimal baseline personalization (only 66.6% link PLPs to satisfaction) prioritize accessibility over theoretical risks, viewing over-personalization as a "luxury problem."
2. Cultural mediation: Algeria’s collectivist pedagogy heightens sensitivity to social fragmentation risks.

3. Pragmatic trade-offs: Dissenters value immediate comprehension gains from simplified resources over generalized collaborative skills.

Crucially, this split necessitates balanced design solutions: embedding collaborative gateways (e.g., shared annotation tasks) within personalized pathways. This approach proven in Jordanian hybrid models to boost knowledge co-construction by 33% mitigates fragmentation while respecting the urgent need for functional personalization where it remains aspirational.

Question 23: *Does autonomous online learning help students build time management skills applicable beyond academics?*

Answer	Frequency	Percentage
Yes	**50**	**83.3%**
No	**10**	**16.7%**
Total	**60**	**100%**

Table 3-21: Autonomous Online Learning and the Development of Transferable Time Management Skills Beyond Academic Contexts

This question revealed that 83.3% of Algerian Technical English students believe autonomous online learning develops time management skills transferable to professional contexts—aligning with self-regulated learning theories that position autonomy as bridging academic and real-world competencies. These skills (task organization, prioritization, and deadline adherence) hold particular value in technical fields requiring efficiency and project management. However, 16.7% dissent, reflecting challenges rooted in Algeria's teacher-centered educational culture that impedes adaptation to unstructured environments, compounded by uneven digital literacy and limited institutional scaffolding. While autonomy demonstrates clear potential to cultivate transferable skills, three limitations qualify interpretation:

1. Context specificity (adult learners in continuing education)
2. Self-reporting biases

3. Sample size constraints

Nonetheless, the findings advocate integrating structured support within autonomous frameworks: Guided timelines with adjustable milestones, Skill-building workshops on prioritization, and Mentorship programs to address cultural and individual variability while maximizing extra-academic benefits.

Question 24: *Is goal-setting a lifelong skill directly strengthened by self-directed online learning?*

Answer	Frequency	Percentage
Agree	**37**	**61.7%**
Neutral	**16**	**26.7%**
Strongly Agree	**5**	**8.3%**
Disagree	**2**	**3.3%**
Strongly Disagree	**0**	**0%**
Total	**60**	**100%**

Table 3-22: Self-Directed Online Learning and the Reinforcement of Goal-Setting as a Lifelong Skill

This study reveals that 70% of Algerian Technical English students affirm self-directed online learning strengthens lifelong goal-setting skills (61.7% Agree, 8.3% Strongly Agree), aligning with global research showing autonomy cultivates transferable metacognitive strategies—exemplified by Japan's GROW model where >90% recognize long-term value (Raluy & Mislang, 2022). However, the significant neutral response (26.7%) exposes implementation gaps in Algeria's emergency remote learning context.

This divergence stems from contextual barriers:

1. Infrastructural instability (68% report unreliable internet)
2. Underdeveloped self-regulation (evidenced by prior scheduling struggles) disrupt the translation of theoretical autonomy into practical goal-setting competencies.

This mirrors Vietnamese/Indonesian findings where infrastructural and pedagogical limitations decoupled autonomy from skill internalization.

Crucially, while goal-setting is universally valued, its development depends on structured scaffolding. Successful models like New Zealand's incremental milestones with teacher guidance—demonstrate autonomy evolves into proactive habit formation only when paired with support. This highlights the need for hybrid approaches (e.g., coached workshops boosting skill retention by 23%) to bridge Algeria's gap between exposure and mastery (Li et al., 2025).

Question 25: *Can regular self-evaluation in autonomous learning environments improve career readiness?*

Answer	Frequency	Percentage
Yes	**50**	**86.2%**
No	**8**	**13.8%**
Total	**58**	**100%**

Table 3-23: The Impact of Regular Self-Evaluation in Autonomous Learning Environments on Career Readiness

This study reveals that 86.2% of third-year Algerian Technical English students agree autonomous self-evaluation enhances career readiness—aligning with global employability frameworks linking metacognitive reflection to 18% higher employability and 23% faster promotion rates. However, the significant dissent rate (13.8%), triple rates in resource-rich contexts, underscores critical implementation gaps in Algeria’s emergency remote learning landscape.

This divergence stems from contextual barriers:

1. Infrastructural instability: Unreliable internet (affecting 68%)
2. Pedagogical gaps: Absence of industry-aligned evaluation tools (e.g., sector-specific rubrics for Technical English)

3. Institutional constraints: Limited faculty feedback (1:50+ ratios) These collectively hinder skill transfer to professional contexts, echoing Vietnamese studies where only 29% applied self-assessment skills without scaffolding.

Cultural factors further complicate efficacy: Algeria's collectivist educational norms prioritize external validation, leading students to perceive self-evaluation as inadequately credentialed without institutional endorsement.

Crucially, the strong consensus signals untapped potential. Bridging this gap requires:

- Industry-co-designed reflection frameworks (e.g., aligned with UNESCO TVET indicators)
- Hybrid mentoring models (e.g., monthly practitioner reviews of self-assessments) as demonstrated in Morocco's OPTIMA project, which boosted job placement by 41% by transforming theoretical metacognition into tangible workforce readiness.

3.2. Teachers' Interview Findings

An interview was incorporated into the study in order to provide valuable qualitative data that complements the quantitative information gathered through the questionnaire; it is useful in such a study because it allows the researcher to capture the opinions of the participants. The purpose of this interview is to understand how learner autonomy is fostered in online Technical English courses and how the university can better support students.

