

Media Literacy in Moroccan Schools: An Analysis of Student Awareness, Teacher Understandings and Textbook Content

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This study examines the state of media literacy in Morocco by employing a multimethod approach. To that end, we used a questionnaire to assess students' (N = 700) awareness of the media literacy, an interview to gather teachers' (N = 40) perspectives on the concept of media literacy in the educational domain, and content analysis to examine the concept's availability in textbooks (N = 28) used to teach Arabic, French, and English in primary, middle and high schools. The results show that students know little about the concept, are not well-versed in media literacy, and use various media outlets without being critically briefed on their risks. Meanwhile, teachers recognize the importance of media literacy in assisting students in deconstructing media messages and identifying fake news and misinformation. To be successful in teaching media literacy, teachers postulate that they need to be well-trained and develop a professional attitude to media literacy in order to ensure a coherent and efficient implementation of the concept, and for this, they call for pedagogical materials. The results show that the pedagogical resources under study did not include courses, activities, or separate units on media literacy. Instead, the pedagogical material contained isolated and relegated lessons on the functions and effects of media and information technologies. We believe that three obstacles prevent media literacy integration in Morocco: students' lack of awareness, teachers' lack of professional development, and insufficient school pedagogical support. In sum, this study provides an opportunity to evaluate the implementation of media literacy in the Moroccan educational system.

Keywords: media information literacy, media literacy, secondary school, textbooks. Morocco.

People of all ages and genders devote countless waking hours to media consumption. Media content has recently grown substantially, penetrating cultures and bombarding people with a flood of information (Ait Hattani, 2018). By media, we mean various methods and tools. Books, films, paintings, songs, magazines, TV shows, poems, video games, podcasts, web forums, emails, newsletters, tweets, traffic signs, Snapchat stories, breaking news—all of these are examples of media. According to Logeswari et al. (2021), individuals who spend a significant amount of time with media require critical thinking skills to question what they have read, heard, and learned. Undoubtedly, permanent media exposure is becoming more difficult for media educators as different modes of content, whether audio, visual, or textual, are produced in greater quantities.

To deal with this situation, many countries worldwide have made a concerted effort to develop media literacy (ML) or media and information literacy (MIL) skills to assist individuals in acquiring a solid media culture and digital skills that will allow them to contribute to an informed democratic debate. The goal of ML is also to help restore trust between the media and the public, as well as to propose solutions that are appropriate for the changing media landscape. As a result, the ability to navigate the media necessitates the skills and toolkits provided by these literacies.

Furthermore, the overabundance of information (Simon, 1971), industrialization of human attention capture, and the attention that information consumes (Wu, 2016) highlight the importance of critical thinking and ML skills. In addition to enriching themselves and their corporate clients, the SNS, named by Wu (2016) as “attention merchants,” are making extraordinarily successful attempts by advertisers to occupy an increasing amount of our attention (Tarnoff, 2016). Critical thinking, as defined in ML, is important in the sense that we should all think critically. However, the problem with the Internet is that it is an attention problem (Wineburg, 2021) related to the abundance of information and the possibilities to organize this complex mass of information into a problem formulation that will facilitate people’s efforts to solve them (Simon, 1978). For example, Wineburg, Breakstone, Ziv, and Smith (2020) assume that the most common approaches, ML, news literacy, digital literacy, and even critical thinking, share the role of teaching people “how to tell truth from

fiction, recognize hoaxes, and practice caution before passing along dubious content to family and friends” (ibid., 3). To explain the nexus between overexposure to information and the effectiveness of skills to decipher false and real content, Wineburg et al. (2020), as well as Breakstone et al. (2021) explored the extent to which today’s college students can make thoughtful choices about what to believe. They surveyed the students’ ability to discern quality information from sham and respectively specified the urgent need to prepare students to thrive in a world in which information flows ceaselessly across their screens. Breakstone et al. (2021) tested the students’ ability to trace the origin of an anonymously posted Facebook video shot in Russia that provided “strong evidence” of voter fraud in the United States. Out of over 3,000 responses, only three students were able to identify the video’s source. Instead of looking into who was behind the site, the students focused on superficial credibility markers such as the site’s aesthetics, top level domain, and how it presented itself on the “About” page. Furthermore, two-thirds of the students were unable to distinguish between news stories and advertisements, and 96 percent of the students did not understand why ties between a climate change website and the fossil fuel industry could decrease the credibility of that site.

According to Morocco’s High Commission for Planning (2020), the population’s access to ICT has increased significantly in recent years. As a result, the media’s complex and ambivalent relationship with the public has raised a fundamental question for education today: How can schools prepare future generations to live full, healthy, and productive lives in an information age? Many studies examine the integration of ML and present evidence of its significance, but they are primarily conducted in the Western world. In Morocco, the field of ML research is still relatively young. Based on this understanding, the purpose of this study is to thoroughly explore the manifestation of ML in Moroccan secondary schools. The motivation for this study is to move ML from an international to a local setting. In fact, this study aims to significantly contribute to the body of literature by enriching the theoretical and practical framework of reference for future research in the field.

In this chapter, we look at the current state of ML in Morocco from triangulated perspectives. We explore the implementation of ML in the country using a multimethod approach, examining students’ awareness of the concept, teachers’ perceptions of the concept, and a content analysis of textbooks in Arabic, French, and English in primary, middle, and high schools. We believe that by combining perspectives from these fields, we

can gain an understanding of the character, level, and scope of ML work in the country. We begin by describing ML as a Western concept and then move on to describe ML in a specific Moroccan context. We then present the research design, which includes the research questions and methodology, before moving on to the analysis results.

Media Literacy as a Western Notion

In this chapter, where we focus on the media aspects of the complex area of ML or MIL literacy, we use the term ML. The term represents the ability to access, decode, analyze, evaluate, and produce communication in a variety of forms (Robinson, 1996; Livingstone, 2004). It is cultural, critical, transformative, and creative. According to Burn and Durran (2007), ML is more than just understanding a text. It entails, to varying degrees, the re-imagining of “internal mental operations, to which teachers, psychologists, academics, and literacy experts have no direct access. Their work begins the moment the transformative work becomes externalized, most immediately as speech, but later as writing, drama, visual design and so on” (ibid., 1).

