

Digital Literacy and Learning Practices among Algerian First Year EFL Students in Moodle-Supported University

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Abstract:

Digital literacy has lately become a necessity in today's world mainly shaped by immense educational and technological advancements. Thus, online learning embarks on allowing learners to take part in the process of knowledge construction virtually. However, first year EFL students may encounter challenges in adapting to an online digital instruction via Moodle. This study aims to uncover the extent to which these learners are able to be integrated into an online learning mode and whether they can develop digital literacy skills and competences. To address these aims the following research questions are maintained (1)What kinds of digital literacy practices do first year EFL students develop when learning via Moodle?(2) How do students perceive the effectiveness of Moodle-based online learning. A qualitative case study design was implemented through the use of a structured interview with 15 first year EFL students from the department of English at the university centre of Maghnia. The main findings revealed that learners need scaffold support to enhance their online cognitive engagement and even their technological effectiveness. Additionally modern integration should go in parallel with students' capacities and readiness for a purely online ecosystem. The results also demonstrate the need to continuous trainings for an effective Moodle platform use along with strengthening the role of digital literacy in the curricula.

Keywords: Digital literacy; online learning; EFL learners; Moodle; educational efficiency.

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1. INTRODUCTION

Drawing on the acceleration of technology and digital communication, society shifts attention to perform professional tasks and practices online under the label of “*digitalization*”(Istenič,2024) as there exists an interconnected chain that gathers people's worldwide, a growing interest has led more approval to sharing that concerns, needs and interests (Hawisher, & Selfe, 2000). Previously, the study of digital literacy and online learning has dramatically gained momentum due to their diversity in content and use, creating new opportunities for both learners and instructors. Despite this progress in some contexts, the technological information is still witnessing growth and development. In this regard, previous research highlighted the effectiveness of technological tools integration, and attitudes of acceptance or rejection. However, as far as the Algerian context is concerned, these studies often overlook pedagogical dimensions in relation to the impact of digital literacy on first year EFL University students. Despite the urge need to incorporate online learning as solid, educational and interactive tools for students and teachers, sizable attention should be paid to diversity of the sample of students. This study addresses the relationship between digital literacy and learners’ experiences in online learning, taking Moodle platform as an empirical learning management source that has been formally endorsed by the Algerian Ministry of Higher Education and Scientific Research. This acknowledged platform ensures continuity of the



educational process in the so-called *post-pandemic era* (**Abdelaziz & Tahiri, 2024**). By doing so, this research centers on a timely gap that addresses first year EFL students -who largely- witness initial exposure to online education. Thus, prior attitudes, motivations, engagement and challenges reflect the transition phase from secondary school to university learning atmosphere. Specifically, this study seeks to give this category of learners a voice based on learner-centered findings. Through the current inquiry, the researcher examines learners' experiences along with those factors that either facilitate or complicate their learning practices. This can be explained by the availability of qualitative approach which profoundly promotes towards customizable efforts by decision makers, teachers, course designers and evidence for better pedagogical training programmes.

2. Literature Review

Digital literacy is regarded as a cornerstone of understanding multiple ways of information gathering via computers (**Gilster, 1997, p.01**). Despite the advantages reached, developing digital literacy skills tends to highlight competitiveness especially across higher educational setting (**Caton et al, 2024, p.04**). Online learning has been shaped by the accumulation of learners' requirements whether academic or personal. Ultimately, the former necessitates support and assistance (**Fahy, 2008**). A handful studies revealed that digital literacy encompasses information skills and competences related to computing. However, further elements need to be incorporated (**Ferrari, 2012**). Meanwhile, teachers are directly one of the

contributors of their students' online experiences success (**Rahmani & Zitouni, 2022**). In higher education, distance learning acknowledges recent changes and newer connection and interaction strategies for both teachers and students. (**Witavaara & Widar, 2025**).

Moodle is used for attaining learning outcomes due to its adaptive profile to improve online assessments (**Gamage et al, 2022**). The expanding arrays of tasks accomplished via this platform do not escape from electronic-related challenges. Moreover, despite the barriers lecturers strive to keep pace with newly adapted teaching tools that are purely based on information technology integration. According to (**Ahmed et al, 2024, p.284**)” *in the education landscape Moodle open source learning management system stands out for allowing institutions significant control over the learning process*”. In Algerian universities Moodle use showcases massive involvements, fostering seamless blend of learners' digital literacy skills and awareness. On a slightly different note, (**Fadieieva, & Semerikov, 2024**) stress out the importance of coping Moodle's pedagogical strategies with a heightened care to learners' needs. The latter significantly underlines a consolidation of the dynamic link between effective content deliverance and students' cognitive, emotional and pedagogical integrations.