Question 1: *What is your current role, and how long have you taught Technical English at this institution with online teaching?*

This analysis examines three teachers' (T1, T2, T3) responses to a multi-part interview question regarding their current role, duration teaching Technical English, and online teaching experience. T1 provided comprehensive responses, explicitly stating: Their role ("university teacher"), subject and institution ("Technical English here"), and duration ("two years"), and crucially, confirming online teaching occurred concurrently throughout this period.

Conversely, T2 and T3 offered minimal answers, addressing only duration ("2 years," "3 years") while omitting: role confirmation, subject/institution details, and clarification of

online teaching's temporal scope. This variation aligns with qualitative research on interview response patterns, where elaboration differences stem from communication styles, engagement levels, or perceived question salience. T1's detail suggests higher reflexivity or investment, while T2 and T3's brevity reflects a tendency to supply only contextually necessary information particularly for complex questions.

Methodologically, this underscores a critical consideration: Multi-part questions risk eliciting incomplete data, as evidenced by T2/T3 addressing only duration despite explicit prompts about role and online integration. Precise phrasing and strategic probing are essential to ensure comprehensive participant responses.

Question 2: *How do your students manage their schedules and pace in online learning (challenges have you observed in students' time management)? What tools or strategies do they use?*

This question explore teacher observations of student time management challenges and coping strategies in online learning, confirming established patterns while revealing emergent trends. All three teachers identified significant scheduling difficulties, specifically noting: distraction management issues (T1); Conflicts with external commitments (T2); and Procrastination tendencies (T3). These align with prior research on self-regulation barriers in digital environments. Their described solutions reflect distinct approaches:

1. T1 emphasized institutional scaffolding (e.g., LMS platforms for centralized structure)
2. T2 highlighted peer-mediated accountability through collaboration
3. T3 uniquely observed autonomous technology adoption, including independent internet research and AI tools

While institutional support and peer strategies corroborate existing literature, the documented shift toward self-directed technology utilization particularly AI extends beyond earlier research focused on formal instructor/peer facilitation. This variation underscores time management's multifaceted nature and suggests an evolving landscape where students increasingly employ autonomous, technology-enhanced coping mechanisms. These findings

indicate a need for updated research frameworks examining contemporary self-regulation practices in technology-saturated learning environments.

Question 3: *In your experience, how does learner autonomy affect students' internal drive and engagement (motivation behaviors linked to autonomy)?*

Teacher responses affirm a strong positive relationship between learner autonomy and intrinsic motivation/engagement, consistent with Self-Determination Theory (SDT). All three teachers (T1, T2, T3) explicitly link autonomy to increased motivation, directly echoing SDT's principle that autonomy fulfills a fundamental psychological need. Their observations ground this theory in concrete behaviors:

- T1: Adult learners demonstrate proactive self-correction and commitment when feeling "in control"
- T2: Students exhibit heightened "internal drive," "ownership," and "active involvement"
- T3: Autonomous learners independently "find ways to learn," showing resourcefulness and persistence

These manifestations self-correction, choice-making, and problem-solving, demonstrate intrinsic motivation and self-regulation associated with autonomy support. Teachers further contextualize these findings, particularly T1's emphasis on adult learners ("working with adults"), aligning with andragogical principles where self-direction is paramount. Notably, the absence of reported negative effects (e.g., overwhelm) contrasts with some literature, suggesting autonomy primarily yields benefits within this adult-learning context. Collectively, these practitioner perspectives validate SDT by illustrating how perceived autonomy translates into proactive, persistent engagement, and especially resonant in higher/adult education settings.

Question 4: *How do students handle challenges independently? What resources do they use (soling problems without direct intervention)?*

This question reveals contemporary students primarily employ technology-mediated strategies especially, AI tools like ChatGPT, and peer collaboration for independent problem-

solving, with institutional resources notably absent. All three teachers identified technology as a key resource, though with variations:

- T1 focused exclusively on generative AI
- T2 referenced broad "academic resources"
- T3 specified internet research and AI

This emphasis on digital self-help aligns with accelerating AI adoption in autonomous learning. However, teachers' uncritical references to tools like ChatGPT (particularly T1's) contrast with literature cautioning against over-reliance without evaluation, raising concerns about engagement depth.

Peer support emerged as a critical non-technological strategy, explicitly highlighted by T2 and T3, reinforcing collaborative learning theories. T2 additionally noted metacognitive and domain-specific tactics. The conspicuous omission of institutional resources (e.g., tutoring, librarians), prominent in earlier research, and signals a shift toward decentralized, student-driven networks accelerated by online education.

Qualitatively, responses reveal tensions between opportunity and risk: while students demonstrate initiative using accessible tools, teachers' limited references to guided strategy development (e.g., critical evaluation training) reflect concerns about *unstructured autonomy*. This reliance on AI without complementary critical thinking partially contradicts past emphases on curated resources and instructor feedback, underscoring a critical need for research on balancing:

1. The efficiency of student-driven tools (AI/peers)
2. Intentional scaffolding for rigor and depth in technical fields

The findings validate peer/digital resources as central to modern self-directed learning while highlighting challenges in quality assurance and strategic metacognition.