The field of ML has evolved dramatically over time. Its origins can be traced to Western countries. Wilson and Hoechsmann (2017) shed light on the history of ML, tracing its origins to influential communication scholars at the University of Toronto in the 1940s and 1950s, including Harold Innis, Eric Havelock, and the renowned Marshall McLuhan. They also acknowledge the National Film Board’s role in advancing ML through public education initiatives from the 1940s to the 1960s.

According to Oxstrand (2009), the early 1960s saw the emergence of ML in Europe, which was closely related to the study of visual images. As the 1970s and early 1980s progressed, Oxstrand emphasizes the increasing significance of media education, particularly in France, Italy, and Spain, where television took center stage. The rise of private television channels in the late 1980s and early 1990s increased the importance of media education by emphasizing the impact of TV shows and their content. However, it is critical to recognize that the 1990s saw the rise of digital literacy, which became inextricably linked with digital media and, most notably, the introduction of the Internet. As a result, the concept of ML shifted its focus to content associated with modern digital tools.

New educational competencies have been introduced to adapt to advances in information and communication technologies and navigate the vast amount of content available on the Internet. It is worth noting that European countries abandoned their classical approach and looked to the United States as a model for the new information society, with a strong emphasis on technology management (Oxstrand, 2009, 6).

Furthermore, scientific evidence and research show that efforts to promote ML began with radio broadcasting and continued with film and television. The understanding of media and its impact on society has evolved over time, giving rise to the modern concept of ML, which encompasses all forms of media, including digital media. The history of radio in the Western world dates back to the late 19th century, when significant advances in wireless telegraphy and communication technology occurred. The pioneering work of inventors like Marconi, Tesla, and Heinrich Hertz laid the groundwork for radio's development as a mass communication medium. Guglielmo Marconi, an Italian inventor, is widely credited with developing practical radio transmission. In the 1890s, he carried out experiments that successfully demonstrated radio signal transmission over long distances, including across the Atlantic Ocean. Marconi's work laid the groundwork for the subsequent development and commercialization of radio technology.

In the early 20th century, radio broadcasting grew in popularity as a source of entertainment and information. The first scheduled public radio broadcasts began in the 1920s. The British Broadcasting Company began regular radio transmissions in the United Kingdom in 1922, and commercial radio stations were established in the United States. These early radio stations broadcast a variety of programs, including music, news, sports, and drama, enthralling listeners and changing the way they received information and entertainment.

Radio broadcasting expanded rapidly in the Western world over the next few decades. During World War II, radio became the dominant medium, providing the public with critical updates as well as entertainment. After the war, radio continued to thrive as a primary source of news, music, and cultural programming, with a significant impact on popular culture. Over time, advances in radio technology resulted in the introduction of frequency modulation radio, which improved sound quality and expanded music broadcasting options. Furthermore, the introduction of transistor radios in the 1950s made them more portable and accessible to a larger audience.

The subsequent rise of television in the 1950s and beyond resulted in increased competition and shifts in media consumption habits. However, radio has remained an important medium, particularly in the form of music radio stations, talk shows, and newscasts. The advent of digital radio and Internet streaming has recently transformed the landscape of radio broadcasting, giving listeners more options and expanding the reach of radio content. Since the 2000s, ML has been established as a concept for dealing critically with the amount of content that emerges as a result of the convergence of digital technologies and their audiovisual content. The amount of media exposure and the critical role of information in the development of democracy, cultural participation, and active citizenship justify the appropriateness and importance of ML (Koltay, 2011). Today's children and adolescents are bombarded with media messages. They use a lot of time-consuming media, such as the Internet, movies, video games, and social networks (SNS). Consuming, let alone manipulating and creating information, necessitates skills and specialized knowledge to deal with the amount of unfiltered and unverified information (UI) we constantly receive from media outlets.

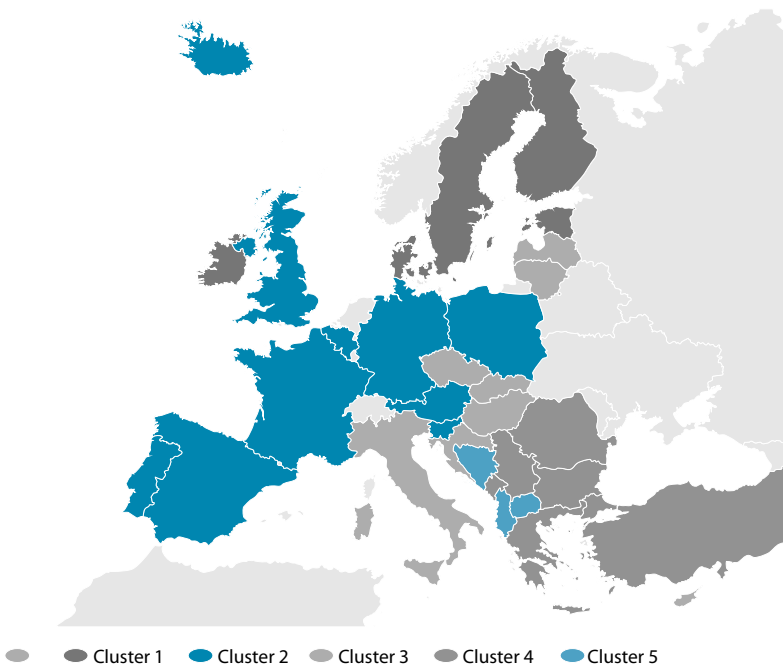
Given this preoccupying situation, UNESCO has made important contributions to improving ML and related communications competencies in order to control the rise of information. To elaborate, Carlsson (2019, 25) states that UNESCO has made a significant contribution in this regard, encouraging “a holistic perspective that brings together media literacies and information literacies under the rubric of Media and Information Literacy.” In this digital age, information management requires both ML and media information literacy (MIL) skills. So, what is the difference between ML and MIL?

Lee and So (2014) distinguish the two concepts based on their academic origins, scope, and social concern. For example, information literacy (IL) is more closely related to library science than ML, which is more related to media content, the media industry, and social effects. Furthermore, they differ in terms of academic orientations, as the two fields use different analytical methods. They have the same goal, but their publications overlap in terms of topic areas, countries of origin, and titles (Lee & So, 2014). Other distinctions are mentioned in Koltay (2011), who states that IL is the ability to identify a need for information and then locate, evaluate, and use information effectively to solve problems. Koltay defines ML as the ability to access, evaluate, manipulate, and produce media in various forms. Although there is a lot of overlap between these terms, combining

them results in MIL. MIL is now an ambitious goal for the 21st century, referring to the ability to be efficient and effective in a digital society (Pérez-Escoda et al., 2020).

