

Mindsets and EFL Learner Autonomy in the Digital Era: High School Learners as a Case Study

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Abstract

EFL learners in Morocco have access to numerous online resources and tools to aid in language learning. Despite this abundance, many learners struggle to develop learner autonomy and effectively utilize these digital tools. These challenges are often attributed to mindsets, which can significantly impact success or failure in language learning. Additionally, the mode of learning to which students are exposed plays a crucial role. This paper aims to explore the relationship between mindset, mode of learning, and learner autonomy in Moroccan EFL education. To investigate this, a self-administered questionnaire was given to two groups of 88 Moroccan second-year baccalaureate students, examining whether mindsets or modes of learning affect autonomy in the technological era. The findings revealed that project-based learning positively influences students' behaviour and attitudes towards learning and technology, promoting greater learner autonomy and independence. While the majority of students owned mobile phones, their usage varied significantly. Project-based learners exhibited a high level of autonomy, with 93% using mobile phones for research and learning purposes rather than social media. In contrast, 20% of teacher-centred learners believed that a teacher's presence is necessary, whereas all project-based learners acknowledged the teacher's role as important but not always required. The study underscores the importance of mindset and mode of learning in fostering learner autonomy. It also highlights the potential benefits of project-based learning for language learners, suggesting that this approach can enhance both autonomy and effective use of technology in education.

1. INTRODUCTION

In the current globalized and rapidly changing world, the demands of the workplace have become more complex, requiring individuals to possess not only technical knowledge but also the ability to think creatively and be lifelong learners (Betts et al., 2016). In the Moroccan context, the situation is particularly concerning. Abdallaoui (2012) underscores the widespread lack of analytical thinking skills among Moroccan students, attributing this deficiency to inherent flaws within the educational system. The prevailing educational model in Morocco faces significant challenges in fostering and incorporating critical thinking into the curriculum. Consequently, students are ill-equipped for further academic pursuits and future professional careers. As a result, teachers are expected to adopt innovative teaching approaches that promote the development of independent and creative learners. Despite teachers' efforts to engage students and involve them in the learning process, some may still rely on traditional teaching methods and feel comfortable in a passive, receptive mode. This mindset may prevent them from utilizing digital technologies and tools to promote active learning and production, as they may believe that their language skills are weak and will always remain so.

In a study conducted by Mamad and Vigh (2024) investigating Moroccan students' perceptions of feedback on their writing, findings demonstrated that some students with a fixed mindset interpret feedback as an indication of incompetence rather than as an opportunity for improvement. Such an issue may have arisen because of cultural attitudes toward criticism, prior educational experiences that prioritized memorization over critical examination, and a dearth of focus in the educational system on growth mindset concepts. Furthermore, it's possible that students weren't given enough instruction to help them recognize the constructive nature of criticism or that they received criticism that wasn't given in a way that was encouraging and helpful. However, these beliefs can have a significant impact on their autonomy and success as language learners. In this regard, student autonomy is very significant for students in the age of technology and artificial intelligence, students are expected to work independently from their teachers. A study conducted by Khoudri and Zerouh (2023) investigated the autonomy of Moroccan undergraduate students studying English as a Foreign Language (EFL) during the Covid-19 pandemic. The results indicated that many students lacked awareness of their roles as independent learners. Additionally, the research highlighted that utilizing the internet is one of the key methods students use to boost their autonomy and self-reliance.

2. The relationship between students' mindsets, autonomy, and the mode of teaching and learning in a digitalized context

The emergence of innovative Information and Communication Technologies (ICT) generates fundamental transformations across all domains of public existence, rendering digitalization an omnipresent feature. It is evident that education, being one of the most important human endeavours, cannot remain unaffected by this progression. Consequently, every member of the classroom is required to adopt new roles imposed by the circumstances. Two learning environments were identified in the literature; the traditional learning environment (teacher-centered model) and the constructivist learning environment (learner-centered model). Theoretically speaking, teachers are anticipated to facilitate experiences and guide the construction of meaning, rather than solely providing information, assessing outcomes, and reinforcing behaviours through rules and procedures. In contrast, learners are expected to adopt an active and constructive approach, as opposed to being passive recipients of knowledge. Contemporary pedagogy literature presents diverse understandings of constructivism. However, a prevailing idea is that it provides a setting that enables learners to have the autonomy to select the direction and speed of their learning, which ultimately aids them in building their knowledge (Dykstra, 2005). The application of ICT in education has proven to be efficacious in the domains of instruction, learning, and assessment. It is widely acknowledged as a powerful tool for instigating and transforming education. Prior studies have demonstrated that the appropriate use of ICT has the potential to elevate the standard of education and establish connections between learning and practical, real-world situations (Lowther et al., 2008; Weert & Tatnall, 2005). Information and Communication Technology (ICT) is extensively utilized within the education sector, incorporating diverse electronic delivery systems such as computers, the Internet, mobile phones, projectors, and other related technologies.

