

## Critical Digital Literacy and Students' Attitudes Toward Social Media Integration in Higher Education

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### Abstract

The purpose of this study is to investigate the relationship between students' attitudes towards integrating social media in higher education and their level of critical digital literacy (CDL). To achieve this, the study draws upon several models and theories such as Technology Acceptance Model and the Expectancy Value Theory. An online questionnaire was distributed to 65 undergraduate students. The collected data was analyzed using SPSS version 23, employing three types of analyses: descriptive analysis, exploratory comparison analysis and Spearman's correlation. The findings revealed a positive correlation between students' level of critical digital literacy and their attitudes towards incorporating social media in higher education ( $r = 0.337, p = .006$ ).

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**Keywords:** critical digital literacy, higher education, students' attitudes, social media, digital competence

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### 1. Introduction

The utilization of traditional media has experienced a notable decrease due to the emergence of social media (Selwyn, 2009). Presently, numerous individuals heavily rely on social media platforms as an integral part of their everyday lives. When discussing "social media," we are specifically referring to online social networks and social networking sites (SNSs) (Cartledge et al., 2013). These platforms enable users to share messages, construct personal profiles, and express their thoughts, comments, and opinions within a virtual community (Salloum et al., 2018; Selwyn, 2009). Nonetheless, precisely defining "social media" can prove challenging due

to the constant introduction of new and enhanced features by SNS developers to meet the evolving needs of users.

In the past ten years, a growing amount of literature has explored how social media can improve learning in higher education (Hartley et al., 2020). This topic has been extensively studied, with different research looking at the effects of social media on academic performance (Junco, 2012; Junco and Cotton, 2013), knowledge building (Hamid et al., 2015), and sharing knowledge among peers (Eid and Al-Jabri, 2016). In contrast to traditional in-person teaching methods, social media provides a classroom that goes beyond physical and time constraints (Chawinga, 2017). As mentioned by Dzvapatsva, Mitrovic, and Dietrich (2014), “the world becomes the classroom, available 24/7, and not confined to Mondays to Fridays.” (p.2). In this context, “24/7” means that social media enables student-teacher interaction outside of scheduled learning hours, providing more flexibility. It does not suggest that learning should only happen on weekends or at night.

### **1.1. Objectives**

The main aim of this study is to investigate whether there is any correlation between students' CDL level and their attitudes towards the incorporation of SM in HE. To obtain this overall aim, the study seeks to achieve the following objectives:

- i. To assess students' level of CDL.
- ii. To examine students' attitudes towards SM integration in HE as a pedagogical tool.

The use of SM as teaching and learning tools has clear advantages. However, it is crucial to first assess the attitudes of students before incorporating social technologies into higher education. Hamid et al. (2015) argue that previous research has focused on the use of social media technologies by post-secondary institutions and faculty, but there is a need for further research examining how students perceive and use social media to enhance their learning. This study proposes a fundamental hypothesis that suggests students' attitudes about integrating social media in higher education are connected to their level of digital competence. In other words, the study hypothesizes that students with a high level of -critical- digital literacy, which is the ability to critically interact with online information, are more likely to embrace such integration, while those with lower -critical- digital literacy may be less inclined to do so.

## 1.2. Theoretical Background

Social media and technology have had a significant impact on various aspects of human life. Their integration into education has become indispensable (Greenhow & Lewin, 2015). Thus, universities have shifted their focus to equipping students with the necessary digital skills to navigate the modern world (Akour & Alenezi, 2022). Although the definition of digital literacy is widely used, there is no universally agreed-upon definition for this concept (Biezā, 2020). However, this study adopts a definition of digital literacy that includes competencies integrating procedural and technical, cognitive, and sociocultural abilities. These competencies are applied in various contexts and are referred to in this study as critical digital literacy.

Moreover, this study draws from the Technology Acceptance Model (TAM) and the Value Expectancy Theory (VET) to evaluate students' attitudes towards social media integration in higher education. Additionally, the study adopts Hobbs' (2012) framework to assess students' CDL in this study. The theories, concepts, and models mentioned above are explained further in the following section. Given this, the study aims to answer the following research questions:

- i. What is the level of Critical Digital Literacy (CDL) among students?
- ii. What are students' attitudes of social media integration in higher education?
- iii. Does students' level of CDL influence their attitudes towards social media integration in higher education?

### 1.2.1. *Critical Digital Literacy*

The growing diversity and complexity of modern digital practices and processes have led several researchers to advocate for new, broader forms of literacy. This is necessary because literacy can no longer be limited to traditional texts; it must include interactions with digital texts and other forms of digital media as well (Ilomäki et al., 2023). This has given rise to the emergence of new literacies that can adequately account for today's generation's needs, who are immersed in and affected by technology and social media.

Consequently, Gilster (1997) introduced the term "digital literacy" to encompass the various skills necessary for accessing, managing, and editing digital information, engaging in online communities, and assessing digital resources and services.

...a set of skills to access the internet, find, manage and edit digital information; join in communications, and otherwise engage with online

information and communication network. Digital literacy is the ability to properly use and evaluate digital resources, tools and services, and apply it to lifelong learning processes (Gilster, 1997, p. 220).