The European Policies Initiative (EuPI) uses a set of indicators to assess media freedom, education, and trust in 35 European countries. Since 2017, the index has tracked countries' progress and regression. According to EuPI (2021), the results of a new edition of the ML Index place the following countries at the top of the ML rankings. Finland (first), Denmark (second), Estonia (third), Sweden (fourth), and Ireland (fifth). According to EuPI (2021), these countries have the greatest potential to withstand the negative impact of fake news and misinformation because of their high levels of education, free media, and public trust. However, the index reveals that some countries, including North Macedonia (35th), Bosnia and Herzegovina (34th), Albania (33rd), Montenegro (32nd), and Turkey (31st), have low potential to deal with the effects of fake news and misinformation, primarily due to underperformance in media freedom and education (EuPI, 2021)

Figure 1. Index cluster analysis of ML in Europe (EuPI, 2021)



Source: Own elaboration.

Media Literacy in the Middle East and North Africa

Rapid advances in ICT, combined with the vast amount of content available on the Internet and SN shape how we consume media messages and what skills educational stakeholders provide to improve children and adolescents cope with the rapid spread and circulation of information. The Arab countries in the MENA are no exception in a time when “almost everyone can be a publisher [because] the abundance of media content gives us increased opportunities to find information, but also disinformation” (Abu-Fadil et al., 2016, p.7). The need for ML has become critical as a result of the shift in media exposure and interaction, which has presented new challenges. In the Middle East and North Africa, ML is a promising concept that requires further improvement. According to Abu-Fadil and colleagues (2016), the application ML, which is a new concept in most Arab countries, falls under the MIL umbrella term and ranges from almost nonexistent to relatively dynamic due to the region’s diverse educational systems. Added to this are the various educational systems, which include public, private, and religious schools where students primarily learn Arabic, French, and English.

Tayie (2016) admits that Egypt has been slow to incorporate MIL, despite the proliferation of news and entertainment outlets following the social and political changes brought about by the “Arab Spring” in 2010. Tayie suggests that public and private universities develop MIL courses for undergraduate students. Tayie’s ML activities include ML workshops, conferences, and toolkits for university professors to use in their teaching at public and private institutions. However, Tayie claims that the lack of policies on the subject is a challenge that impedes efforts to implement MIL in Egypt.

Northward, Nuseibeh and Abu Arqoub (2016) explained the concept in the occupied Palestinian territories (West Bank, Jerusalem, and Gaza Strip). Their study revealed a very difficult scenario regarding why ML is composite and why it must focus on empowerment. According to the authors, the concept of IL is more prevalent than ML because Palestinians have been controlled by a number of countries, including Jordan, Egypt, Israel, their own form of government (the Palestine Liberation Organization, or Fateh) in the West Bank, and Hamas in the Gaza Strip. Nuseibeh and Abu Arqoub explained that ML is still a relatively new concept in Palestine, both in the education system and in civil society, but there is a growing need to raise awareness about how to interact and deal with the media.

Durra (2016) admitted in Jordan, a neighboring country, that ML is taught in various media training curricula that exclude schoolchildren. Durra proposes an emergency action plan to elevate Jordan to the international level of ML.

Melki and Maaliki (2016) studied the status of ML in Lebanon, near the Palestinian territories. The researchers emphasize the importance of academia in explicitly advancing digital and ML education through educator training and curriculum development. The goal is to develop digital skills and gain a better understanding of how they relate to MIL. Melki and Maaliki see ML as a tool for combating the ideologies of greed, hatred, and death, as well as fighting for social justice that is universal and global. Furthermore, Melki and Maaliki argue that ML should be implemented in schools, beginning with elementary school and progressing to higher levels. The goal is to develop a critical mass of well-connected teachers, academics, and researchers capable of taking digital and ML teaching and research to the next level.

Eastward, Al-Faisal (2016) explored the concept's status in Iraq, a country where information is spread freely via the Internet. Despite the emergence of a national information policy in Iraq, Al-Faisal emphasizes that Iraqi officials have prioritized ICTs over an ML mechanism.

Abu-Fadil, Torrent, and Grizzle (2016) reported that progress on MIL in Saudi Arabia has been slow. The country's education system is more traditional, and teachers are less interested in digital knowledge. Abu-Fadil, Torrent, and Grizzle (2016) state that the Saudi public education system "has failed to produce up-to-date English language curricula as well as qualified instructors who use creative teaching methods, as opposed to subjecting their charges to learning by rote" (p.20). Finally, much effort is being made to ensure the success of media education and literacy in Arab countries. The situation in Sultanate of Oman is not much different. Saleem (2016) found that the advancement of ICTs and the rapid flow of information have made it easier for civil society actors to share information with one another. In this regard, Saleem emphasizes the importance of governmental entities in the Sultanate that provide accurate information to citizens while also developing critical and analytical thinking skills. She assumes that the concept has yet to be implemented and advocates for an ML curriculum in schools, which the Ministry of Education must implement. She recalls the role of public universities, which should be included in their plans and prioritized for students.

Boujemaa (2016) addressed the issue of ML in Algerian education in North African countries. Since gaining independence in 1962, the country had yet to achieve the goal of integrating the two concepts into its educational system. According to Boujemaa, the implementation of process learning (ML) in Algeria has yet to take hold, as teachers and students require extensive training and immersion in its various aspects. In Morocco, Nfissi and Chouit (2016) examined the state of the art in ML and concluded that the concept is still in its infancy. According to Nfissi and Chouit, ML is not part of the educational system and is not on the agendas of activists, policymakers, or educators. However, they mention that ML is taught at the university as part of a module titled “Media and Cyber Culture.” It is important to clarify that ML is typically associated with an educational approach devoted primarily to children and adolescents (Landry & Basque, 2015). Although it does not immediately rule out adult training, it is generally agreed that the teaching of ML skills should begin with children, adolescents, and young adults. Another study that considered ML in the Moroccan context is the Ait Hattani (2019) article, an outstanding scientific document that examined the integration of ML in secondary school, focusing on the attitudes of 190 teachers. According to the study, organizational, systematic, and attitudinal factors all have a significant impact on the implementation of ML education as an official component of the Moroccan secondary school curriculum. Incorporating and developing ML in Morocco faces numerous challenges, including insufficient school support, inadequate professional development, and outdated classroom practices. Finally, Floyd and Thinz (2016) advocate for the empowerment of children and youth in Tunisia through media and education. Floyd and Thinz’s argument is that they want to help Tunisian students deal with the information and content that is available on various media outlets.