Contemporary students are often identified as 'digital natives' (Prensky, 2003) or the 'net generation' (Oblinger, 2003), implying that they have grown up using computers and the Internet and are the prevailing generation that educators encounter today (Bayne & Ross, 2007). In various educational contexts, such as collaborative learning (Hine et al., 2004), independent learning (Bull & Reid, 2004), and lifelong learning (Attewell & Savill-Smith, 2004), mobile learning (M-Learning) has been recognized as a highly beneficial approach. Mobile devices are considered an effective delivery channel with significant potential for sustainable learning due to their greater accessibility and practicality compared to other

computer-mediated communication tools (Singh & Khanna, 2014). ICT is; therefore, a means to promote the construction of learning.

Constructivism is a theory that has influenced various academic fields, such as sociology, psychology, pedagogy, and science. The theory posits that knowledge generation is only possible through interaction and discourse between individuals. According to Pritchard and Woollard (2013), constructivists believe that knowledge can be created and recreated, requiring active involvement from learners to discover new knowledge. Learning is viewed as a social process that takes place both inside and outside the classroom, as classrooms are social environments where students interact with one another and their instructors for knowledge construction. One of the effective constructive and pedagogical approaches to promote students' autonomy and self-directed learning is Project Based Learning (Saad & Zainudin, 2022). Various constructivists have agreed that learners construct knowledge through social interactions with each other. In addition, Scardamalia and Bereiter (2007) suggest that knowledge building is also a type of social constructivism, which has been significantly contributed to by ICT. Constructivism has a crucial objective of helping students learn how to learn, which fosters critical thinking, motivation, and independence, as emphasized by Kalpana (2014). In other terms, constructivism emphasizes learning rather than teaching and promotes learner autonomy (Wang, 2011).

The term autonomous learning has been subject to scholarly debate due to the diverse ways in which it has been conceptualized across the globe (Benson, 2007). Initially, Holec (1979) defines learner autonomy as the capacity to take charge of one's learning. Subsequently, Trebbi (1997) posits that effective learning necessitates the learner's willingness and readiness to take control. In line with this, Little (2017) stresses the importance of the learner's volition and involvement in the learning process. It is important to note that autonomy is not a learning method but rather a personal attribute that shapes the learner's approach to the learning experience (Benson, 2013). To exhibit autonomy, one must possess the capacity for decision-making (Baud, 1988 as cited in Surma, 2004), have a clear understanding of their role (Nunan, 2014), and have the ability to self-regulate (Littlewood, 1999). However, learners' attitudes towards learning play a critical role in the development of autonomy. Notably, each learner develops a personal perspective concerning learning, which has a significant impact on their cognitive processes and conceptualization of their mindsets.

The concept of mindsets pertains to the fundamental beliefs held by individuals with regard to the degree of flexibility associated with human traits, including abilities, personality, and intelligence (Dweck & Leggett, 2000; Mahmoud et al., 2024). There are two kinds of people. Those who hold fixed mindsets strongly believe that personal traits and abilities are predetermined and unalterable. They assert that individuals possess an unchanging amount of innate ability that cannot be enhanced. Conversely, individuals who adopt growth mindsets strongly support the idea that personal attributes can be developed through hard work and effective strategies. Such mindsets have a crucial impact on students' goal-setting and behaviour in learning contexts, with significant implications for their academic achievement (Dweck, 2019). Mercer (2012) reports that a subset of students hold the perception that their learning capacity is hinged upon inherent, immutable aptitude.

As previously expounded, the role of educators is to provide guidance and support, rather than resorting to didactic instruction. Furthermore, learners are expected to demonstrate autonomy and accountability, particularly in the current technology-driven era or in the presence of (ICT), which enables self-directed knowledge acquisition. Nevertheless, Mourchid et al. (2023) observe that the teaching of English in Morocco is predominantly test-centric and neglects the crucial emphasis on the development of skills among students. It is evident that the primary aim of the educational system is geared towards preparing students for end-of-year