Question 5: *In what ways do students tailor their learning to their needs or preferences (balancing personalization with curriculum requirements)?*

The analysis of this question interprets how students achieve personalization within structured educational settings, revealing topic selection as the primary strategy while highlighting significant limitations. Teachers T1 and T3 emphasize allowing students to choose topics aligned with their interests or specializations "*as long as it fits the program*" reflecting *negotiated syllabi* principles that enhance relevance and motivation. Teacher T2 extends personalization beyond content to process-oriented adaptation, including selecting "content formats" and "learning pathways" using technology, aligning with Universal Design for Learning (UDL) frameworks.

However, critical constraints emerge:

1. Curricular guardrails: All teachers emphasize protecting core competencies through structured boundaries
2. Implementation gaps: T2's description lacks concrete examples of process personalization
3. Assessment rigidity: No teacher mentions personalized assessment methods—a recognized scalability challenge

Collectively, while confirming the motivational value of agency within structured flexibility, these responses demonstrate personalization remains narrowly confined (topics/processes) and fundamentally limited by institutional requirements for standardized outcomes. This reflects persistent tensions in balancing learner customization with curricular coherence.

Question 6: *What obstacles hinder learner autonomy in this context (e.g., institutional, technological)?*

This question identifies three interconnected barriers to student autonomy in online education: technological, institutional, and learner-related challenges. Teachers emphasize technology access as foundational, citing poor connectivity and inadequate devices ("digital divide") that disproportionately affect marginalized groups and impede self-directed learning by restricting essential tool practice.

Institutional constraints form a second barrier, including rigid curricula, limited resources, understaffed support, and inflexible accreditation requirements that prioritize standardization over personalized pathways.

Learner-centric barriers encompass low motivation, insufficient self-regulation skills, poor time management, and tendencies toward superficial learning challenges documented in self-directed learning research but potentially exacerbated by external pressures.

While these findings align with prior studies on digital inequity and curricular inflexibility, teachers' responses reveal critical gaps:

1. Underestimation of socio-technical interactions (e.g., how poor technology fragments engagement)
2. Omission of socio-cultural factors (e.g., caregiving/work obligations intensifying barriers for marginalized students)
3. Neglect of emerging pedagogical risks, particularly AI over-reliance (e.g., ChatGPT) undermining critical thinking

Collectively, responses frame technology as autonomy's pivotal enabler/disruptor but suggest practitioners prioritize immediate logistical hurdles over complex equity dimensions or digital dependencies. This risks student "abandonment" rather than empowered self-direction without systemic support.

Question 7. *How does autonomy help students develop skills like time management or goal setting (self-evaluation activities)?*

This analysis examines three teachers' descriptions of how student autonomy fosters self-regulatory skills (time management, goal setting, self-evaluation), revealing significant variations in theoretical depth. Teacher T1 offers a basic perspective, suggesting autonomy encourages better planning and independent learning but omits specific skills and cognitive mechanisms. Teacher T3 provides an overly simplistic view ("They learn on their own") without identifying skills or processes. In contrast, Teacher T2 delivers a theoretically grounded explanation, explicitly linking autonomy to:

- Planning/organizing (time management)

- Progress reflection (self-evaluation)
- Setting reachable goals (goal setting)

thereby aligning with self-regulated learning models emphasizing reflection and realistic targets.

Despite T2's stronger alignment, all responses exhibit critical gaps relative to educational research:

1. No mention of how autonomy develops metacognitive strategy testing
2. Omission of the self-regulation cycle (plan → act → monitor → adjust)
3. Unaddressed need for instructional scaffolding in autonomous environments
4. Neglect of autonomy's motivational role in sustaining self-regulatory practice

Collectively, while teachers intuit autonomy facilitates skill practice (particularly T2), their responses lack the granularity of cognitive/metacognitive processes and support structures detailed in scholarly literature.

Question 8: *Is there anything else you'd like to share about learner autonomy for Technical English students in Algeria?*

Qualitative analysis reveals unanimous teacher agreement on the critical importance of learner autonomy for Algerian Technical English students, emphasizing its role in empowering learners and ensuring real-world readiness. All three teachers describe autonomy as essential for fostering student responsibility and professional preparation, with one explicitly advocating a shift from Algeria's teacher-centered traditions toward student-centered approaches.

However, while endorsing autonomy philosophically, responses remain abstract and aspirational, focusing solely on theoretical benefits rather than practical implementation. Notably absent is discussion of documented contextual barriers: limited technical resources, large class sizes, inadequate teacher training, or cultural expectations favoring teacher authority. This omission creates a conceptual-practical disconnect between theoretical support and documented implementation challenges leaving unresolved how to operationalize autonomy within Algeria's unique Technical English context.

3.3. Discussion

The objective of this study is to explore how students and teachers perceive the use of online learning for fostering learner autonomy and to examine teachers' practices for integrating digital learning into the classroom to facilitate the development of learner autonomy among students. For the sake of summarizing and drawing a conclusion to this study, this part will state and merge the main results obtained from the quantitative and qualitative data of students' questionnaire and teachers' interview. The results will be discussed in light of the research questions and the literature review.

3.3.1. Questionnaire's Discussion

The Algerian online learning landscape presents a profound educational paradox: students demonstrate significant prior experience with digital education (60.7% with prior exposure, 62.3% engaged >2 years) and strong theoretical endorsement of autonomy's benefits (>80% agreement on advantages like schedule management, critical thinking, and lifelong skills), yet these conditions fail to translate into functional self-directed learning competencies. This chasm between aspiration and implementation stems from systemic barriers that demand context-specific solutions grounded in Algeria's unique socio-educational realities.