Research Gap

The use of ML in education is rapidly expanding around the world. Recognizing the important role that ML plays, departments of education and media educators from around the world have been working for 25 years to develop elements of ML into their frameworks (Kubey, 1998, 2003). It is mandated and taught in many countries around the world, including Australia, England, Canada, Russia, France, Spain, and the United States, and includes curricula, research, strategies, and performance. Many initiatives have been taken to support ML throughout the Arab region, such as in Lebanon, Jordan, Qatar, Egypt, and Morocco (Abu-Fadil et al.,

2016). According to Melki (2013), the underlying rationale for promoting ML in seven Arab states and Lebanon is a desire to achieve a wide range of social, economic, and political development objectives. In Morocco, a significant number of measures have been taken to develop ML programs, including the introduction of media studies and cyberspace curriculum in the departments of English of the faculties of Arts and Humanities (Nfissi, 2013). Furthermore, the 2009-2012 Moroccan Emergency Plan for Education launched projects aimed at encouraging both teachers and students to better discern their use of media and information and communication technologies (ICT) in primary, middle, and secondary schools (Ministry of National Education, Vocational Training, Higher Education and Scientific Research [MEHESR], 2009). Such programs help the field of ML gain a strong foothold in the Moroccan educational framework and community. However, according to the United Nations Alliance of Civilizations (UNAOC) (2009), ML is unofficially integrated into Morocco's school system. There is a significant lack of theoretical and descriptive research on the teaching of ML. Beginning with the conviction that ML integration is not formally considered in Moroccan instructional settings, the current study seeks to determine its status in terms of curriculum approach, material investment, professional support, and classroom practices.

In Morocco, a significant number of measures have been taken to develop ML, such as the introduction of media studies and cyberspace curriculum in the English departments of the Faculty of Arts and Humanities (Nfissi & Chouit, 2016). Furthermore, the Moroccan Emergency Plan for Education for 2009-2012 launched projects aimed at encouraging both teachers and students to better discern their use of ICT in primary and middle schools (MEHESR, 2009). According to Ait Hattani (2019), such programs enable the field of ML to “gain a primary foothold in the Moroccan education framework and in the community as a whole” (p. 5). Despite the efforts mentioned above, the UNAOC report (2009) states that ML is not officially integrated into Morocco's school system. Furthermore, there is a clear lack of theoretical and empirical research on the integration of ML in Morocco. Although Ait Hattani (2019) filled this void, her research was limited to one variable: teachers' attitudes toward the integration of ML education in secondary schools. Furthermore, the breadth of her work put some teachers to the test, as teaching disciplines may not be the best fit for teaching the ML concept. These subjects included Islamic studies, history and geography, philosophy, mathematics, physics, biology, and economics.

Research Questions

This study looks into the integration of ML in the Moroccan educational system. To this end, it employs a multimethod approach to examine student awareness, teacher attitudes, and the extent to which ML is included in textbooks used to teach Arabic, French, and English in Moroccan classrooms. Based on the stated objectives, the following three questions are used to guide this study:

1. Are students aware of and exposed to ML skills?
2. What are teachers' perceptions of ML in the Moroccan education system?
3. To what extent do textbooks include ML courses, activities, or units?

Research Methodology and Design

In this study, a multimethod approach was used, with data collected and analyzed quantitatively and qualitatively within the same paradigm of ML and education. This multifaceted approach will enable this study to explore various perspectives and uncover relationships between the three variables that underpin the research questions raised above. For example, a quantitative method is used to examine students' awareness of ML and attitudes toward its implementation in Moroccan schools. On the contrary, a qualitative method is used to analyze the interview conducted in this study to elicit teachers' attitudes toward the implementation of ML, potential barriers to implementation, and recommendations for ML integration. Similarly, a qualitative method is used to examine the presence of ML in textbooks. In this variable, data was analyzed using the content analysis framework to examine narratives and elements used in textbooks to improve students' access to media and related topics in Arabic, French, and English textbooks at the primary and secondary school levels.

The variety of instruments used in this study, including interviews with teachers, questionnaires for students, and content analysis for textbooks, necessitates a multimethod approach to investigating the extent to which ML is implemented in the Moroccan education system. More specifically, this study focuses on the attitudes of 40 Moroccan secondary school teachers toward the integration of ML. Three variables were considered when evaluating teachers: sex, level of teaching, and teaching field. The sample showed of 25 (62%) men and 15 (37.5%) women. On the contrary, they refer to different teaching levels, with 21 (52.5%) middle school

teachers and 19 (47.5%) high school teachers. Similarly, their teaching field was taken into account, with 17 (42.5%) English language teachers, 10 (25%) Arabic language teachers, and 13 (32.5%) French teachers.

In this study, students' attitudes toward the media were assessed. To this end, a questionnaire was distributed to many students from three middle schools in Meknes to elicit their attitudes toward ML. The sample size was 700 students who were approached at random and asked to complete a four-page quantitative questionnaire written in Arabic. The gender distribution shows that female respondents (390/55.7%) outnumbered male respondents (310/44.2%). Finally, a textbook analysis was used to gain a comprehensive understanding of the integration of ML in Morocco. The study examined at 28 school textbooks used to teach languages (French, Arabic, and English) during the 2022 academic year in primary and middle school. Brenner and colleagues (1985) and Cohen and colleagues (2005) suggest that content analysis is a qualitative and quantitative process that involves reading and evaluating data collection. Mesude and Danju (2012) also stated that in order to establish procedures for categorizing data in the book's content, some coding and clues related to the purpose of the research question must be used.