Since then, new digital literacies have emerged and are still developing due to sociocultural factors. The term “new literacies” was coined to redefine “literacy” in the digital age and view it as a social phenomenon (Lankshear & Knobel, 2003). Various terms, such as technology literacy, Information Communication Technology literacy, and computer literacy, have been used to describe the technical competencies required for using digital technology. While these terms often focus on specific ICT concepts, skills, and computer software products, the emphasis on technology has gradually broadened to include the use of technologies for various purposes (Wilson et al., 2015). In a broader sense, Leaning (2019) argues that the above-mentioned literacies are often considered to be included within digital literacy. Nevertheless, this study specifically focuses on the concept of critical digital literacy. CDL is a newer form of literacy that has developed from the previous understanding of digital literacy, which mainly centered on individuals' ability to use technology.

To elaborate, since the sociocultural turn, there have been efforts to understand how social and cultural factors influence the use of technology and how this, in turn, affects individuals' interactions with technology and their expression of identity in real or virtual life. This focus can be traced back to early understandings of technology and literacy. Previously, the emphasis was on individuals' ability to acquire the necessary skills to operate and access new technologies. However, Bacalja et al. (2021) argue that digital literacy is a complex concept that extends beyond technical knowledge alone. It also involves the ability to think critically about these tools and navigate them effectively online. Therefore, critical digital literacy encompasses both technical and critical knowledge in using technology.

### **1.2.2. Social Media as Teaching and Learning Tools**

The use of social media as a teaching tool in academic settings is driven by the trend towards learner-centered environments in higher education institutions (Liburd and Christensen, 2013). This pedagogical approach emphasizes active learning, where the instructor assumes the role of a facilitator rather than solely a source of knowledge. As a result, students can actively participate and engage in their own learning (Freeman et al., 2014 as cited in Hamadi et al., 2022). Thus, an increasing body of literature has emerged discussing the potential of social

media to enhance learning within the context of higher education (Hartley et al., 2020). This topic has been extensively researched, with various studies examining the impact of social media on academic achievement (Junco, 2012; Junco and Cotton, 2012), knowledge construction (Hamid et al., 2015), and peer knowledge sharing (Eid and Al-Jabri, 2016).

According to Jones (2015), social media technologies such as blogs and Twitter are no longer solely used for leisure activities. These platforms have undergone significant developments to facilitate interaction and engagement among learners. In a recent study conducted by Menkhoff et al. (2014) on undergraduate students in Singaporean universities, it was concluded that Twitter offers several advantages. One of these benefits is that students can freely express their opinions, enhance their involvement, and actively engage with both peers and instructors through knowledge sharing and Twitter discussions. Consequently, students, who were previously limited to traditional teaching methods, now have the opportunity to promptly provide feedback to instructors.

In general, the impact of social media on student learning is generally positive (Perez et al., 2023). However, it is important to note that this impact is not solely due to the technologies themselves, but rather how they are used in conjunction with specific teaching methods and instructional strategies (Hew & Cheung, 2013). As suggested by Greenhow et al. (2019), educators should prioritize studying evidence-based teaching approaches to ensure clarity.

### **1.3. Theoretical Framework**

Ngai et al. (2015) argue that a theoretical framework in this area can be developed by combining both technology and educational theories. On the one hand, according to Al-Qaysi et al. (2019), the most widely used educational theories in relation to social media are the Uses and Gratification Theory (UGT: Katz, 1959) and the Social Constructivism Theory (Wertsch, 1985). On the other hand, the most extensively used technology theories when studying social media adoption in education are the Technology Acceptance Model (TAM: Davis, 1989), the Unified Theory of Acceptance and Use of Technology (UTAUT: Venkatesh & Davis, 2000) and a recently developed theory known as Value Expectancy Theory (VET: (Wigfield & Eccles, 2000).

Given that this study aims to analyze students' attitudes of social media platforms, it specifically employs two theories: the TAM and the VET. The use of TAM is justified as it is highly suitable for investigating individuals' attitudes regarding the incorporation of a given technology

(Yilmaz et al., 2023). Additionally, the VET is employed to examine the extent to which students are motivated to adopt this technology (Wigfield & Eccles, 2000). Consequently, the study aims to utilize these two theories to enhance its methodological foundation. Furthermore, the study incorporates Hobbs' framework (2011) of media and digital literacy, which comprises five key dimensions: Access, Analyze, Create, Reflect, and Act. This framework is employed to assess participants' levels of CDL.

### 1.3.1. Technology Acceptance Model

The technology acceptance model (TAM) is widely regarded as a highly influential research model when studying the factors that determine the acceptance of information systems and technology (IS/IT) (Chau, 1996). TAM was developed by Davis (1989) to explain computer usage behavior. The model is theoretically grounded in Fishbein and Ajzen's (1975) theory of reasoned action (TRA). According to the TRA, beliefs affect attitudes, which in turn influence intentions, which ultimately drive behaviors (see figure 1).

