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Digital Media Literacy in Higher Education: A Curriculum Analysis of Undergraduate Media Programs in Pakistan

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Abstract

The rapid advancement of digital communication and media technologies has highlighted the critical necessity of incorporating digital media literacy into higher education curricula globally. This study investigates how undergraduate Media and Communication programs in Lahore, Pakistan, address digital media literacy through their curricula. Focusing on three public and three private universities, this research employs a quantitative content analysis to identify gaps and opportunities for equipping students with essential digital competencies. The findings reveal significant disparities between public and private institutions, with private universities allocating a greater proportion of their curricula to digital media literacy than their public counterparts, where progress remains gradual. Despite these efforts, the overall integration of digital media literacy remains below international benchmarks, hindering students' preparedness for the demands of an evolving digital landscape. This study highlights key challenges, including outdated curricula, inadequate faculty training, and limited resources, which inhibit effective digital literacy education in Pakistan. It emphasizes the need for the Higher Education Commission of Pakistan to priorities reform through improved curricular standards, innovative teaching practices, and faculty development. This research provides actionable recommendations that enhance the discussion on aligning higher education curricula with global standards, encouraging critical thinking, ethical content creation, and responsible digital engagement among students.

Keywords: digital generation, digital media literacy, curriculum, pedagogy, media education.

1. Introduction

As the digital landscape evolves rapidly, digital literacy has shifted from a narrow focus on technical proficiency to a multifaceted framework integrating critical analysis, ethical reasoning, and participatory engagement with digital technologies. Scholars argue that embedding digital literacy into educational curricula is imperative to equip learners with the skills to navigate the complexities of the 21st century (Livingstone, Helsper, 2007; Buckingham, 2015). A systematic review conducted by C. Audrin and B. Audrin (Audrin, Audrin, 2022) delineates six fundamental dimensions of digital literacy within the educational context: information literacy, digital competency, digital learning, information and communication technology skills, engagement with social media, and competencies pertinent to the 21st century. Building on this, R. Hobbs (Hobbs, 2011) advocates for a holistic media literacy pedagogy that empowers students to critically evaluate, ethically create, and responsibly share digital content. Recent studies further emphasize the role of

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digital literacy in fostering digital citizenship, where learners engage in civic participation and uphold ethical standards online (Hinrichsen, Coombs, 2013; Ng, 2012). For instance, C. Hague and S. Payton (Hague, Payton, 2010) highlight the importance of critical digital literacy in addressing misinformation and algorithmic bias, while R.H. Jones and C.A. Hafner (Jones, Hafner, 2012) stress the interplay between digital tools and sociocultural practices in shaping learning environments. These evolving perspectives underscore the need for interdisciplinary approaches that bridge technical skills with sociopolitical awareness, ensuring learners become informed, ethical, and proactive participants in digital society.

The proliferation of digital media has dramatically reshaped traditional media landscapes, democratizing content creation and distribution (Jenkins, 2006; Couldry, 2012). Advancements in high-speed internet technologies, such as 4G and 5G, have facilitated real-time communication and provided unrestricted access to global digital platforms, fostering unprecedented connectivity and engagement (van Dijck, 2013). This transformation has particularly empowered younger generations, enabling them to transition from passive consumers to active creators of media content (Livingstone, 2004; Westlund, Ekström, 2018). However, the democratization of media also presents significant challenges, including the proliferation of misinformation and the growing necessity for robust critical evaluation skills (Buckingham, 2019). These dynamics highlight the urgent need for education systems to prioritise digital literacy as a fundamental aspect of curricula, in order to equip individuals for both the opportunities and the risks inherent in the digital media landscape.

In response to these challenges, educational initiatives are increasingly emphasizing media literacy to prepare students for the complexities of the digital world. For example, a recent study highlighted how U.S. teachers actively incorporate media literacy into their classrooms to address disinformation, acknowledging that U.S. teenagers face difficulty differentiating between news, advertisements, and opinions (Allen et al., 2023). Integrating digital media literacy into curricula has shown measurable benefits. Another study demonstrated that a 10-week digital media literacy course significantly improved primary school students' ability to critically assess and engage with digital content (Zhang et al., 2023). Similarly, E.E. Smith and H. Storrs (Smith, Storrs, 2023) found that undergraduate students who received targeted media literacy instruction were significantly better equipped to navigate the complexities of digital environments, demonstrating enhanced critical evaluation skills and media awareness. These findings underline the urgency of equipping students with the skills to critically analyze and engage with digital content in an increasingly mediated world.

The shift from traditional to digital media has dramatically increased access to unfiltered content, reducing censorship and amplifying the need for digital media literacy, particularly among youth who primarily interact in digital ecosystems (Ashraf et al., 2020). Media literacy has been integrated into primary and secondary education as a core component of curricula, co-curricular activities, or elective subjects (Abbasi, Huang, 2020; Mihailidis, 2013). However, despite its growing importance in fostering critical thinking and responsible engagement, Pakistan lags in systematically embedding digital media literacy within its higher education system (Jamil et al., 2022). Studies have highlighted the benefits of media literacy education in improving students' ability to analyze, access, and produce media content critically (Robertson, Scheidler-Benns, 2016). Yet, challenges such as outdated curricula, lack of infrastructure, and insufficient faculty training persist (Shah et al., 2022). This gap is particularly pronounced in undergraduate Media and Communication programs, where the absence of targeted digital media literacy courses undermines the preparation of students for the complexities of the evolving media landscape.