The criteria proposed by experts in the field can be used to assess the quality of a textbook (Table 1). Interestingly, the textbooks were evaluated using Skierso's (1991) criterion, which included bibliographical data, aims and goals, subject matter, vocabulary and structures, and layout and physical makeup. However, this study will focus on the third and fourth elements (subject matter, vocabulary, and structure).

Table 1. *Expert textbooks and evaluative checklists*

Experts	Textbook Evaluation Checklist
Cunningsworth (1984)	Aims and objectives, usefulness and relevance to the learner of the language being taught, students' learning needs.
Skierso (1991)	Bibliographical data, goals and objectives, subject matter, vocabulary and structures, layout, and physical makeup.
Garinger (2001).	Teaching objectives, depth and breadth of material, and whether the textbook needs to be supplemented or not.
Miekley (2005)	Content, vocabulary and grammar, exercises and activities, attractiveness of the text, and physical makeup.
Jahangard (2007)	Explicit objectives, vocabulary explanation, educational approaches, review and test sections, visual materials, topics and tasks, clear instructions, layout, organized and graded content, authentic language, grammar presentation and practice, fluency practice in all four skills, and developing learning strategies.

Source: Own elaboration.

Analysis

One of the primary goals of this study is to look into how ML is being integrated into the Moroccan educational system. The results presented in this section are related to student awareness, teacher attitudes, and the availability of ML in textbooks used to teach Arabic, French, and English in primary and secondary schools.

This section presents the findings and interpretations of the research on three main aspects: student awareness, teacher attitudes, and the inclusion of ML in textbooks used to teach Arabic, French, and English in primary and secondary schools. By examining these three dimensions, this study provides a comprehensive understanding of the current state of ML integration in Morocco's educational system. The results will help policymakers, educators, and stakeholders understand the potential challenges and opportunities of incorporating ML into the curriculum, as well as guide future efforts in this area.

Students' Awareness

The testing of student awareness of media functionality and use emphasizes the study's critical objective. It allows us to critically examine what students can read, hear, write, and learn through media tools and social networking sites. As a result, this study used a questionnaire to increase secondary school students' knowledge of ML in terms of definition, the most popular and influential media outlets, and whether they were introduced to the concept through specific courses, activities, or units.

Student awareness measures students' knowledge and understanding of ML. It could explore their familiarity with ML concepts, applications, and potential benefits. The results will reveal how much students already know about ML and how it applies to their education.

Demographic information about gender was gathered. As shown in Table 2, there were more female respondents (55.7%) in this survey than male respondents (44.3%). Furthermore, respondents were asked if they were aware of the importance of ML and if they had ever been introduced to the concept in class. Their responses were inconsistent and astonishing. A total of 84.3% stated that they had heard of the concept, but 72.9% had never been taught about its skills and abilities in dealing with media content.

Table 2. *Students' gender diversity and awareness of media literacy*

Population: N = 700		ML awareness		ML initiation	
Male	Female	Yes	No.	Yes	No.
310 (44.3 %)	390 (55.7%)	590 (84.3%)	110 (15.7%)	190 (27.1%)	510 (72.9%)

Source: Own elaboration.

On another scale, students' perceptions of ML were assessed. Interestingly, their responses highlight the stark contrast between hearing about a concept and understanding its definition. Their responses were so diverse that they demonstrated their lack of understanding of the concept. For example, 4.3% declared that ML is used to critically understand media messages, 24.3% said that it is a way of creating media content, and 55.7 stated that ML develops culture through the media (see Table 3 for an illustration).

The results show that when students were asked about their perceptions of ML, there was a significant gap between their awareness of the concept and their comprehension of its definition. The students' responses showed a significant contradiction between having heard of ML and having a thorough understanding of its meaning. The diversity of the students' responses suggests a lack of knowledge or familiarity with the concept of ML. For example, a small percentage (4.3%) associated ML with critical understanding of media messages, whereas a larger proportion (24.3%) saw it as a tool for creating media content. Furthermore, the majority of students (55.7%) stated that ML contributes to the development of culture through media.

This suggests that many students have misconceptions or incomplete knowledge of ML. Their responses suggest a limited understanding of the fundamental principles and applications of ML. The findings highlight the importance of educational interventions or initiatives to improve students' understanding of concepts related to ML, ensuring that students will receive accurate information and knowledge about the topic.

In general, this result emphasizes the importance of bridging the knowledge gap among students about ML. By providing accurate and comprehensive ML education, students can develop a better understanding of its potential and relevance in a variety of fields, thereby increasing their overall digital literacy and preparing them for future technological advancements.

Table 3. *Student perceptions of the meaning of ML*

	Numbers	Percentage
Critically understand media messages	30	4.3%
Produce media content	170	24.3%
Develop culture through media content	390	55.7%
Other	40	5.7%
No response	70	10%

Source: Own elaboration.

Regarding the variable of the most influential and most used media outlets, the question was designed to elicit responses from students on the most influential media outlets, as well as the most used media outlets and technologies. Students reported that the most influential media outlets (Table 4) were social networking sites, gaming, television, radio, music, advertising, and news. More specifically, SNS (61.4%) and gaming (18.5%) are the most influential tools, while radio (1.4%) and news (2.8%) are the least. As for the most used media outlet and technology, the results indicate that SNS (60%) and gaming (21.4%) are the most used tools and radio (0.5%) and news (0.8%) are the less used tools among respondents.

Table 4. *The most influential and used media outlets and technologies*

Most influential		Most used	
SNS	430 (61.4%)	SNS	420 (60 %)
Gaming	130 (18.5%)	Gaming	150 (21.4%)
TV	20 (2.8%)	Smartphone	60 (8.5%)
Radio	10 (1.4%)	Laptop	50 (7.1%)
Cd (Music)	50 (7.1%)	Radio	4 (0.5%)
Ads	40 (5.7%)	Movies	10 (1.4%)
News	20 (2.8%)	News	6 (0.8%)

Source: Own elaboration.

A third question was posed to students to determine their attitudes toward the availability of ML-related courses or extracurricular activities delivered in classroom. Table 5 shows that the majority (67.1% = 470) of participants stated that ML is not available in the form of courses or extracurricular activities in schools, whereas 24.3% (N = 170) stated that the concept is scarce. In terms of concept availability, a sizable proportion of students

(60 = 8.6%) stated that ML is available, and those who were introduced to it stated that they receive it as additional activities. The result presented in Table 5 indicates that students were asked about their attitudes regarding the availability of courses or extra activities related to ML in their schools.