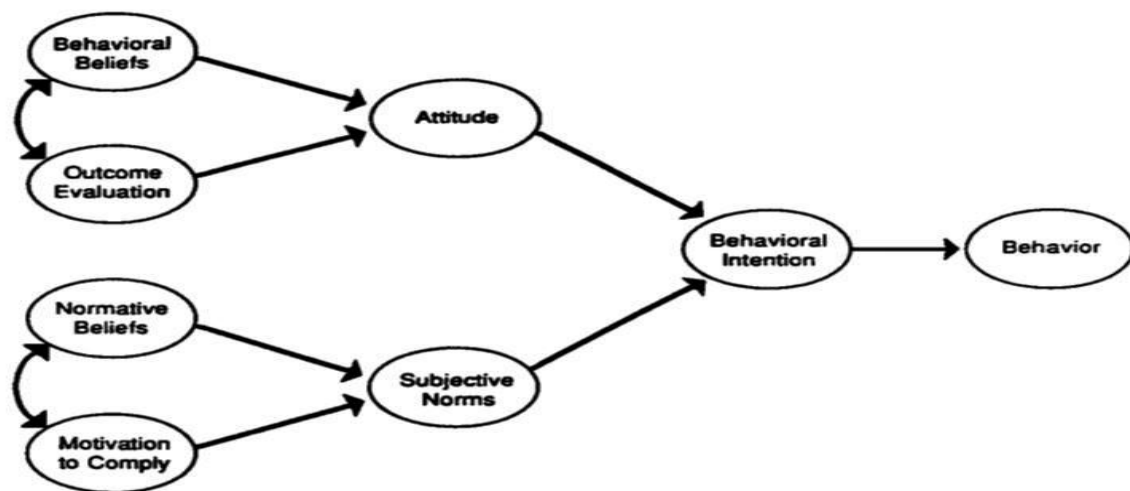


Figure 1. The Theory of Reasonable Action (Fishbein and Ajzen, 1975)

TAM adapted this relationship between beliefs, attitudes, intentions, and behaviors to model user acceptance of IT. The goal of TAM was:

...to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behavior across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified. (Davis, 1989)

Lai (2017) asserts that the foundational Technology Acceptance Model (TAM) encompassed and empirically examined two specific constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEU). On the one hand, Perceived Usefulness pertains to an individual's subjective belief about the potential improvement in their actions through the adoption of a specific system, such as a single platform E-payment System. On the other hand, Perceived Ease of Use refers to the extent to which an individual anticipates the target system to be effortless (Davis, 1989). Additionally, TAM acknowledges the potential influence of external variables on an individual's belief towards a system, as illustrated in Figure 2.

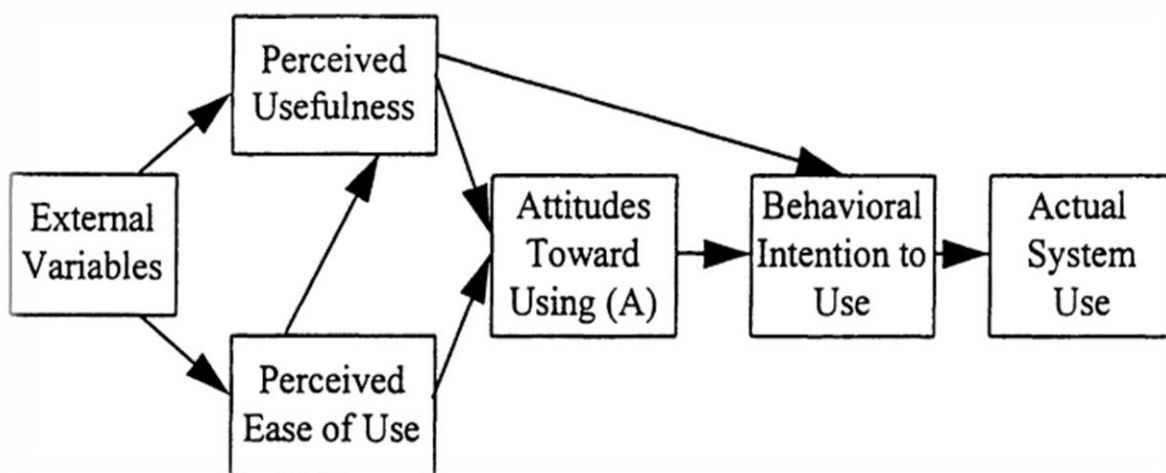


Figure 2. Technology Acceptance Model (TAM) (Davis, Bagozzi and Warshaw, 1989)

### 1.3.2. Expectancy Value Theory

The expectancy-value theory, developed by Jacquelynne Eccles and her colleagues (Eccles et al., 1983; Wigfield & Eccles, 2000), suggests that people's choices regarding achievement are driven by their expectations of success and their subjective assessment of the value of the task in specific domains. In simpler terms, individuals are more likely to engage in an activity if they both anticipate doing well and find the activity personally valuable.

The model further categorizes task value into four components: attainment value (the importance of performing well), intrinsic value (personal enjoyment), utility value (perceived usefulness for future goals), and cost (competition with other goals). According to this model, expectations of success and task value are influenced by various factors, including the child's characteristics (such as abilities, past experiences, goals, self-concepts, beliefs, expectations, and interpretations) and environmental influences (such as the cultural context, beliefs, and behaviors of socializers).

Essentially, Eccles et al., (1983) proposed model aimed to explain achievement performance and choice. Initially, they studied this model in the field of mathematics achievement. The most recent version of this model provides an overview of its scope. This paper specifically focuses on the constructs within the expectancies and subjective task values boxes. Expectancies and values directly influence achievement choices, as well as performance, effort, and persistence. Task-specific beliefs, such as ability beliefs, perceived task difficulty, and individuals' goals, self-schema, and affective memories, are assumed to impact expectancies and values. These social cognitive variables, in turn, are influenced by individuals' attitudes of their own past experiences and various socialization influences.