Addressing this gap remains a necessity since “*more recently, the covid-19 pandemic has put digital literacies at the heart of all learning*”. Kern (2021, p. 134).With the intricate increase of keeping



pace with educational community insurance, learning by all means remains a priority even via online platforms. Consequently “*teaching and learning are forced to go online*” (Chan & Sung, 2025). Meanwhile, (Palanci et al 2024) affirm that distance education concerns both pros and cons, drawbacks maybe due to students’ lack of autonomy and self-directed learning whereby they regard teachers’ assistance as irreplaceable though, distance learning keeps tracks with pedagogical needs and requirements in times of disruption (Makda, 2024).

(Bouguebs & Boudersa, 2023) discussed the critical gap related to our current understanding of Moodle use effectiveness; they acknowledge emphasized need to training within a completion process, employing needs analysis reports and fostering literacy development support for both learners and instructors. Meanwhile, adequate training frameworks lead to learners’ individual progress and academic resilience. Furthermore, (Belkacemi et al, 2023) identified some obstacles faced by Moodle users at M’sila University, highlighting, not only technical issues but rather administrative and academic ones. Accordingly, these shortcomings ventured beyond solid initiatives towards long lasting equitable online learning outcomes. To this end, (Bouriche et al, 2025) recommended the establishment of quality assurance standards to evaluate these platforms strategically taking into sizeable consideration the possible achievable scientific and intellectual improvements. Using Moodle exemplifies a reliable digital infrastructure of the educational

technology though being a university-specific online tool needs to be endorsed with care.

3. METHODOLOGY

3.1 Research Approach

The current study adopts a qualitative research approach, taking first year EFL students as a bounded focus. By exploring participants' experiences in regards to their Moodle-based learning context, in depth data can be gathered. In alignment with the researcher's objectives, learners' feedback enables the researcher to examine data captured thoroughly.

3.2 Research Design

The selection of a case study design draws attention to first year EFL students', namely from the department of English at the university centre of Maghnia in an instructional learning based on Moodle. In order to provide a comprehensive understanding about students' online context engagement, complexity and attitudes, an exploratory case study approach is adopted.

3.3 Research Questions

RQ1: What kinds of digital literacy practices do first year EFL students develop when learning via Moodle?

RQ2: How do students perceive the effectiveness of Moodle-based online learning?



3.4 Participants and Settings:

The study was conducted at the University Center of Maghnia; Institute of letters and languages, Department of English. A probability sampling strategy was used based on the research's scope and methodology requirements. Specifically, random sampling technique was implemented. A total of 15 fresh students have been selected. In doing so, the choice of this sample is driven by two-fold reasons:

a. First year students are newly exposed to hybrid learning through using Moodle as a pillar online tool with an officialized integration from the Ministry of Higher Education & Scientific Research.

b. Insights revealed from this category of learners will pave the way to recommendations and improvements and even institutional support and interventions.

3.5 Data Collection Tool

3.5.1 Structured Interview

In order to conduct the current research, data was gathered by the using a structured interview that comprises 10 questions for the sake of exploring digital literacy practices possibly developed by Moodle use and whether online learning encounters challenges and obstacles. The interview was conducted in Arabic since learners are not required to perform any linguistic competencies in regards to English. Secondly, Arabic is considered as their L1 and hence the

degree of expressing flawlessness helps them well express themselves without language hindrance. A total of 13 interviews were conducted in person only two where merely conducted virtually via Google Meet. Each interview lasted between 15 to 20 minutes. As for the transcript verbatim, it was later translated to English by the researcher, the context causes no difficulties since no technical terms were notified which require technical/ bilingual translation or any proof reading from experts.

3.4 Data Analysis Method

This section presents the obtained findings based on (**Braun & Clarke, 2006**) thematic analysis framework. It also covers the analysis of the obtained data based on the pre-designed research questions. First, the obtained excerpts from the interview were well read in order to ensure familiarity with the data systematically. Second, initial coding stage took place based on categorizing identified ideas. Third, key themes were grouped accordingly in which digital literacy practices, challenges and engagement are examined. Finally, the themes were reviewed, defined and reported within the analysis section.