According to the findings, the majority of participants (67.1% or 470 students) stated that ML is completely absent in the form of courses or extracurricular activities at their educational institutions. This suggests that ML is currently underutilized in their schools, either as part of the curriculum or as extracurricular activities. Furthermore, 24.3% of the participants (170 students) reported that the availability of ML-related content or activities in their schools is limited or scarce. This suggests that, while some schools may offer some exposure to ML, it is not widely or consistently integrated into the educational experience.

Conversely, a significant proportion of students (8.6% or 60 students) reported that ML is available in their schools. It should be noted that these students stated that their exposure to ML is primarily through extracurricular activities, implying that ML may not be part of the formal curriculum but is instead provided as supplementary or optional learning opportunities.

Overall, these findings suggest that there is a significant gap in the availability and integration of ML-related courses or activities in the schools surveyed. Most students believe ML is absent or scarce in their educational experience, indicating a need for more emphasis on ML education within the curriculum or through extracurricular activities. The small proportion of students who reported exposure to ML through extracurricular activities implies that some efforts are being made to introduce ML to students, albeit on a small scale.

Table 5. *Availability of courses and extra activities on media literacy*

	Participants	Percentage
Available as an extra activity	60	8.6
Inexistent	470	67.1
Scarce	170	24.3

Source: Own elaboration.

Teachers' Attitudes

Teachers' attitudes: This aspect examines teachers' opinions, beliefs, and perceptions regarding the integration of ML into the educational system. The goal of this study is to understand how teachers are receptive to incorporating ML into their teaching methods and whether they see it as valuable in improving the learning experience. The results will shed light on teachers' readiness to incorporate ML in the classroom.

In the same vein, teachers were asked to comment on the availability of ML courses, the impact of media content, and the advantages of incorporating ML into the curriculum. It should be noted that 40 teachers participated in this interview, with 25 (62%) being men and 15 (37.5%) being women. Furthermore, the teachers' teaching levels varied: 21 (52.5%) were middle school teachers, whereas 19 (47.5%) were high school teachers. Regarding their teaching field, 17 (42.5%) were English teachers, 10 (25%) were Arabic teachers, and 13 (32.5%) were French teachers.

Regarding the availability of lessons/courses, the majority of teachers confirmed that ML is not included in the curriculum. The teachers stated that the courses offered as extracurricular activities are extremely limited and scarce. Furthermore, most teachers admitted that during their training, they were not taught ML skills to teach and empower learners' abilities. These results are consistent with those found by Ait Hattani (2019), who stated that 62.98% (114) of respondents agreed that ML is not part of the fundamental curriculum, nor is it cross-curricular or independent. Only 76 teachers (37.01%) stated that the textbook includes some units designed to introduce students to some basic components of media culture: "Both MHS (middle high schools) curricula are based on a set of contents and pedagogies that do not always serve the needs of the students and do not help them realize their potentials, especially in the 21st century" (Ait Hattani, 2019, p.15).

Speaking about students' use of media content leads us to question teachers' attitudes regarding the digital real influence on learners. Generally, the teachers recognize that "social networks, through sharing and communication, are replacing traditional media in terms of influence on public opinion," according to one of the respondents. Teachers also responded to a question about how new media tools provide inaccurate information that is difficult to verify. The teachers' responses were clear

and to the point, emphasizing how students are heavily influenced and influential on social media. One of the teachers explained this nexus in the following terms: “as media can make it easier for students to connect and communicate, it can also impact their psychological health, image, and self-esteem”. To cope with this issue, teachers recommended that it is high time to provide Moroccan students with skills and abilities to get reliable and accurate information from safe sources: “to exist, we have to be part of SNS [...] the essential issue of the digital era is to focus not only on influencers but on the content too [...] it is important to ask what influencers are,” mentioned one of the teachers.

On a different scale, teachers were asked about their thoughts on the impact of the media and related ICTs on student achievement. This question elicited two types of reactions from respondents. The first group (N = 30) acknowledged that the relationship between student performance and media connectivity and use is difficult to agree on because it has not been scientifically proven, though some studies have found a negative impact on feelings of isolation, lifestyle habits (sleep), and even addiction. The rest (N = 10) stated that the media interferes with student schoolwork “as some students, who are permanently active on media outlets, mainly SNS, do not spend much time studying,” according to a teacher. Given the lack of accurate and systematic courses on ML and education, all teachers have asked for parents’ assistance. “They should be interested in what their children are doing on SNS, know about SNS, and be prepared to understand how they are being used” said a teacher.

Finally, teachers enthusiastically embraced the integration of ML in Moroccan schools. Their responses expressed concerns about the Moroccan school’s role in the development of innovative manuals and skills to improve students’ resistance to the rapid flow of unverified and unfiltered information. They believe that incorporating ML toolkits into the curriculum will help students learn how to use media tools safely and develop critical thinking skills. According to one of the teachers, ML and education as a cross-cutting discipline have “not have specific time slots in the Moroccan context. It is up to us to integrate it into schedules and possibly coordinate with colleagues.” From elementary school to the end of high school, a teacher stated that “the learner’s journey must be built around moral and civic education and media and information education.” However, teachers do not hide their confusion about the status of ML in their classrooms: “there are few tips, extra activities, and workshops to decipher media content in school,” as it is put by one of the teachers.

Textbooks

Textbooks are one of the most important educational resources for teaching students knowledge and concepts. The purpose of this study was to see if textbooks used in Moroccan primary and secondary schools to teach Arabic, French, and English languages included courses or units in ML. 28 textbooks were examined to see if any narrative or teaching activity matched the teaching of ML. The primary results (Table 6) show that Arabic textbooks cover themes such as how to describe computers and cell phones, their importance, and the negative effects on student time and health. The research shows that ML is not present in French textbooks. The reality is that French textbooks provide some guidelines on the importance of Journalism Day and other national holidays, as reported by the media.

Table 6. *Primary school textbooks*

Primary school textbooks	
Arabic textbooks	<ul style="list-style-type: none"> • Describe computer and cell phones • Importance of computers and cell phones • Negative aspects of computers and smartphones
French textbooks	<ul style="list-style-type: none"> • Journalism Day • National day

Source: Own elaboration.