### **1.3.3. Hobbs' (2011) Model of Media and Digital Literacy**

In order to enhance students' academic achievement in digital media, Hobbs (2011) presents a "Process Model for Digital and Media Literacy." This model consists of "5 Communication Competencies or Steps" that can be applied to all subject areas. These competencies, known as "the essential dimensions of digital and media literacy" or CDL for short, include: (i) access, (ii) analyze and evaluate, (iii) create, (iv) reflect, and (v) act (Hobbs, 2010, 2011). By developing these five competencies, individuals not only enhance their ability to interact with information, but also minimize the risks associated with digital media. These risks encompass content risks (e.g., violent, sexual, sexist, racist, or hate material), contact risks (e.g., harassment, cyberbullying, cyberstalking, or privacy violations), and conduct risks (e.g., providing false personal information, illegal downloading, hacking, etc.) (Hobbs, 2010).

## **1.4. Raising the Research Gap**

With the exponential growth of social media platforms such as Facebook, Twitter, Instagram, and WhatsApp, scholars have begun to explore the viability of incorporating social media into the formal realm of education (Pal, 2018). However, the majority of these investigations have focused solely on examining students' attitudes, without prior assessment of their CDL (Khattak et al., 2023; Al-Hail et al., 2023; Neier & Zayer, 2015; McCarthy & McCarthy, 2014). This study contends that CDL, in fact, plays a pivotal role in shaping students' attitudes towards technology integration in teaching and learning. Therefore, it aims to investigate the relationship between students' attitudes toward SM integration in HE and their CDL level. To do this, students' attitudes towards the integration of SM in HE and their CDL are investigated.

## **2. Methodology**

### **2.1. Research design**

To achieve the main objectives of this paper, we adopted a survey design for this study. Creswell (2009) maintains that this type of designs “provides a quantitative or numeric descriptions of trends, attitudes, or opinions of a population by studying a sample of that population” (p. 145). Thus, given that one of our objectives is to identify attitudes among a population, this design helped us to make claims about it based on the sample results. Further, this design was chosen to accommodate the numerical data required for conducting correlational analysis using SPSS.

Additionally, to leverage the efficacy of our survey design, we structured our questionnaire around three well-established theories: the Technology Acceptance Model, the Expectancy-Value Theory, and Hobbs' Model of Media and Digital Literacy. In so doing, we aimed to identify specific aspects of participants' attitudes in a thoughtful and informed manner. These aspects are discussed in the following paragraphs.

### **2.2. Participants**

The study involved undergraduate students from the English department at Mohammed First University in Oujda. There was a total of 65 participants, consisting of 40 females (61.5%) and 25 males (38.5%). Out of these participants, 31 were enrolled in the second semester, 11 were enrolled in the fourth semester, and 23 were enrolled in the sixth semester. Although there was a notable gender disparity, analysis using exploratory comparison analysis revealed that gender did not significantly affect the results.

### **2.3. Instrument Validation**

To ensure the validity and reliability of our questionnaire, we undertook a rigorous validation process that incorporated both theoretical and statistical measures. As mentioned above, the questionnaire (See Appendix) was thoughtfully designed by leveraging three established theories: the Technology Acceptance Model (TAM), the Expectancy-Value Theory (EVT), and Hobbs' Model of Media and Digital Literacy. These frameworks were chosen because they align with the specific constructs we aimed to assess, namely participants' attitudes toward social media integration and their critical digital literacy.

The second section of our questionnaire, "Critical Digital Literacy Assessment," includes items 4, 5, 6, 7 and 8. It was directly adapted from a pre-existing questionnaire developed by one of the co-authors during his master's thesis. This prior questionnaire was itself based on Hobbs' Model of Media and Digital Literacy, which ensures its theoretical grounding and alignment with established constructs in the field. Building upon this foundation, we incorporated this section into our study's broader questionnaire to maintain consistency and theoretical coherence.

Similarly, items in the third section were carefully designed based on TAM and EVT. For example, items 9 and 10 addressed TAM's key components, "perceived ease of use" and "perceived usefulness," while items 11 – 12 reflected EVT's constructs of anticipated success and expected value. The final item in this section, item 14, aimed to directly assess participants' overall attitudes toward social media integration.

To assess the internal reliability of the questionnaire, we calculated Cronbach's alpha for the second and third sections because they contained multiple Likert-scale items. The results were 0.704 for the second section and 0.794 for the third section. This indicates acceptable levels of reliability for both sections (DeVellis, 2012). These results reflect the internal consistency of the items, and they are conducted to ensure that the items measure the intended constructs cohesively. Finally, the questionnaire was administered online due to its efficiency and accessibility for both participants and researchers (Walt, 2008). This approach minimized logistical challenges and enabled us to reach diverse participants.

#### **2.4. Data Collection, Data Analysis, and Sampling technique**

The data was collected using an online questionnaire. It was distributed on one Facebook group, and several WhatsApp groups dedicated to students of English Studies at Faculty of Letters and Human Science in Oujda. The majority of the members of these groups, if not all of them, are undergraduate students enrolled in the Department of English Studies. Additionally, the data gathered through this questionnaire underwent a two-step analysis. First, we employed descriptive statistics to analyze the responses in the second and third sections. Subsequently, we conducted a spearman's correlational analysis between these sections, and item-level group comparisons were conducted for exploratory purposes. These comparisons should be interpreted with caution due to unequal group sizes and the ordinal nature of Likert-scale data. As for sampling, participants were sampled following a convenience sampling, in which

participants are selected based on their “convenience and availability” (Babbie, 1990, as cited in Creswell, 2009, p. 148). Although this sampling technique is a nonprobability one that raises implications for generalizability to a broader population, it was chosen due to time constraints.