4. Main Findings

1. Digital learning practices developments by First Year EFL students

Phase One: Familiarization with the Data

The initial review of data gathered highlighted patterns related



to the possible practices that could be performed by learners via Moodle platform. The majority of participants mentioned specific tasks such as uploading files, getting access to online videoconferencing links and the use of extra learning aids. One participant explained “*prior to our online meeting with the lecturer I could send my assignment and download related materials*”. However, learners demonstrate the limited abilities that they acquired while using the platform as they mentioned their reliance on the teacher in case they face technical challenges.

Phase 2: Generating Initial Codes

Major key codes were elaborately selected from the data illustrating the digital literacy practices of students. Examples are as follows:

1. **Searching for Information:** this reflects learners’ efforts to enhance their online experiences despite the challenges encountered.
2. **Preparing Assignments:** digital literacy skills allow learners to use tools responsibly and adequately in learning, revising, organizing and presenting information.
3. **The Use of Other Devices /** platforms that are key components which boost students’ confidence and problem solving skills.

Phase 3: Searching for Themes

The codes above were systematically gathered into sub-themes as shown in table 1.

Themes	Sub-Themes	Excerpts from the Interviews
Information Seeking & Online Skills	Searching for information	<i>"I usually search for anything related to my modules; it helps me understand."</i>
Technology Use in Education	Preparing assignments	<i>"Because I couldn't log in, I wasn't able to send the work."</i>
Digital literacy Competence	The use of other devices & tools	<i>"I prefer using Google Meet each time; I switch between my phone and PC to finish my homework."</i>

Table 1: Digital learning practices developments (Author's Fieldwork)

Phases **4 5 and 6** reviewing, defining and reporting themes: These phases accumulate gathering a continuous treatment of data obtained to be reported as follows:

1. Information Seeking and Online skills

This binary theme illustrates the extent to which EFL students are able to search for information independently. Rather than focusing on learners' research abilities, the digital learning environment opens room for newer learning pathways which actively cater to personalized learning experiences. A student, in this regard, mentions that: *"I am currently learning to search for information online since I need better skills to find sources quickly"*. Developing online skills



provides valuable insights aligned with pedagogical objectives. As the higher educational system relies heavily on educational innovation, digital practices shape online learning at a greater degree. Also, online skills engage learners to become more confident especially in using academic resources. Though, another student raised a concern regarding language which also can be subjected to obstacles by saying: *“sometimes my limited language proficiency affects how easily I can navigate information online”*.

2. Technology Use in Education

The use of technology in learning is overtly represented by Moodle platform use. It is through multiple concentrations, effective use of digital tools support learners’ engagements and information seeking skills. However, examining digital platforms instructional approaches, framing logical expectations should be communicated. A student advocates that: *“nowadays technology makes learning more flexible, but they require guidance to use it effectively”*. The effectiveness of technology is likely contributing to positive learning experience, taken together individual support initiatives. From another standpoint, students perceive technology as a safeguard based on which assignments can be accomplished thanks to the streamlined access. Ultimately, knowing how to use technology facilitates the attainment of academic achievements as a student noted: *“I don’t think that technology is an extra learning aid, I believe it is a pillar that cannot be replaced”*.

3. Digital Literacy Competence

Learners at the university level embark on a new pedagogical and personal journey thereby not only using online tools is under demand but also the ability to acquire cognitive skills that allow distinction between reliable and misleading data. In today's contemporary digital world, cultivating a plethora of competences is a catalyst for EFL students' preparedness to language proficiency, content assessment and selection. A student says: *"my objective is to use it at ease without any doubt or frustration"*. Additionally, the synergistic utilization of devices and tools work in a complimentary conjunction with Moodle. Among the interviewed students, one of them observes that: *"I can use Google meet, I know some phone skills and most importantly I have good communication with instructors online"*. Learners are required to reach a coordinated use of tools so as to be able to benefit from their digital environment successfully and productively.