Textbooks for teaching Arabic and French in secondary school were analyzed, and the results shown in Table 7 show no significant findings. For example, some themes are included to introduce students to the image's value, elements, aspects, and types. On a different scale, an examination of French textbooks revealed that they include some courses that introduce students to the design of a journal front page and how to search for information on the Internet.

Table 7. *Secondary school textbooks*

Secondary school textbooks	
Arabic textbooks	Initiating students to image Values, skills, elements, aspects, and types.
French textbooks	Description of a journal front page, how to search information on the Internet.

Source: Own elaboration.

One of the primary goals of this study is to determine whether high school textbooks for the 2022 academic year in Morocco that teach Arabic, French, and English languages include courses, activities, or even units that teach ML. The study found that the theme of ML is absent from Arabic and French textbooks. A thorough examination of high school English textbooks, as shown in Table 8, shows that the concept of ML does not appear in any of the manuals. However, the study found some activities involving media and related technologies: *Science and Technology*, *E-mail writing*, *Dissertation on the Effects of the Internet*, *Mass Media*, *Listen to News on the Radio*, and *Importance of Smartphones*, among others.

Table 8. *High school textbooks*

High school textbooks		
Arabic textbooks	The concept does not exist in the textbooks of literature classes.	
French textbooks	No French textbooks in high school.	
English textbooks	<i>First Year Visa</i>	Science and technology: write an e-mail, writing about the negative and positive effects of the Internet.
	<i>Second Year Ticket 2 English</i>	Mass Media: listen to radio news, write an e-mail, and learn stereotypes of other cultures through the media. Who owns the media, defines the media, and influences the media?.
	<i>3rd Year Ticket 2 English</i>	Advance in Science and Technology: cellular phone, writing: importance of the Smartphone.

Source: Own elaboration.

The nature of ML in the Moroccan context is a sophisticated issue, the investigation of which requires student awareness, teacher engagement, and the availability of ML in textbooks. To gain a comprehensive understanding of the state of ML in Morocco, this study examined at textbooks used to teach Arabic and French at the middle school level, as well as those used to teach English in high school. Indeed, a textbook is essential for the teaching/learning process. According to UNESCO (2008), this fundamental pedagogical tool is more than just a medium for language teaching because its content directly or explicitly contributes to the transmission of concepts, behavior, norms, and values. We can even say that the textbook is an essential pedagogical and didactic tool for teachers and students who are teaching or learning a foreign process.

Many textbooks (28) are dedicated to the teaching of languages (Arabic, French, and English) in Moroccan schools. Their goal is to help Moroccan students develop cultural, social, environmental, and even critical skills so that they can become responsible citizens in a globalized world. This study chose language teaching textbooks because they are an effective way to teach concepts and notions to students using narratives and text that are specifically tailored to their needs. The results for the availability of activities, courses, and distinct units on ML in the corpus were negative: no textbook was reported to include ML under any of the aforementioned actions.

Media education develops students' awareness of various media-related issues, fosters cognitive, metacognitive, and practical skills, and is typically part of a process of integration or social transformation. As a result, it fits into the triangle formed by the school, the student, and the teacher. A textbook's functions vary depending on whether it is intended for students or teachers. For the learner, a textbook can fulfill traditional learning functions such as thought transmission, skill and competency development, and knowledge consolidation and evaluation. In terms of media integration, a textbook can serve functions similar to those found in everyday life. The narratives on awareness-raising actions and appropriate measures for the safe use of media content necessitate tailoring the actions and their goals to the needs of students. In this sense, ML education in Morocco must consider the issues that arise as a result of the school's ability to adapt to new technological changes in teaching methods, as well as its ability to prepare students for a complex and changing media world. To develop this, the creation of a coherent ML curriculum policy allows for the development of a clear message that aligns with management objectives. The incorporation of ML into textbooks will teach students how to use the Internet safely using the awareness techniques provided by ML toolkits.

In line with ML and teacher support, we suggest that textbooks teach students how to protect themselves from misinformation, scams, cyberbullying, inappropriate content, the health consequences of digital use, and one's image and personal data. Working in collaboration with various actors is also important for promoting positive behavior. Raising awareness among schoolchildren, for example, allows them to develop the capacity to act required to respond to today's major challenges at a young age through educational projects.

Discussion

This study identified several factors that impede the integration of ML in the Moroccan context. The relationship between ML and education in Morocco is explored using student awareness, teacher attitudes, and ML inclusion in textbooks. The testing of student awareness of media functionality and use emphasizes the study's critical objective. It allows us to critically assess what students can read, hear, write, and learn through media tools. For this purpose, students' perceptions of ML in terms of definition, the most popular and influential media outlets, and the availability of courses on the subject were gathered. Their responses were inconsistent and astonishing. Students are aware of the concept's existence, but they are unaware of its utility and benefits. They stated that they had heard about the concept, but they were never taught about its skills and benefits in assisting them in dealing with media content.

Their responses were inconsistent and surprising in that 84.3% stated that they had heard of the concept but had never been taught about its skills and abilities to deal with media content. Additionally, many students are aware of the most popular and influential media outlets (SNS and gaming). Children and adolescents are already at risk on SNS because they are constantly connected to their devices. Naive use of SNS can have emotional and social consequences, as well as the disclosure or propagation of personal data. Larouz and Miless (2015) and Miless and Larouz (2018) investigated how media content and related devices affect students' social relationships. The two studies investigated the level of media awareness among middle school students and predictors of smartphone addiction among university students. For the first category, middle school respondents admitted to sharing various personal information, being unaware of personal information privacy, rarely employing techniques to avoid cyberbullying, and having negative attitudes toward the implications of school education regarding the risks of online personal information. In terms of connectivity and content sharing, university students stated that they use smartphones to connect to various SNSs, and that they use them frequently and for long periods of time throughout the day and night.