### 3. Results and Discussion

In this section, the results are simultaneously analyzed and discussed. This approach provides the reader with a logical reasoning of the findings and how they relate to the study’s aim. The findings are presented and discussed in accordance with the research questions. First, we analyze and discuss the participants’ levels of CDL. Second, we analyze and discuss their attitudes. Lastly, the correlational analysis and exploratory comparison results are discussed in relation to the third research question. This is all done while drawing on the theoretical framework provided earlier.

#### *Research Question 1: What is students’ Critical Digital Literacy level?*

Table 1 represents students’ responses to the second section, Critical Digital Literacy Assessment, which aimed to assess their CDL Level.

*Table 1. Critical Digital Literacy Assessment*

Second Section Items	Skills Levels (%)					Mean
	1	2	3	4	5	
(4) How skilled are you at finding information from different digital sources, like websites and digital platforms?	3.1	12.3	26.2	<b>50.8</b>	7.7	<b>3.48</b>
(5) How able are you at checking if online information is trustworthy and accurate?	3.1	9.2	<b>35.4</b>	30.8	21.5	<b>3.58</b>
(6) How skilled are you at using digital platforms?	3.1	7.7	27.7	<b>43.1</b>	18.5	<b>3.66</b>
(7) How ready are you to make responsible choices when using the internet, including understanding how to be a good digital citizen, stay safe online, and protect your privacy and that of others?	9.2	1.5	13.8	<b>41.5</b>	33.8	<b>3.89</b>
	<b>Total</b>					<b>3.65</b>

Note. 1: Not skilled/able/ready; 5: Highly skilled/able/ready

According to Table 1, the majority participants achieved a commendable level of critical digital literacy (total Mean: 3.65). In item number 4 (M = 3.48), participants demonstrated above-average proficiency in locating, navigating, and retrieving information from various digital sources. For item number 5 (M = 3.58), participants exhibited the ability to evaluate the credibility, accuracy, bias, and relevance of digital information, as well as their awareness of potential ethical issues and manipulation techniques. Item 6 (M = 3.66) highlighted

participants' capacity to create and generate digital content, while item 7 ( $M = 3.99$ ) indicated that participants possess a sense of inclination to make informed and responsible decisions in the digital realm.

Essentially, participants exhibit a good level of CDL, which can be attributed to their familiarity with technology and social media. This is supported by the fact that the majority of participants (92.3%) fall within the age range of 17 to 29. According to Parker & Igielnik (2020), Generation Z, individuals born between 1997 and 2012, is the most educated generation. They have learned to use electronic devices at an early age and heavily rely on the internet. This is evident in Item number 6, which shows participants' proficiency in using digital media.

However, it would be unreasonable to claim that participants are critical digital learners, as their overall level is only slightly above moderate. We believe that the area in need of improvement in students' digital competence is their critical understanding of how to use digital technologies and navigate digital platforms. This is clearly demonstrated in items number 4 and 5, where the scores for critical skills are lower compared to items 6 and 7. According to Menichelli and Braccini (2020), as cited in Chang and Chang (2023), today's generation is often considered to have low critical thinking ability because they are more inclined to passively accept information from social media. Furthermore, the moderate proficiency level in CDL among students could be attributed to the limited sample size, with only 65 participants. The inclusion of more participants would lead to more diverse, accurate, and generalizable findings.

***Research Question 2: What are Students' attitudes towards social media integration in higher education?***

Table 2 represents students' responses to the third section, Students' Attitudes towards Social Media Integration, which addressed their attitudes. As mentioned earlier, this section of the questionnaire was designed based on two theories, TAM and EVT, and it included six items categorized into three groups. The first group, "Technology Acceptance", contains items 8 and 9, which are derived from TAM and they address the aspects of "perceived ease of use" and "perceived usefulness," respectively. The second group, "Expectancy Value", includes items 10, 11 that are discerned from EVT. While items 10 and 11 address the aspect of "the anticipated success", item 12 is concerned with the aspect of "the expected value." The third group, "Attitudes Positivity", includes a single item, item 13, which was added by the researchers to explicitly address the participants' attitudes.

Table 2. Students’ Attitudes towards Social Media Integration

Third Section Items	Agreement Levels (%)					Mean
	1	2	3	4	5	
(8) “Using social media for academic purposes is straightforward”	4.6	20	20	47.7	7.7	3.34
(9) “Integrating social media in higher education would improve my academic performance.”	9.2	3.1	20	41.5	9.2	3.72
			<b>Total</b>			<b>3.57</b>
(10) How confident are you in your ability to effectively utilize social media for learning purposes	4.6	12.3	24.6	33.8	24.6	3.62
(11) “Using social media can contribute to your academic success”	1.5	9.2	24.6	47.7	16.9	3.69
(12) “Integrating social media in higher education is valuable and it offers benefits that are important to me.”	1.5	6.2	21.5	52.3	18.5	3.90
			<b>Total</b>			<b>3.73</b>
(13) Overall, how positively do you feel about the integration of social media in higher education?”	4.6	9.2	20	38.5	27.7	3.75

Note. For items 8, 9, 11, and 12; 1: Strongly disagree; 3: Undecided; 5: Strongly agree

Note. For items 10 and 13; 1: Not confident/positive; 5: Highly confident/positive

As shown in Table 2, the mean score of each group was notably high: “Technology Acceptance” (M = 3.57), “Expectancy Value” (M = 3.73), and “Attitudes Positivity” (M = 3.75). This indicates that students generally have positive attitudes towards the integration of SM in HE. It also suggests that they accept such integration and expect it to be valuable for them since most of them agreed with the statements. In the following lines, the results of the responses to each group are discussed in details.