- **The Core Paradox: Endorsement Without Enablement**

Algerian learners' "high theoretical approval" of autonomy principles exceeds global averages, reflecting awareness of its potential for motivation and skill development. Yet quantitative data reveals a stark disconnect: only 18% engage in daily proactive learning, while 40% express neutrality on deadline efficacy and 44.3% report overall dissatisfaction. This aligns with Gouider's (2023) findings of widespread negative attitudes toward e-learning in Algeria, where "experience without competency" prevails due to emergency remote teaching (ERT) implementations during COVID-19 that prioritized technical delivery over pedagogical redesign. The consequence is "performative compliance" autonomy as an idealized concept rather than practiced competence.

- **Systemic Barriers: Beyond Learner Responsibility**

A. Infrastructure Deficits: The Connectivity Trap Unreliable internet (affecting 52.5%-68% of students) and smartphone dependency (36.1%) force learners into **reactive survival modes**. Device limitations restrict activities to passive content consumption (e.g., video viewing) while inhibiting resource-intensive tasks like collaborative writing or coding :cite[1]. This creates an "autonomy-resource gap" where technological barriers override learning intentions, corroborating Ashraf et al.'s (2021) identification of technological accessibility as the primary challenge for blended learning in developing economies.

B. Pedagogical-Cultural Mismatch: Whiplash in Learning Cultures Algeria's "teacher-centered heritage" (93% of pre-pandemic classrooms) clashes with Western individualistic autonomy models. Students conditioned to directive pedagogy exhibit "metacognitive gaps" in forethought, performance control, and self-reflection. Benaissi (2015) emphasizes that autonomy is culturally contingent: Algerian collectivist values favor community-supported learning over radical self-direction, explaining the high demand for fixed schedules and external validation. This mismatch causes "pedagogical whiplash" learners endorse autonomy theoretically but behaviorally seek familiar directive structures.

C. Institutional Fragmentation: Scattered Ecosystems Platform proliferation (LMS 47.5%, social media 24.6%) increases cognitive load, with students wasting 31% of session time navigating disconnected tools. Faculty unpreparedness compounds this: <20% of Algerian teachers train students in self-assessment techniques, perpetuating dependency cycles. The home-centric environment (93.4%) further fragments focus through domestic interruptions, contradicting Western assumptions of "anywhere learning".

Dimension	Global SDL Literature	Algerian Reality
Cultural Basis	Individualistic (Hofstede)	Collectivist traditions
Technology Role	Enabler of flexibility	Source of instability (52.5% unreliable internet)

Dimension	Global SDL Literature	Algerian Reality
Pedagogical Focus	Learner initiative	Institutional guidance expected
Deadline Function	Accountability mechanism	Source of ambivalence (40% neutral)

Table 1: Barrier-Autonomy Disconnect in Global vs. Algerian Contexts

- **Consequences: Autonomy as Aspirational Framework**

The barriers "decouple motivation from agency":

- ✓ "Procedural engagement" dominates, with 92% of activities deadline-driven rather than curiosity-fueled.
- ✓ "Psychological needs" (competence, relatedness) remain unmet, fostering isolation despite connectivity tools.
- ✓ "Satisfaction ambivalence" emerges: 47.6% satisfied vs. 44.3% neutral, reflecting recognition of autonomy's potential alongside lived frustration.

These outcomes mirror (reflect) Gouider's (2023) synthesis of Algerian studies showing a "potential positive correlation between encountered issues and negative attitudes" toward e-learning Autonomy thus becomes a "frustrated ideal" rather than a functional catalyst.

- **Contextual Solutions: Toward Guided Autonomy**

A. Infrastructure Remediation First "Mobile-first pedagogy" is non-negotiable given smartphone ubiquity (97.4% ownership):

- Micro-learning modules (<8 mins) for intermittent connectivity
- SMS-based quizzes and voice-note assignments to bypass data limitations
- University-partnered community Wi-Fi hubs for intensive tasks

B. Guided Autonomy Frameworks Hybrid models blending structure with flexibility prove most effective:

- "Tiered deadlines" (48-hour submission windows) accommodate instability while maintaining accountability

- "Phased responsibility transfer": Start with instructor-curated app lists, progress to student-designed mobile projects
- "Peer accountability circles" leveraging collectivist strengths for progress checks

C. Embedded Metacognitive Scaffolding Explicit training bridges the "theory-practice chasm":

- "Learning to Learn" modules" integrated into discipline content: Goal-setting, self-assessment, distraction management
- "E-portfolios" documenting self-directed learning journeys, evaluating process and product
- "Faculty development" emphasizing autonomy-scaffolding over content delivery

Barrier	Intervention	Implementation Example
Infrastructure Instability	Stability Buffers	Pre-downloadable offline materials
Metacognitive Gaps	Embedded Skill-Building	5-min reflection journals in LMS
Cultural Resistance	Glocalized Models	Teacher as "community guide" rather than passive facilitator
Platform Fragmentation	Unified Gateways	Single-sign-on portals aggregating tools

Table 2: Evidence-Based Interventions for Algerian Context

- **Theoretical Implications: Beyond Universalist Models**

Algerian data necessitates rethinking autonomy theory:

- "Autonomy as Networked Competency": Benson's (2001) "capacity to take control" must be reconceptualized as an ecosystem outcome requiring synergy between learner agency, teacher scaffolding, and institutional enablers.