examinations, rather than nurturing their competencies (Hyde, 1994). According to Hyde (1994), some students in Morocco feel that they are being forced to learn English and don't see the value in it because they believe they won't use it after school. Abidin (2012) found that some students in his study had a negative attitude towards learning English, which was evident when they felt uncomfortable speaking in class. Al-Zahrani (as cited in Abidin et al., 2012) discovered that many participants had a negative attitude towards English because of the teaching methods used by some English language teachers. Additionally, research has shown that EFL learners feel anxious when speaking English in front of their peers (Hashwani, 2008). However, some students have a positive attitude when Arabic is used as a tool to help them learn English in class (Haifa, 2010). Therefore, students hold different perspectives. With this intention, this study involves two groups of learners. The first group was exposed to a project-based learning approach, which the teacher attempted to implement by engaging them in a series of trials. However, this approach was not successful, likely due to the students being unprepared and demotivated for certain reasons. As a result, the teacher reverted to a lecture-based mode of instruction. The second group received instruction solely through a project-based learning approach. Taking this into consideration, this paper aims to develop an understanding of how learners' mindsets and learning modes impact their autonomy in the age of technology, particularly among Moroccan EFL learners by comparing the two groups.

2.1. Research questions

1. What is the impact of mindsets and modes of learning on learner autonomy among students in human sciences in the digital era?
2. What is the impact of mindsets and modes of learning on learner autonomy among students in physics in the digital era?

3. METHOD

3.1. Participants

This research study focused on a group of Moroccan students and included a sample of 88 2nd year baccalaureate pupils, with 44 majoring in physics and 44 majoring in human sciences at a high school.

3.2. Procedures

This study adopts a quantitative approach and employs a questionnaire to examine the impact of learners' mindsets and modes of teaching and learning on their autonomy in the digital era. The researcher developed the questionnaire based on a literature review and administered it to both groups of participants for self-completion. The collected data was analyzed using descriptive statistics, specifically frequencies and percentages.

4. RESULTS

This section of the paper provides a description of the statistics and data gathered regarding the relationship between learners' mindsets, mode of learning, and their autonomy in the digital era among Moroccan EFL high school students.

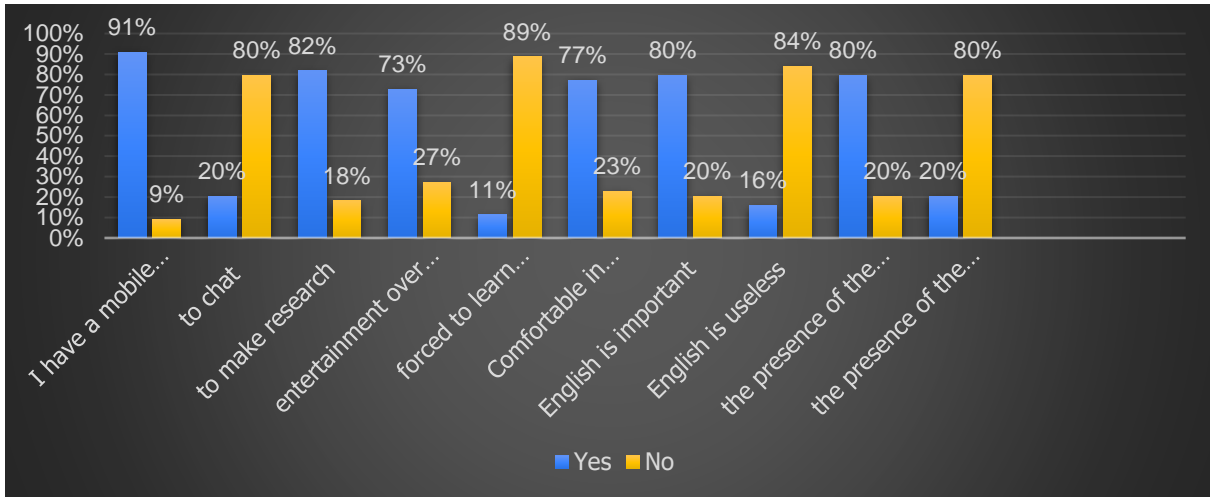


Figure 1: The Impact of Mindsets and Mode of Learning on Learner Autonomy Among Students in Human Sciences in the Digital Era

According to the diagram depicting students taught by their teacher, 91% claimed that they have a mobile phone, while 9% of them do not possess one. Those who have it use it for different purposes. For instance, 80% use it to chat 20% do not use it to chat with friends, 82% use it to learn and do research, yet 18% do not use it for learning. However, 73% use it for entertainment more than to learn, while 27% do not spend much time on social media using their mobile phones. A few students 11% think that they are forced to learn English, meanwhile, 89% do not feel so. A large number 77% feel comfortable learning English, but 23% do not have the same feeling. English is considered important by 80% of the participants, whereas 20% do not consider it important. English is considered useless by 16% of the participants; however, 84% disagree with them. A percentage of 80% consider the presence of the teacher as important, but not necessary, and 20% claim that the presence of the teacher is necessary.