Video games and the Internet are examples of media outlets that can influence children's eating, exercise, and consumption habits, as well as their mental health. Many young people are heavily reliant on new technologies, which can cause anxiety among adults if SNS and related

technologies are misused by youth. Some unsafe practices are likely to result in significant harm. Students acquire their own media through their SNS accounts, with no professionalization involved. However, the spread of fake news can be alarming. Reading false information can lead to isolation and cyberbullying, which can endanger children's and adolescents' mental and physical health. New technologies in particular encourage the absence of direct physical contact and anonymity. This makes it easier for harassers to move quickly and break their promises. This is especially true for those who have committed suicide as a result of cyber-harassment. Being overexposed to media content could favor other unsafe modes of behavior. For example, the level of violence in media outlets is increasing. Every day, children are exposed to violent images, such as murder, rape, drugs, and sex. Overexposure to these acts may increase in abnormal and aggressive behavior, particularly among youth. In fact, students may be more vulnerable to violence, especially those suffering from affective disorders, learning disabilities, abuse, and distress, among other things.

Moroccan students are increasingly using SNS. They obtain nearly as much information online as they do through other traditional modes of communication. Social networks are not immune to the confidence crisis. They are a source of conspiracy, disseminating biased and UUI information with the intent of duping, manipulating, and misleading public opinion. False information and its dissemination have serious consequences, particularly for vulnerable and uninformed individuals. Furthermore, SNSs are likely to facilitate the spread of other types of harmful content, such as those that promote hatred and violence. To combat fake news, states have not implemented policies and laws aimed at combating disinformation and information manipulation, particularly in terms of transparency and countering false information. Furthermore, provisions related to MIL were strengthened and implemented to assist students in learning to become responsible citizens in a society characterized by the multiplicity and acceleration of information flows. They develop critical thinking skills and can act in an informed manner when seeking, receiving, producing, and disseminating information through increasingly diverse media.

ICT provide numerous opportunities, but they also pose significant threats to the environment and biosphere. In this context, we wonder when curricula will take into account media and digital education, which is open to the transformations brought about by ICTs and the strong digitization of

social exchanges. To that end, the entire educational system (preschool, primary, secondary, tertiary education, technical and vocational training) should be improved and expanded. The 2030 Agenda (paragraph 15) acknowledges the potential of ICT, the Internet, and SNS to “accelerate human progress, to bridge the digital divide and to develop knowledge societies” (UN, 2015, p. 5).

Within the context of implementing ML programs in education, it is critical to test not only students’ attitudes toward the integration of ML into the classroom. The beneficial nature of the ML curriculum and courses, if integrated into the Moroccan educational system, will require students to deal critically with media content and understand the influence that media outlets have on them. This investigation includes teachers’ attitudes toward ML. The goal of this study was to gather their perspectives on the barriers to integration in the Moroccan context.

Teachers’ attitudes toward ML integration were primarily focused with the concept’s status, the barriers to its implementation, and the benefits that media education can provide to students. Their perceptions are recognized as a critical determinant to the success of the concept’s integration into the school environment, with the teaching staff playing the primary role and bearing the majority of the responsibility for implementation. Teachers generally support the idea of implementing media education and understand its benefits for students. For the time being, developing media-related teaching practices and strategies is a difficult task for teachers, who have acknowledged the complexity of teaching as a significant challenge. This concern stems from some teachers’ perceptions that they are not adequately and sufficiently trained to meet the requirements and responsibilities associated with implementing an inclusive media education program to account for the threats that SNS and the media pose to students. This education, which includes both theoretical and practical skills, would promote the ability to connect and interact with new media. It would encourage students to think more about how to protect their personal and private information from defamatory or degrading threats. Teachers who develop safe media handling skills are more likely to be able to manage information and use it more effectively in their personal and educational domains.

Regarding the obstacles and challenges that ML faces in Morocco in terms of integration, the findings of the current study join those mentioned

in Ait Hattani (2018). Teacher training is an important challenge that may impede the integration of ML. There are no training modules or professional development activities assigned to ML teachers in Morocco.

Similarly, the majority of the teachers interviewed for this study acknowledge that ML is not being implemented due to a lack of pedagogical resources such as manuals and textbooks, model course syllabi, and ready-made lesson plans. Despite these limitations, teachers show their commitment and motivation to provide courses and additional activities aimed at teaching ML skills. To handle media information, students should have the following Fact-checking, Abilities, Skills, and Techniques requirements: Fact-checking skills to deal with fake news and misinformation, the ability to learn about the functionality/usefulness of SNS, the ability to protect personal data, and media content creation techniques.

Conclusion

The concepts of ML observed in the conceptions of students and teachers, as well as in textbook content, indicate that media content is prevalent in our daily activities and should be discussed in educational systems. However, media is not only perceived as a source of creativity and empowerment; it is also viewed negatively because it invades people's privacy and bombards them with unverified and unfiltered information. Although some believe it can be an opportunity for young people to develop knowledge, socialization, cultural dissemination, and educational virtues, others, fearful of the media's powerful impact, emphasize the potential threats that media content can pose to children and young adults. This study highlighted these various perspectives.

The dissemination of personal data, the influence of smartphones, and the way SNS algorithms keep our eyes fixed on the screen encourage the spread of hateful content and false information. They want our attention because we spend more time looking at screens. The more attention SNS receives, the more advertisements they can show to us, and the higher the profit margin gained by these platforms. In this regard, we recall Wineburg (2016), who believes that the problem of the digital age is the proper allocation of attention. He advocates for a shift in perspective and suggests that critical ignoring, which is just as important as critical thinking, should be taught in schools. Be it critical thinking, critical

ignorance, or ML, we believe that we should enhance people to the effect of information consumerism, particularly the youth, the moment we give our children a smartphone. They emphasize the role that schools can play in implementing ML to strengthen students' digital immunity.

All of these skills, when combined, will help students distinguish between right and wrong, as well as information and disinformation. Advocates of this argument have advocated for the development of ML skills and lateral reading, which underpin the act of leaving an unknown website to consult other sources in order to evaluate the original site; the goal is to strengthen minor and child protection while acknowledging the limitations of filtering software.

The critical analysis used in this study allows us to draw distinct and comprehensive conclusions about the state of ML in the Moroccan educational system; however, its implementation requires extensive review to bring skills and narratives in line with the pedagogical objectives of MIL. In addition to improving units and texts, other factors that may impede MIL in the Moroccan context require further improvement. Untrained human resources and inefficient material resources to teach ML, for example, pose significant challenges to the concept's integration into Moroccan schools.

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