4. Learners' Attitudes towards Moodle Effectiveness

Phase One: Familiarization with Data

The review of data gathered indicated repeated patterns based on participants' answers. Many of them indicate reliance on extra tools as learning aids especially when they fail to use Moodle. One student indicates: *"whenever I face difficulty, I use Google Classroom instead in order to make sure that my assignment is well transmitted to the teacher"*. There is a common concern acknowledged among the replies that is directed to seeking either teacher's assistance or their peers. Another participant added that: *"I try to log in again, and if I*



still struggle, I sent a message to the teacher otherwise I seek help from my colleagues". All participants indicate the need to improvements in regards to Moodle use as it seems irreplaceable. A student mentioned that: *"we need more video tutorials, on-site trainings with the teacher or instructor"*. Another student concluded that: *"Moodle can support learning only with improvements such as audio explanations, enhanced features, improved big blue buttons and sessions' reminders"*.

Phase 2: Generating Initial Codes

Some interesting codes were gathered which illustrate learners' experiences with Moodle use. Some examples include:

1. Assignment Submission Confusion

It occurs when learners face uncertainty when they are unable to upload files, along with missing deadlines which often lead to frustration and unnecessary cognitive load.

b- Navigation Difficulty

Students encounter obstacles in regards to capability to use the platform effectively due to the inability to find assignments, login into the shared links and the lack of knowledge on the platforms layout.

1. Technical Issues:

According to students, what lacks Moodle is the robust technical support which eases use and effective engagements.

2. Enhancements:

Moodle requires adding clear features to rend it more responsive and friendly. The potential benefits for improvements are a way towards satisfaction and learners’ digital quality education.

Phase 3: Searching for Themes:

The aforementioned codes were gathered in terms of three main themes grouped in the table below:

Themes	Sub-Themes	Excerpts from the Interviews
Instability Problems	Assignment Confusion	<i>“The assignment we received on Moodle was unclear especially regarding deadlines.”</i>
	Navigation Difficulties	<i>“I think smother accessibility is needed.”</i>
Technical Problems	System Errors/ Crashes	<i>“Sometimes the assignment is not sent when occasional errors occur.”</i>
	Uploading Failure	<i>“The upload process often gets stuck”.</i>
Suggested Improvements	Infrastructure Maintenance	<i>“We need mini-tutorials and demos on using Moodle as beginners.”</i>
	Feedback Submission	<i>“We believe that great efforts are made though small improvements can make huge different for us.”</i>

Table 2: Learners’ Attitudes towards Moodle Effectiveness

Phases **4 5 and 6** reviewing, defining and reporting themes

Based on the pre-mentioned themes, the assessment of Moodle in terms of efficiency and utility can be well illustrated through the three themes dictated mainly, instability problems, technical problems and suggested improvements. These matters reflect learners’ evaluative feedback and recommendations for an equitable technology enhanced environment.



1. Instability Problems:

The findings revealed that the transition from secondary school learning context to a purely less guided learning emerges suddenly. Despite acknowledging their department's support, evidence indicates troublesome issues regarding instructions which require new academic terms not yet grasped at full. One student admits: *“the assignment when received in French or English are a bit confusing, so I take more time to understand what I'm required to accomplish”*. However, only one student affirms that: *“it is a new platform, but I am making progress in understanding since learning how to adjust to these changes takes time”*. It is evident that EFL students do not only visualize their digital experience with Moodle, but rather they reflect their own learning involvement which is characterized by a multilingual profile where not solely English is encountered, but rather French is also a related module delivered on Moodle. The content situation needs to be customized to blur perplexity and confoundedness.

2. Technical Problems:

First EFL students face obstacles dealing with Moodle as a newly assigned platform. Technical problems such as: system errors, sudden crashes and files uploading failure disrupt learners' capability to use or send materials adequately. In doing so, a student explained: *“Moodle is a good and new opportunity but technical glitches make me struggle, down times make me feel much stressed since there is a deadline to be met”*. As such, students require more training and

closer assistance to minimize issues aimed to raise familiarity to ensure digital competency acquisition.

3. Suggested Improvements:

It remains critical to examine Moodle's effectiveness as a mere criterion for an online instruction content quality, especially addressed to first-year students. The more closely contributions are made towards both accessibility and sustainability, the more results can appear. Among the received suggestions, a participant asserts that: *"if only the system offers confirmed alerts to our submissions; this adds certainty and confidence"*. Along with, another declares that: *"the platform sometimes blocks differently, especially when we are all online, speed would be a great option"*. Situated with learners' feedback, the evaluation of Moodle platform offers a lens through which fairness is reached whereby all learners benefit from equal guidance and support even during technical issues. Overall, a learner-centered perspective is valuable since it strengthens the experiential dimension of the digital learning environment outcomes that are consequently open to optimizing, upgraded and scalable performance.