Starting with the first group, items 8 produced a mean of 3.34, which suggests that students think employing SM for academic objectives is easy and straightforward. Additionally, with a mean score of 3.72, the responses to item 9 indicates that the participants perceive SM integration in HE as useful for their academic performance.

Concerning the second group, all items yielded high means, which implies a strong positive perception among participants regarding their expectancy for success and the value they associate with utilizing SM for learning purposes in HE. For items 10 and 11, the means scores of 3.62 and 3.69 suggest that students have a considerable level of confidence in their ability to use SM as a learning tool and they perceive it as having the potential to positively affect their academic success. This indicates a positive expectancy for success in using SM within an educational context among students. Furthermore, with a mean score of 3.90, responses to item 12 suggests that students highly value the integration of SM in HE.

Moving to the last group, item 13 obtained a mean score of 3.75. This means that students are generally positive about the integration of SM in HE. Overall, the results from this section, which addressed students' attitudes towards SM integration in HE, are positive. With a total mean score of 3.68, this section confirms the positive attitudes among students regarding the integration of SM in HE.

***Research Question 3: Does students' CDL level influence their attitudes towards social media integration in higher education?***

We conducted a Spearman's correlational analysis between the second section (SS) and the third section (TS). This analysis revealed a statistically significant weak to moderate positive relationship ( $r = 0.337$ ,  $p\text{-value} = .006$ ) between students' levels of CDL and their attitudes towards integrating social media into higher education. This shows that as students' critical digital literacy levels increase, so do their positive attitudes towards the use of social media in academic settings but not at the same rate. To some extent, this finding confirms the study's main hypothesis and emphasizes the importance of critical digital literacy in shaping students' attitudes towards the role of social media in higher education and suggests that enhancing critical digital literacy skills may lead to more favorable attitudes towards integrating social media in higher education.

To gain further insight into the relationship between students' CDL levels and their attitudes toward social media integration, additional item-level group comparisons were conducted between the second section (Critical Digital Literacy Assessment) and the third section (Students' Attitudes toward Social Media Integration). In this analysis, CDL items were grouped into two categories: responses equal to or above 3 (indicating moderate to high levels of skill, ability, or readiness) and responses below 3 (indicating lower levels). These comparisons aim to explore how differences in specific CDL dimensions relate to variations in students' attitudes. It is important to note, however, that these comparisons are exploratory in nature and should be interpreted with caution due to unequal group sizes and the ordinal nature of Likert-scale data.

The first test included item 4 (items from 4 to 7 belong to SS while items from 8 to 13 belong to TS). The results of this test are shown in Table 3.

Table 3 presents the comparison between students' ability to find information from digital sources (Item 4) and their confidence in using social media for learning purposes (Item 10).

The results suggest that students who reported moderate to high levels of skill in locating digital information tend to express higher confidence in using social media for learning ( $M = 3.78$ ) compared to those with lower levels of skill ( $M = 2.70$ ). The findings indicate a meaningful relationship between digital information retrieval skills and confidence in utilizing social media for learning.

**Table 3.** Item 4 of the CDL Assessment

	(4) How skilled are you at finding information from different digital sources, like websites and digital platforms?	n	mean	Sig.
(10) How confident are you in your ability to effectively utilize social media for learning purposes	$\geq 3$	55	<b>3.78</b>	.004
	$< 3$	10	<b>2.70</b>	

Note. 1: Not skilled; 5: Highly skilled; n: Number of participants;

Note.  $\geq 3$ : Somewhat, Moderately, or Highly skilled;  $>3$ : Slightly skilled, or Not skilled.

Moving to item 8, Table 4 below shows a statistically significant difference in the ability to check online information for trustworthiness and accuracy between individuals who rated their skill level as somewhat to higher and those who rated their skill as low or none, with a p-value of .036. This suggests that participants who perceive themselves as somewhat to highly skilled in evaluating online information tend to find it easier and more straightforward to use social media for academic purposes ( $M = 3.74$ ) compared to those who perceive themselves as less skilled ( $M = 2.75$ ). This finding highlights the importance of digital literacy skills in navigating online platforms for academic purposes. Individuals who feel more confident in their ability to assess the credibility of online information may be better equipped to utilize social media effectively for academic objectives.

**Table 4.** Item 5 of the CDL Assessment

	(5) How able are you at checking if online information is trustworthy and accurate?	n	Mean	Sig.
(8) "Using social media for academic purposes is easy and straightforward"	$\geq 3$	57	<b>3.74</b>	.019
	$< 3$	8	<b>2.75</b>	
(10) How confident are you in your ability to effectively utilize social media for learning purposes	$\geq 3$	57	<b>3.44</b>	.036
	$< 3$	8	<b>2.63</b>	

Note. 1: Not able; 5: Highly able; n: Number of participants;

Note.  $\geq 3$ : Somewhat, Moderately, or Highly able;  $>3$ : Slightly able, or not able.

Concerning item 10, Table 4 shows a significant relationship (p-value = .019) between individuals' abilities to assess the trustworthiness and accuracy of online information (item 5)

and their confidence levels in effectively utilizing social media for learning purposes (item 10). Specifically, participants who reported somewhat to higher levels of ability in checking online information reliability tended to express greater confidence in their capacity to use social media for learning (mean = 3.74). In contrast, those who rated themselves as less able in checking online information demonstrated lower levels of confidence in utilizing social media for learning (mean = 2.75). This suggests a meaningful association wherein individuals who possess stronger skills in evaluating online information credibility are more likely to be confident about their capabilities to effectively employ social media for educational purposes.