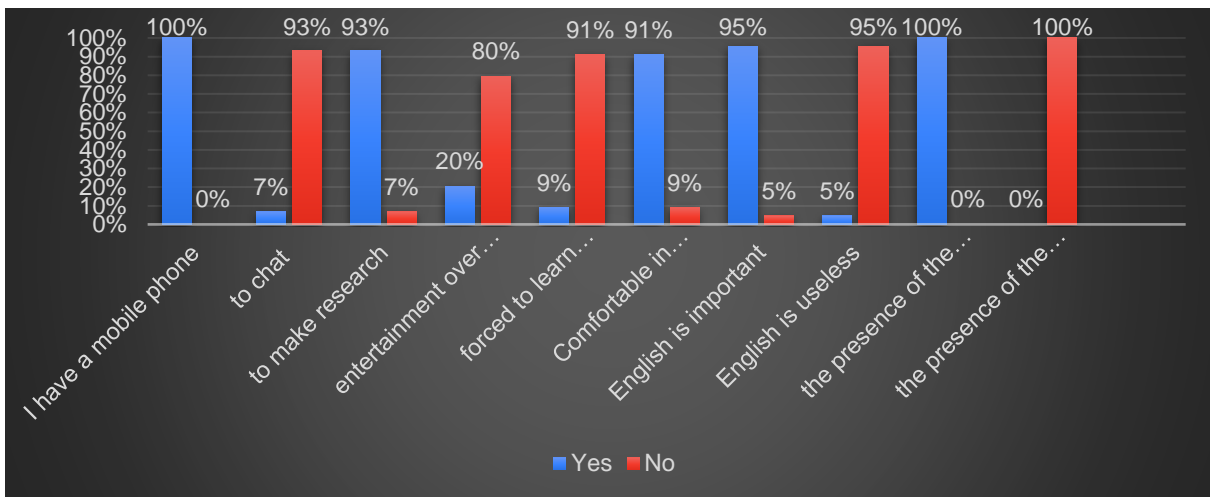


Figure 2: The Impact of Mindsets and Mode of Learning on Learner Autonomy Among Students in Physics in the Digital Era

According to Figure 2, which represents data from students who were taught through project-based learning, all respondents (100%) reported owning a mobile phone, and they utilize their phones for various purposes. While 7% of the respondents use their mobile phones for chatting, the remaining 93% do not. Conversely, 93% of the respondents utilize their phones for learning and conducting research, but 7% do not. Additionally, while a fifth of the respondents (20%) use their mobile phones for entertainment more than for learning, the majority (91%) do not spend much time on social media. A small percentage of respondents (9%) feel compelled to learn English, while the majority (91%) do not. Similarly, most

participants (91%) feel at ease when learning English, but a minority (9%) do not share the same sentiment. Almost all respondents (95%) perceive English as essential, while a small proportion (5%) does not. Moreover, only a small percentage (5%) consider English as worthless, while most participants (95%) disagree with this notion. All respondents (100%) consider the teacher's presence significant, although not indispensable, and no one believes that the teacher's presence is necessary.

5. DISCUSSION

The study aimed to investigate how learners' mindsets and the mode of learning impact learner autonomy in the digital era. The study compared two groups of learners who received knowledge through project-based learning and teacher-centred learning. The results indicate that the mode of learning has an impact on learners' behaviour and attitudes towards learning and technology. Generally speaking, to answer the research paper questions, students in the human sciences demonstrated a low level of autonomy, heavily relying on their teachers despite having access to mobile phones. In contrast, physics students embraced their role as independent learners, effectively utilizing digital tools such as mobile phones and computers for their education.

Specifically, the data shows that the majority of students in both groups own a mobile phone, and they use it for various purposes, including learning and entertainment. However, a higher percentage of students in the project-based learning group use their mobile phones for learning and conducting research than those in the teacher-centred learning group. This group shows a high level of likeliness and willingness to be prepared and ready to construct and develop knowledge to share it with their friends, not only that but they also try to develop their level and gain knowledge in the first place. They seem more energized and possess the capacity to take charge as claimed by Holec (1979). Project-based learning teaches students to be active, proactive, and reflective, enabling them to enhance their future performances. This approach encourages students to use technology more effectively for learning. Consistently, in a study by Al-Abdullatif and Gameil (2021) on the impact of incorporating digital technology into project-based learning (PBL) for undergraduate students in higher education, the integration of digital technologies was found to significantly enhance students' learning experience. The learner-focused strategy of PBL promotes interactive and collaborative learning, enabling students to create their own understanding by exploring various topics through projects, questioning, discussing ideas, planning, and communicating with peers. Concurrently, Hyde (1994) discussed some problems encountered in teaching English to Moroccan students and found that learners feel that the use of foreign languages is imposed on them and do not feel the need to learn a foreign language after school. Opposite to Hyde's (1994) findings, this research detected that the majority of students in both groups perceive English as important and do not feel compelled to learn it. However, a higher percentage of students in the project-based learning group feel comfortable learning English than those in the teacher-centred learning group. This suggests that project-based learning may enhance students' motivation to learn a new language. Symmetrically, Ahmed (2016) conducted a study to investigate the opinions of Moroccan female rural students towards learning English, in order to understand how EFL learners perceive the language. The results demonstrated that female rural students had a positive attitude towards studying English; they were motivated, and their level of participation was high in the classroom. Above all, they strive to improve their level of English.