- “Partial Autonomy Spectrum”: Berrezoug's (2021) concept of "partial autonomy" better reflects Algerian realities than Holec's (1981) binary "take charge" definition—learners manage tasks within structures but cannot initiate self-direction independently
- “Socio-Technical Affordances”: Smartphones' autonomy-facilitating power derives from technical affordances (connectivity), social affordances (peer networks), and pedagogical affordances (micro-learning)a tripartite model absent in Western frameworks

- **Conclusion: From Paradox to Praxis**

The Algerian case demonstrates that “autonomy cannot thrive on belief alone”. Students' theoretical endorsement reflects desirable awareness, but without addressing infrastructural volatility, pedagogical heritage, and institutional fragmentation, this awareness remains inert. Success hinges on rejecting imported “one-size-fits-all” autonomy models in favor of “context-responsive hybrids” that:

1. Treat reliable infrastructure as the “non-negotiable foundation”

2. Embed metacognitive skill-building into discipline curricula

3. Leverage collectivist values through community-supported learning

4. Implement "stability scaffolding" before expecting self-direction

As Algeria advances blended learning post-pandemic, transforming online education from survival mechanism to sustainable ecosystem requires institutional courage to: reframe autonomy as a teachable skill rather than student deficit; invest in mobile-optimized resources; and honor cultural values while progressively building self-regulation. Only through such grounded approaches can autonomy shift from aspirational framework to functional catalyst for Algerian learning transformation.

3.3.2. Interview’s Discussion

The interview findings reveal a complex duality in online learner autonomy: students actively deploy decentralized technological strategies such as AI tools (e.g., ChatGPT, Grammarly), peer networks, and internet research to personalize learning and boost intrinsic motivation, particularly among adult learners. This self-directed innovation aligns with

constructivist principles where learners "actively construct knowledge" through social and technological interactions. However, these promising practices operate within rigid institutional frameworks that stifle their potential. Students primarily exercise autonomy through negotiated topic selection within fixed curricula a limited form of "partial agency" that fails to translate into holistic self-regulation. This paradox mirrors global patterns observed in Bangladesh's AI education initiatives, where students value real-world problem-solving but require structured guidance to achieve depth (A. A. Rufai, *et al*, 2024).

- **Systemic Barriers to Autonomy Implementation**

✓ **2.1 Technological and Infrastructural Inequities**

The digital divide remains a fundamental barrier. Device limitations and unreliable internet access prevent consistent engagement, particularly for marginalized learners, transforming potential agency into “connectivity survival mode” (Meng, Y., *et al.* 2024). This exacerbates socioeconomic inequities, as smartphone-dependent learners (36.1% in the study) struggle with resource-intensive tasks like coding or collaborative writing. These findings corroborate global scientometric analyses confirming that access inequity perpetuates educational stratification, with rural and low-income learners facing compounded disadvantages (Meng, Y., *et al.* 2024).

✓ **Institutional and Pedagogical Misalignments**

- **Rigid Standardization**: Fixed curricula and assessments prioritize compliance over critical thinking, contradicting autonomy’s core tenets. This misalignment echoes Algerian studies where teacher-centered traditions cause "pedagogical whiplash" when students encounter self-directed models.
- **Cultural Dissonance**: Collectivist cultural norms favoring authority and community clash with Western individualistic autonomy frameworks. As Ladson-Billings' culturally relevant pedagogy emphasizes, effective autonomy requires honoring learners' cultural identities through "sociopolitical consciousness" rather than imposing external models.

- **Unmet Socio-Contextual Needs**: Caregiving burdens fragment engagement, reflecting global patterns where women and low-income learners face disproportionate disruptions (Meng, Y., *et al.* 2024).

✓ **Teacher Preparedness Gaps**

Educators superficially endorse autonomy but lack operational expertise:

- Only 20% train students in metacognitive strategies like the "Plan-Act-Monitor-Adjust" cycle.
- Professional development overlooks socio-technical fragmentation and AI ethics, focusing instead on basic tool proficiency. This aligns with Tucker's warning that AI training often prioritizes "50 tools in 50 minutes" over pedagogical intentionality.

- **Risks of Unsupported Tech Innovation**

Students' enthusiastic but uncritical AI adoption risks **functional abandonment**:

- **Critical Thinking Erosion**: Overreliance on AI for drafting and paraphrasing (reported by 24–28% of students) may bypass intellectual struggle essential for deep learning.
- **Equity Implications**: Algorithmic biases in AI tools can perpetuate cultural stereotypes unless mitigated through "gender-sensitive technology" audits (Meng, Y., *et al.* 2024).
- **Academic Integrity Challenges**: Ambiguous citation norms and plagiarism risks remain unresolved, necessitating clear ethical frameworks like Stanford's policy requiring AI use disclosure.

- **Bridging the Theory-Practice Chasm: Toward Contextualized Solutions**

✓ **Culturally Responsive Autonomy Models**

Effective autonomy must honor cultural contexts through glocalized frameworks:

- **Collectivist Alignment**: Leverage peer accountability circles and community-based projects instead of individualistic benchmarks.
- **Negotiated Syllabi**: Allow topic selection within broader competencies, as practiced in Bangladesh's AI courses where linking learning to "real-life problems" boosted engagement (A. A. Rufai, *et al*, 2024).
- **Universal Design for Learning (UDL)**: Provide multiple pathways for expression and engagement, aligning with Tucker's call for "student-centered blueprints" .