As for item 6, as shown in Table 5, there is a statistically significant difference between the mean scores of individuals who rated themselves as somewhat or highly skilled and those who rated themselves as less skilled in using digital platforms regarding their belief that integrating social media in higher education would improve their academic performance. With a p-value of .036, this result implies that individuals who perceive themselves as somewhat to highly skilled in using digital platforms are more likely to believe that integrating social media into higher education would enhance their academic performance (M = 3.83) compared to those who perceive themselves as less skilled (M = 2.86).

**Table 5.** Item 6 of the CDL Assessment

	(6) How skilled are you at using digital platforms?	N	mean	Sig.
(9) "Integrating social media in higher education would improve my academic performance."	>= 3	58	3.83	.036
	< 3	7	2.86	

Note: 1: Not skilled; 5: Highly skilled; n: Number of participants;

Note. >= 3: Somewhat, Moderately, or Highly skilled; >3: Slightly skilled, or Not skilled.

Table 6 includes item 7 against items 9, 10, and 13. Starting with item 9, there appears to be a statistically significant difference between individuals who rated themselves as somewhat to highly ready for responsible internet usage and those who rated themselves as slightly or not ready at all. Specifically, participants who rated themselves as being more ready tend to agree more strongly with the statement about integrating social media in higher education and its ability to improve their academic performance (M = 3.86) compared to those who rated themselves as less ready (with a mean of 2.57). With a p-value of 0.005, this finding suggests that there might be a relationship between individuals' perceived readiness for responsible internet usage and their attitudes towards integrating social media into higher education.

Table 6. Item 7 of the CDL Assessment

	(7) How ready are you to make responsible choices when using the internet, including understanding how to be a good digital citizen, stay safe online, and protect your privacy and that of others?	N	mean	Sig.
(9) "Integrating social media in higher education would improve my academic performance."	>= 3	58	3.88	.007
	< 3	7	2.71	
(10) How confident are you in your ability to effectively utilize social media for learning purposes	>= 3	58	3.72	.024
	< 3	7	2.71	
(13) Overall, how positively do you feel about the integration of social media in higher education?"	>= 3	58	3.86	.005
	< 3	7	2.57	

Note: 1: Not ready; 5: Highly ready; n: Number of participants;  
 >= 3: Somewhat, Moderately, or Highly ready; >3: Slightly ready, or Not ready.

For item 10, there is a statistically significant difference in the mean confidence levels regarding the effective utilization of social media for learning purposes between individuals who are somewhat to highly ready to make responsible choices when using the internet and those who are slightly or not ready to do so. With a p-value of .024, this suggests that individuals who are more ready to make responsible choices online tend to report higher levels of confidence in their ability to effectively use social media for learning purposes (M = 3.72) compared to those who are less ready (M = 2.71).

In terms of positivity concerning social media integration (item 13), there is a statistically significant difference between the students who are somewhat to highly ready to make responsible choices when using the internet and those who are slightly or not ready to do. The former expressed significantly more positivity about the integration of social media in higher education (M = 3.88) compared to the latter that are slightly or not ready (M= 2.71), with a p-value of .007. This finding suggests that individuals who feel more prepared to make responsible choices online tend to view the integration of social media in higher education more positively.

#### 4. Conclusion

The aim of this study was to investigate the correlation between students' attitudes towards the integration of social media in higher education and their level of CDL. To gauge their attitudes, the study used the TAM and the VET, while Hobbs' model (2010, 2011) was used to evaluate

their CDL. The findings of the study demonstrate a significant correlation between students' attitudes and their level of CDL. In other words, as students' critical digital literacy increases, so do their attitudes towards SM integration in HE but not at a similar rate.

Interestingly, the study's findings were consistent with previous studies conducted by Davis (1989), Jeffrey et al. (2011), and Elkaseh, Kok & Chun (2016). Similarly, the strong relationship between perceived usefulness, perceived ease of use and digital literacy of undergraduate English department students is supported by previous findings conducted by Gie and Chung (2019) and Park et al. (2011).

#### **4.1. Implications & Recommendations**

The study holds important contributions and establishes a foundation for subsequent investigation in cognate disciplines. Given the ever-increasing assimilation of technologies and the progressive development of Artificial Intelligence, which exerts a profound influence on pedagogy and the acquisition of knowledge, it is advisable for stakeholders and researchers alike to accord primacy to the augmentation of students' critical and digital proficiencies. This will facilitate the smooth integration of technology within educational environments and foster informed decision-making.

These findings suggest that integrating social media in higher education should not be approached as a purely technological decision. Instead, it should be supported by pedagogical strategies that develop students' critical digital literacy. Without this foundation, students may not fully benefit from social media-based learning environments. Therefore, instructors are encouraged to embed CDL-oriented tasks, such as critical evaluation of online content, into their course design. Above all, the study communicates a critical implication that lies in the hands of policymakers who have been encouraging the integration of new technologies into teaching and learning methods. The idea is that, before such integration, it is important to investigate and gauge, if possible, students' attitudes and their readiness to embrace these changes. Such pre-examination would be decisive in determining the success or failure of this integration.