Interestingly, the study found that while all respondents in the project-based learning group considered the teacher's presence significant, it was not considered indispensable. In contrast, a higher percentage of students in the teacher-centred learning group considered the presence of the teacher important. This suggests that project-based learning may promote learner autonomy and independence, as students feel more confident in their ability to learn

without constant supervision. Equally, Sirisrimangkorn (2018) conducted a study on investigating the use of project-based learning focusing on drama to improve learners' speaking skills; the results demonstrated that learners highly perceived their autonomy and independence to be promoted through PBL. In this regard, Khoudri et al. (2023) investigated whether project-based learning could enhance learner autonomy in a Moroccan EFL context. The results demonstrated that project-based learning not only fosters greater learner autonomy but also aligns with the demands of 21st-century skills.

Accordingly, the study provides evidence that the mode of learning can influence learners' mindsets and behaviours, particularly in the digital era. Likewise, Masaha and Jamaluddin (2023) explored how behavioural factors influence students' academic achievement. The study found a strong correlation between these factors and student performance, highlighting the importance of focusing on behavioural aspects in education. By doing so, educators and learners can ensure that the educational experience is impactful and memorable. Project-based learning appears to be a more effective approach to promoting learner autonomy (Khoudri et al. 2023), encouraging the use of technology for learning, and enhancing motivation to learn a new language. However, further research is needed to explore the long-term impact of project-based learning on learners' attitudes and behaviours towards learning and technology.

6. CONCLUSION

In conclusion, the study highlights the importance of considering the mode of learning in promoting learner autonomy in the digital era. Project-based learning was found to have a positive impact on students' behaviour and attitudes towards learning and technology, as well as promoting learner autonomy and independence. The results suggest that incorporating digital technologies into project-based learning can significantly enhance students' learning experience. Furthermore, project-based learning was found to enhance motivation to learn a new language. Additional research is required to investigate the enduring effects of project-based learning on the attitudes and actions of learners towards learning and technology over an extended period.

6.1. Implications and Recommendations

The study presents significant implications for both educators and students. Educators must recognize that the traditional teacher-centred approach is no longer effective. This method tends to foster dependency and passivity among students, positioning them merely as followers rather than active participants in the learning process. Conversely, the study strongly advocates for the adoption of a student-centred approach, which is particularly pertinent in the contemporary technological era. Students, in turn, need to develop an understanding that the role of the teacher is primarily to guide and monitor their progress, rather than to provide constant direction. Moreover, students should be encouraged to leverage technology as a tool for enhancing their learning and skill development, rather than solely for entertainment. Embracing these changes can lead to a more dynamic and interactive educational environment, fostering greater independence and critical thinking among learners.

Future researchers should conduct in-depth investigations to uncover the reasons why high school teachers continue to adopt traditional teaching methods, such as the teacher-centred approach. Additionally, it is crucial to explore why students majoring in the humanities often exhibit weaknesses in learning English and tend to rely heavily on technology for entertainment rather than educational purposes. These inquiries can provide valuable insights into the challenges and opportunities within contemporary educational practices.

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Mindsets and EFL Learner Autonomy in the Digital Era: High School Learners as a Case Study

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Appendix

High School Students' Mindsets and Autonomy in the Digital Era.

Please put a tick (✓) next to the appropriate response

Statement	Yes	No
1. I have a mobile phone		
2. I use it: <ul style="list-style-type: none">• To chat• To learn and make research• In social media more than for the purpose of learning		
3. Do you use any other means of technology to learn English?		
4. I feel <ul style="list-style-type: none">• Forced to learn English• Comfortable learning English		
5. For me, English is <ul style="list-style-type: none">• Important• Useless		
6. In learning English, the presence of the teacher is <ul style="list-style-type: none">• Important, but not necessary• Necessary		