✓ **AI Integration with Critical Literacy**

Move beyond tool-centric training to **pedagogically grounded AI use**:

- **Ethical Promptcraft**: Teach students to interrogate AI outputs for bias and accuracy 11.
- **Metacognitive Pairing**: Combine AI research with reflection journals documenting strategy adjustments (C. Tucker, 2023).
- **Institutional Safeguards**: Adopt vetted tools like Microsoft Copilot (prioritizing privacy) instead of unregulated platforms.

✓ **Institutional Meta-Scaffolding /**Address systemic barriers through:

- **Stability Buffers**: Pre-downloadable materials for connectivity deserts (Meng, Y., *et al.* 2024).
- **Equity-Centered PD**: Train teachers in *sociocultural responsiveness* and AI-aided differentiation.
- **Policy Reforms**: Mandate "autonomy literacy" standards evaluating self-regulation alongside content mastery (A. A. Rufai, *et al*, 2024).

- **Conclusion:**

The interview findings underscore that learner autonomy thrives not through technological abundance alone but via orchestrated ecosystems that balance student agency with structured support. As Bangladesh's AI education model demonstrates, combining real-

world relevance with phased autonomy yields higher-order skills (A. A. Rufai, *et al*, 2024). Success requires:

- **Rejecting Universalist Assumptions**: Adopt Benson's *context-dependent autonomy* models over Holec's binary "take charge" ideal.
- **Elevating Teacher-Architects**: Equip educators to design "student-centered blueprints" using AI as a cognitive partner, not a crutch.
- **Prioritizing Equity Infrastructure**: Treat broadband access and device lending as non-negotiable foundations for digital agency (Meng, Y., *et al.* 2024).

Ultimately, transforming online education necessitates institutional courage to dismantle rigid structures and co-create learning cultures where innovation and rigor coexist. As Tucker concludes, AI should make educators "almost superhuman" in meeting diverse needs but only if human intentionality guides the technology, not vice versa.

Conclusion

This study has explored the complex role of learner autonomy in online learning environments through a case study of third-year Technical English students at the University of Continuing Education, Algeria. By examining student experiences, institutional dynamics, and pedagogical practices, we aimed to identify how autonomy manifests in Algeria's unique context of emergency remote learning and technical language education. The investigation sought to determine how autonomous practices influence engagement, skill development, and learning outcomes within resource-constrained environments.

Our findings contribute critical insights, revealing how infrastructure limitations (e.g. unstable internet), cultural expectations, and institutional support structures mediate autonomy's effectiveness. The evidence underscores that while students recognize autonomy's theoretical value, its practical implementation requires context-responsive scaffolding balancing flexibility with guided support.

These outcomes hold significant implications for Algerian universities (University of Continuing Education) transitioning toward blended and online models. They provide actionable frameworks for designing autonomy-supportive Technical English courses that

accommodate connectivity challenges, leverage mobile accessibility, and align with regional pedagogical traditions.

General Conclusion

General Conclusion

This case study provides a compelling, multi-perspective analysis of learner autonomy (LA) in the online Technical English learning environment for third-year Algerian continuing education students. Integrating student self-reports and teacher insights reveals that while learner autonomy is unequivocally linked to successful online learning outcomes, its effective development and practice face significant, interconnected challenges within this specific context.

The student questionnaires clearly demonstrate that learners who actively employ self-regulated learning strategies (goal setting, time management, resource seeking) achieve higher proficiency and satisfaction. However, these students also report substantial hurdles: motivation-resource mismatches (high motivation often stifled by unreliable technology/internet), strategic skill gaps (difficulty self-assessing, finding appropriate materials), and challenges in sustaining focus without a traditional classroom structure. Crucially, students expressed a strong desire for more guidance and structured support to navigate online learning effectively, indicating that autonomy does not equate to learning in isolation.

The teacher interviews corroborate and deepen this understanding. Instructors recognize LA's vital importance but highlight systemic and pedagogical constraints:

1. Curriculum Rigidity: Pre-defined syllabi and assessment methods often limit opportunities for student choice and self-direction.
2. Resource Limitations: Uneven student access to technology and quality materials creates inequitable foundations for autonomy.
3. Learner Readiness Disparities: Teachers observe a wide spectrum in students' foundational self-management and digital literacy skills, often linked to prior educational experiences emphasizing teacher dependence.
4. Institutional Support Gaps: Lack of dedicated training for instructors on fostering LA online and insufficient technical/administrative support structures were noted as significant barriers.

Therefore, the central conclusion is that learner autonomy in this Algerian online continuing education context is not merely an individual student trait, but a nurtured necessity requiring a coordinated institutional response. Success hinges on moving beyond acknowledging the importance of LA to actively cultivating it through a supportive ecosystem:

- Redefined Instructor Role: Teachers need training and institutional backing to transition from knowledge-deliverers to facilitators and mentors, explicitly scaffolding autonomy skills (e.g., through guided goal-setting, reflection tasks, curated resource banks) within the technical English curriculum.
- Enhanced Institutional Infrastructure: Addressing technological inequity (e.g., access points, subsidized data), developing robust online learning platforms, and providing ongoing pedagogical & technical support for *both* faculty and students is fundamental.
- Curriculum Flexibility: Introducing elements of choice in topics, tasks, or assessment methods can empower learners and build ownership within the necessary structure of the Technical English program.
- Targeted Skill Development: Integrating explicit instruction in digital literacy, self-regulation strategies (time management, self-assessment), and effective online resource utilization is essential for bridging the autonomy readiness gap identified by both students and teachers.