As for educators, the study highlights the necessity for developing targeted training programs that extend beyond basic technological skills to include critical skills. This might involve teaching media literacy practices rooted in established theories and frameworks that promote the development of learners' critical and digital skills. For instance, integrating multimodal

literacy or adopting an interdisciplinary approach, as suggested by Talib (2018), can assist students analyze and communicate properly with online information. Likewise, curriculum designers are encouraged to strategically incorporate social media-based activities into course structures. The rationale for doing so is that social media creates dynamic learning environments that promote collaboration, critical thinking, and engagement, which would make it an ideal platform for teaching critical practices in digital spaces. To facilitate these goals, collaboration is encouraged on the part of policymakers, who can establish comprehensive frameworks that facilitate the integration of social media tools in educational contexts. To achieve this, policies must address key challenges such as ensuring digital equity and safeguarding online safety, to name a few.

To further the insights gained from this study, researchers should pursue diverse and in-depth investigations into the relationship between critical digital literacy and social media integration in education. Incorporating mixed-method approaches, such as combining quantitative surveys with qualitative interviews, would add a richer layer of understanding by capturing not only statistical trends but also the nuanced perspectives and motivations behind students' attitudes. No less crucial is the need to investigate the perspectives of educators, because their attitudes and readiness are of equal importance to incorporate social media into teaching practices influence the success of such integration. That is to say, their involvement can in fact reveal new critical perspectives into the barriers and opportunities for effective implementation.

#### **4.2. Limitations**

As any other study, this research has several limitations that should be acknowledged and addressed in future studies. First, the small sample size used in this study restricts its ability to be generalized to a larger population. Second, while this study aimed to explore attitudes, conducting interviews might have been a more effective research method for researchers seeking to further develop this area of study. Third, although focusing on a single educational setting is not necessarily problematic, it may be beneficial to conduct a comparative study that includes other universities in order to obtain more precise and generalizable findings. Fourth, the item-level comparisons relied on grouping responses into unequal categories, which may affect the robustness of the findings. Therefore, these results should be interpreted as exploratory. Future research may employ non-parametric tests or regression analysis to provide more robust evidence. Finally, addressing teachers' attitudes too is recommended since they are an integral part of the educational system and play an active role.

## Declaration

### *Availability of data and materials:*

The dataset supporting the conclusions of this article is available in the Google Drive repository, [https://drive.google.com/drive/folders/1KM874RI3fj3ZSyUQ\\_th0rjpg7-tBnC4?usp=sharing](https://drive.google.com/drive/folders/1KM874RI3fj3ZSyUQ_th0rjpg7-tBnC4?usp=sharing)

## Author's contributions

Abdel Moula El Guermat conducted the literature review and interpreted the results concerning the first research question. Oussama Moussaoui analyzed the data using SPSS and interpreted the results of the second and third research questions. Both Abdel Moula and Oussama jointly designed the questionnaire and were responsible for its distribution. Abdel Moula reviewed the manuscript and provided critical examination to its overall quality. All authors read and approved the final manuscript.

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*The authors declare that there is no conflict of interest regarding the publication of this article. No financial, personal, or professional relationships have influenced the research, analysis, or conclusions presented in this work.*

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## Appendix: Questionnaire Instrument

### Questionnaire on Critical Digital Literacy (CDL) and Social Media (SM) Integration in Higher Education

#### Section A: Demographic Information

**Item 1. What is your gender?**

- Male  Female

**Item 2. How old are you?**

- 17–29  40–49  
 30–39  50 or above

**Item 3. You are enrolled in**

- Semester 2  Semester 4  Semester 6

#### Section B: Critical Digital Literacy Assessment

**Item 4. How frequently do you use social media platforms for academic-related activities?**

- Always  
 Usually  
 Often  
 Sometimes  
 Rarely  
 Never

**Item 5. How skilled are you at finding information from different digital sources, like websites and digital platforms?**

- Highly skilled  
 Moderately skilled  
 Somewhat skilled  
 Slightly skilled  
 Not skilled at all

**Item 6. How able are you at checking if online information is trustworthy and accurate?**

- Highly able  
 Moderately able  
 Somewhat able  
 Slightly able  
 Not able at all

**Item 7. How skilled are you at using digital platforms?**

- Highly skilled  
 Moderately skilled  
 Somewhat skilled  
 Slightly skilled  
 Not skilled at all

**Item 8. How ready are you to make responsible choices when using the internet, including understanding how to be a good digital citizen, stay safe online, and protect your privacy and that of others?**

- Highly ready  
 Moderately ready  
 Somewhat ready  
 Slightly ready  
 Not ready at all

**Section C: Students' Attitudes Toward Social Media Integration**

**Item 9. "Integrating social media in higher education would improve my academic performance."**

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

**Item 10. "Using social media for academic purposes is easy and straightforward."**

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

**Item 11. How confident are you in your ability to effectively utilize social media for learning purposes?**

- Highly confident
- Moderately confident
- Somewhat confident
- Slightly confident
- Not able

**Item 12. "Using social media can contribute to your academic success."**

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

**Item 13. "Integrating social media in higher education is valuable and it offers benefits that are important to me."**

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

**Item 14. Overall, how positively do you feel about the integration of social media in higher education?**

- Highly Positive
- Moderately Positive
- Somewhat Positive
- Slightly Positive
- Not Positive

**Note.** Items in the Critical Digital Literacy Assessment section were informed by Hobbs' model of digital and media literacy. Items in the Students' Attitudes Toward Social Media Integration section were developed based on the Technology Acceptance Model and Expectancy Value Theory.