5. Discussion of the Main Findings & Conclusion

Based on the findings obtained, the notion of digital literacy is closely intertwined with the learners' capabilities to accumulate multiple educational outcomes to name but a few self-directed learning and analytical skills. Basically, the current study focuses on first year university students' needs in mastering digital tools and



being aware of the functionalities offered by the dictated Moodle platform at their institution requires adequacy for students. Given the importance of digital literacy in today's globalized world, this indicates meaning of reading and writing is defined according to modern era (**Heitin, 2016**). The findings also indicate the need to technological support that can be effectively afforded to students whereby they can strategically use Moodle to achieve not only digital literacy skills but also to ensure motivation, individual progress, confidence and even contributions in learning outcomes. Despite being exposed to educational technologies (**Ng, 2012**), the study's informants still face barriers in their online learning journey. Fostering pre-session training encourages feedback and strengthens constructive collaboration.

In addition, since Moodle is established as one of the main online platforms based to deliver lectures virtually at the higher educational system institutions. To this and, these institutions “must provide accessible Technologies training and support for students” (**Makda, 2024**). The support encompasses integrated content launched via the platform or even optimizing meticulous organization. It goes straightforwardly towards a sustained academic progress which continues through the upcoming years of study. In line with (**Khadir & Teta, 2025**) providing training to instructors is acknowledged as a logical solution to assist learners online because they symbolize the craft mentorship link between the quality of content delivered and allocated tools used for the sake of its efficiency.

Technology paves the way towards enhancement in higher education only if it becomes a facilitator not a barrier. The current research work sheds light on the qualitative contribution that allows closer understanding of participants' experiences and to making their voices heard especially being at the front line of university life integration. Moreover, learners identify key suggestions that reflect their own experiences with Moodle platform, shaping the required interventions such as: alerts notification of their courses, systematic schedules and tasks deadline deliverance. Adaptive enhancements provide students with digital fluency that promotes a solid online production ecosystem. Interactive videos tutorials dramatically reduce inconveniences what are related to technical issues or digital skills with refinements. Along with (Liazid, 2024) providing students with the needed training so as to perceive Moodle constructively, requires multifaceted management ranging from clear, well designed content and the hub for learner performance at a satisfactory level. Moodle's sustained assessment allows less technical instability which affects consequently learners' desire and overall engagement. The study highlights fresh students' attitude towards Moodle as a required visited online platform through which not only acknowledging is attained but also a space that determines the extent to which they would achieve academic success.

The findings also indicate that accessibility to Moodle platform alone does not guarantee an effective cognitive competence building. A reliable transition to a purely engaging online learning environment



is prone to ameliorated digital practices which require a link between technological delivery and the ability to use the platform technically. Since guided practices are never redundant, capacity based initiatives have a crucial role in being a mediator to ensure learners' readiness. Along with the aforementioned points, further studies could better mirror profound insights about the impact of digital literacy skills across disciplines. While novice university students may underutilize online platforms such as Moodle, it is highly acknowledged that sustainability in using technology remains a priority.

5. Implications

Based on the obtained findings, some implications have been categorized below:

1. The evaluation of learning platforms such as Moodle is highly embedded within meaningful contributions to sustained online engagement.
2. The more technology driven check-ins are conducted, the more likely adjustments can be made especially when it comes to first year students.
3. Rather than examining only the quantitative evolvement of students in Moodle, qualitative insights shape critically students' experiential role as a recipient of Moodle's integration at the University level.
4. We highly centered frequent trainings to both learners and teachers along with constant maintenance interventions.

6. Limitations :

Despite the constructive perspectives gathered throughout the study, this may not lead to generalizability of findings. Second, qualitative data may be influenced by biased insights. Third, language proficiency level may also be a change factor that influences learner's digital literacy skills and competency.

7. Conclusion

The study highlights an exploration into first year EFL students' digital literacy skills and their experiences with Moodle platform. The findings capture interesting insights from learners stressing out a need to a more scaffolded online instruction which consequently allows a methodical adaptation of homogenous hybrid learning.

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