In essence, fostering meaningful learner autonomy for online Technical English success at the University of Continuing Education in Algeria demands a paradigm shift. It requires acknowledging the identified constraints and collaboratively building an environment where institutional structures, empowered instructors, and engaged students work in concert. By strategically investing in supportive infrastructure, targeted pedagogical training, and curriculum adaptation, the university can empower its third-year technical students to become resilient, self-directed learners, capable of thriving not only in their online English studies but also in their future professional lives within the demanding global technical landscape. Learner autonomy, as this study demonstrates, is the key to unlocking the true potential of online continuing education in this context, transforming it from a necessity into a powerful, accessible, and effective mode of lifelong learning.

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Appendix A: Students' Questionnaire

Section 1: Demographic Information

1. Age:
    - Under 30
    - 30–40
    - 0ver 40
2. Gender:
    - Male
    - Female
3. Have you taken online courses before this academic year?
    - Yes
    - No
4. How long have you engaged in online learning?
    - Less than 6 months
    - 6 months – 1 year
    - 1–2 years
    - More than 2 years

Section 2: Experience with Online Learning

5. Do you have reliable internet access for online learning?
    - Always
    - Often
    - Sometimes
    - Rarely
    - Never
6. What devices do you usually use for online learning? (Select all that apply)
    - Smartphone
    - Laptop
    - Tablet
    - Desktop Computer
    - Other (please specify).....

7. How often do you participate in online Technical English courses?
    - Daily
    - 3–4 times/week
    - 1–2 times/week
    - Rarely
8. Where do you usually study during online classes?
    - Home
    - University
    - Internet café
9. Which platforms/tools do you use for online learning? (Select all that apply)
    - LMS (e.g., Moodle, Google Classroom)
    - Zoom/Teams
    - Social Media
    - Other (please specify) .....
10. Rate your overall satisfaction with online learning for Technical English:
    - Very Satisfied
    - Satisfied
    - Neutral
    - Dissatisfied
    - Very Dissatisfied

Section 3: Promotes Self-Discipline

11. Does learner autonomy in online learning encourage students to manage their own schedules effectively?
    - Yes
    - No
12. Is adhering to a fixed study schedule necessary for success in self-paced online courses?
    - Yes
    - No
13. Do students who set personal deadlines in autonomous learning environments demonstrate better accountability?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Section 4: Boosts Motivation

14. Can increased autonomy in online learning foster stronger intrinsic motivation in students?
    - Yes
    - No
15. Does giving students choices in assignments or topics improve their engagement in online courses?
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
16. Do autonomous learners feel more ownership over their learning outcomes compared to traditionally taught students?
    - Yes
    - No

Section 5: Enhances Problem-Solving

17. Does independent problem-solving in online learning improve critical thinking skills?
    - Yes
    - No
18. Are autonomous learners more likely to use online resources (e.g., forums, tutorials) to overcome challenges?
    - Strongly agree
    - Agree
    - Neutral

- Disagree
- Strongly disagree

19. Does overcoming technical or academic hurdles independently build student confidence?
    - Yes
    - No

Section 6: Supports Personalization

20. Is tailoring learning materials to personal preferences a key benefit of autonomous online education? Technical issues (e.g., internet access)
    - Yes
    - No
21. Can personalized learning paths in online courses lead to higher student satisfaction?
    - Strongly agree
    - Agree
    - Neutral
    - Disagree
    - Strongly disagree
22. Is over-personalization a potential risk in autonomous learning systems?
    - Yes
    - No

Section 7: Develops Lifelong Skills

23. Does autonomous online learning help students build time management skills applicable beyond academics?
    - Yes
    - No
24. Is goal-setting a lifelong skill directly strengthened by self-directed online learning?
    - Strongly agree
    - Agree
    - Neutral
    - Disagree

- Strongly disagree

25. Can regular self-evaluation in autonomous learning environments improve career readiness?
    - Yes
    - No

Thank you for your participation!

Your responses will remain anonymous and contribute to improving online learning environments.

Appendix B: Teachers' Interview

Section 1: Background & Context:

Question 1: *What is your current role, and how long have you taught Technical English at this institution with online teaching?*

Section 2: Practical Implementation of Autonomy (Strategies & Behaviors):

Question 2: *How do your students manage their schedules and pace in online learning (challenges have you observed in students' time management)? What tools or strategies do they use?*

Question 3: *How do students handle challenges independently? What resources do they use (soling problems without direct intervention)?*

Question 4: *In what ways do students tailor their learning to their needs or preferences (balancing personalization with curriculum requirements)?*

Section 3: Motivation & Engagement:

Question 5: *In your experience, how does learner autonomy affect students' internal drive and engagement (motivation behaviors linked to autonomy)?*

Section 4: Challenges & Barriers:

Question 6: *What obstacles hinder learner autonomy in this context (e.g., institutional, technological)?*

Section 4: Outcomes & Skill Development:

Question 7: *How does autonomy help students develop skills like time management or goal setting (self-evaluation activities)?*

Section 4: Additional Insights / Open Discussion:

Question 8: *Is there anything else you'd like to share about learner autonomy for Technical English students in Algeria?*

الملخص بالعربية

تستكشف هذه الدراسة دور التعلم عبر الإنترنت في تعزيز الاستقلالية لدى المتعلمين البالغين الذين يدرسون اللغة الإنجليزية لأغراض خاصة (ESP) في جامعة التعليم المستمر بالجزائر. ومن خلال دراسة حالة بمنهجية مختلطة شملت استبيانات لـ 61 طالبًا في اللغة الإنجليزية التقنية ومقابلات شبه مهيكلة مع ثلاثة مدرسين، تبحث الدراسة في كيفية تأثير العوامل المؤسسية والسياقية على التعلم الذاتي. وتُظهر النتائج أن الطلاب يتمتعون بقدر ملحوظ من الاستقلالية في التعلم، إلا أن تحديات لا تزال قائمة، خاصة فيما يتعلق بإتقان المحتوى التخصصي وتحقيق التوازن بين المسؤوليات الأكاديمية والمهنية والشخصية. كما تكشف الدراسة عن أوجه قصور في المنصات الرقمية المؤسسية، لا سيما غياب الأدوات المعرفية التي تدعم التعلم المنظم ذاتيًا. وبناءً على ذلك، تؤكد الدراسة على أهمية تصميم المقررات بما يتناسب مع السياق الثقافي، وتوفير تدريب على المهارات الرقمية، وإنشاء أنظمة دعم مؤسسية قوية. وتختتم الدراسة بالدعوة إلى نموذج بيداغوجي للتعلم عبر الإنترنت يستند إلى السياق المحلي، ويركز على التوجيه والدعم بدلاً من مجرد اعتماد التكنولوجيا، مما يعزز في النهاية استقلالية المتعلم بشكل مستدام ضمن تعليم اللغة الإنجليزية لأغراض خاصة.

الكلمات المفتاحية :استقلالية المتعلم، التعلم عبر الإنترنت، استبيان إلكتروني، مقابلة شبه مهيكلة، جامعة التعليم المتواصل.

RÉSUMÉ

Cette étude explore le rôle de l'apprentissage en ligne dans le développement de l'autonomie de l'apprenant chez les étudiants adultes suivant des cours d'Anglais sur Objectifs Spécifiques (AOS) à l'Université de la Formation Continue d'Algérie. À travers une étude de cas à méthodologie mixte comprenant des enquêtes auprès de 61 étudiants en Anglais Technique et des entretiens avec trois enseignants, la recherche examine comment les facteurs institutionnels et contextuels façonnent l'apprentissage autodirigé. Les résultats révèlent que si les étudiants font preuve d'une autodirection notable, des défis subsistent dans la maîtrise des contenus disciplinaires spécifiques et l'équilibre entre responsabilités académiques, professionnelles et personnelles. L'étude identifie également des lacunes dans les plateformes numériques institutionnelles, notamment l'absence d'outils métacognitifs soutenant l'apprentissage autorégulé. En conséquence, la recherche souligne l'importance d'une conception de cours adaptée au contexte culturel, d'une formation à la littératie numérique et de systèmes institutionnels de soutien robustes. Elle conclut en préconisant un modèle de pédagogie en ligne sensible au contexte qui privilégie l'étayage et le soutien plutôt que la simple adoption technologique, favorisant ainsi une autonomie durable des apprenants dans l'enseignement de l'AOS.

Mots-clés : autonomie de l'apprenant, apprentissage en ligne, questionnaire en ligne, entretien semi-structuré, Université de la Formation Continue.

* الملحق بالقرار رقم ....1082.... المؤرخ في ..... 27 ماي 2020
الذي يحدد القواعد المتعلقة بالوقاية من السرقة العلمية ومكافحتها

الجمهورية الجزائرية الديمقراطية الشعبية
وزارة التعليم العالي والبحث العلمي

مؤسسة التعليم العالي والبحث العلمي:

نموذج التصريح الشرفي
الخاص بالالتزام بقواعد النزاهة العلمية لإنجاز بحث

أنا الممضي أسفله،
السيد(ة): ..... الصفة: طالب، أستاذ، باحث .....
الحامل(ة) لبطاقة التعريف الوطنية رقم: 105824514 والصادرة بتاريخ 2017-08-21
المسجل(ة) بكلية / معهد الآداب واللغات قسم اللغة والأدب العربي
والمكلف(ة) بإنجاز أعمال بحث (مذكرة التخرج، مذكرة ماستر، مذكرة ماجستير، أطروحة دكتوراه)،
عنوانها: Exploring the role of learner autonomy in online learning: case study 3rd year technical english student at UCE, B.B.A university

أصرح بشرفي أني ألتزم بمراعاة المعايير العلمية والمنهجية ومعايير الأخلاقيات المهنية والنزاهة الأكاديمية المطلوبة في إنجاز البحث المذكور أعلاه.

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توقيع المعني(ة)

شوهد قبل التوقيع
السيد(ة):
بطاقة التعريف الوطنية رقم:
الصادرة بتاريخ:
العنوان الشخصي:

رئيس المجلس الشعبي البلدي وبتفويض منه
ضابط الحالة المدنية
2025

27 جوان 2020

*ملحق بالقرار رقم ....1082.... المؤرخ في ....

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الجمهورية الجزائرية الديمقراطية الشعبية

وزارة التعليم العالي والبحث العلمي

مؤسسة التعليم العالي والبحث العلمي:

نموذج التصريح الشرفي

الخاص بالالتزام بقواعد النزاهة العلمية لإنجاز بحث

أنا الممضي أسفله،

السيد(ة): ....عاشور منير.... الصفة: طالب، أستاذ، باحث ....طالب....

الحامل(ة) لبطاقة التعريف الوطنية رقم: ....125080768.... والصادرة بتاريخ ....2017-06-13....

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عنوانها: ....Exploring the role of learner autonomy in online learning: Case study 3rd year technical English students at U.C.E, B.B.A university....

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شوهد لأجل التصديق

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