This study addresses these challenges by conducting a comprehensive content analysis of undergraduate Media and Communication curricula offered by public and private universities in Lahore, Pakistan. The selected methodology thoroughly investigates how well concepts of digital media literacy – like critical evaluation, ethical content creation, and effective digital engagement – are incorporated into these programs. By identifying deficiencies, the research offers actionable recommendations to align academic programs with international standards and address Pakistan's unique sociocultural and technological contexts. Unlike previous studies discussing the need for media literacy, this research focuses on the structural and curricular gaps, providing a data-driven analysis to inform curriculum designers and policymakers. The findings highlight the urgent need for digital media literacy and propose practical solutions to enhance these programs and bridge the gap between academia and industry.

The Rising Importance of Digital Media Literacy: The exponential growth of digital media has reshaped communication, providing unprecedented access to information and posing significant challenges. Unfiltered content, misinformation, and cyber vulnerabilities have made digital media literacy essential for navigating today's complex information landscape. Media literacy, initially defined as the ability to access, comprehend, and produce communications (Aufderheide, 1997), has evolved to encompass digital media literacy, which includes the effective use of digital tools to solve information problems and thrive in an information society. Scholars emphasize its transformative potential, highlighting how media literacy education fosters critical thinking, ethical engagement, and the ability to analyze and create media responsibly (Burnett, Merchant, 2011).

Globally, these skills are increasingly integrated into primary and secondary curricula, preparing individuals for active participation in information-driven societies (González-Salamanca et al., 2020). In Pakistan, however, the integration of media literacy lags behind global benchmarks despite advancements in ICT use, e-learning, and mobile technology adoption (Shah et al., 2022). The Pakistani government recognized by the early 2000s that "Education for All" goals would require integrating new technologies into traditional education systems (Ahmad, 2011). However, recent studies show significant gaps in embedding media literacy into higher education curricula, leaving students ill-equipped to critically analyze media and resist misinformation (Jones-Jang et al., 2021). This gap is particularly concerning given the rising global demand for advanced digital skills, including AI, cybersecurity, and mobile app development, projected to drive future job markets.

The Role of Educators and Institutions in Fostering Digital Literacy: Educational institutions and teachers are pivotal in fostering digital literacy. However, many educators in Pakistan face barriers such as limited technical skills and inadequate resources (Ashraf et al., 2020). S.P. Karunanayaka (Karunanayaka, 2024) distinguishes between digital capability – using technology for accessing and sharing knowledge—and digital competence, which involves applying this knowledge critically and confidently in a digital society. Research has highlighted the importance of teacher training in bridging this gap. J. Baroud and P. Dharamshi (Baroud, Dharamshi, 2020) emphasize that educators are central collaborators in media literacy initiatives, while another study advocates for integrating information technology into teacher education to meet the demands of the digital era (Schmidt-Crawford et al., 2018). However, the disparity between "digital natives," adept at modern technologies, and "digital immigrants," who often rely on outdated methods, further complicates efforts to integrate media literacy into curricula.

In Pakistan, the National Professional Standards for Teachers (NPST) and the 2017 education policy highlight the need for ICT integration to enhance teaching and learning (Asad et al., 2020). Yet, infrastructural deficiencies, lack of faculty training, and misaligned curricula remain persistent challenges (Kundi, Nawaz, 2010; Murtaza, Hui, 2021). Teacher training in Pakistan often fails to account for the dynamic nature of digital media, limiting educators' ability to effectively engage with students and incorporate critical media literacy concepts into their teaching (Ashraf, Chaudhary, 2013). Addressing these deficiencies is essential to empowering educators and equipping students with the critical skills necessary for digital citizenship and participation in the knowledge economy (Lankshear, Knobel, 2008).

Digital Media Literacy in Higher Education: Addressing the Gaps: University curricula serve as a crucial platform for embedding digital media literacy, yet significant gaps remain in Pakistan's undergraduate Media and Communication programs. Studies reveal that media-related courses in Pakistan often lack a strong focus on digital literacy, treating it as an optional rather than foundational component (Jamil et al., 2022). While proficient in using media technologies, students often lack the evaluative and ethical skills necessary to critically engage with digital content (Ross et al., 2022). Media Literacy Theory (Potter, 2013), which emphasizes integrating concepts like media effects, content creation, and ethical consumption, offers a robust framework for addressing these gaps.

Globally, scholars have called for curriculum revisions to align with modern technological and ethical demands, particularly in journalism and media education (Kirchhoff, 2022; George, Dellasega, 2011). However, in Pakistan, the disconnect between academic curricula and industry needs highlights the urgency of such reforms (Muhammad et al., 2009). Research by A. Hicks and A. Graber (Hicks, Graber, 2010) highlights the democratizing impact of digital media, enabling new career opportunities with minimal resources. Similarly, a study by B. Gros and F.J. García-Peñalvo

(Gros, García-Peñalvo, 2023) highlights that digital tools and learning applications are transforming higher education worldwide, yet Pakistani institutions have been slow to adapt.

This study builds on these insights by conducting a content analysis of undergraduate Media and Communication programs in Lahore, Pakistan, to evaluate how digital media literacy is integrated into the curricula. This research identifies critical gaps and provides actionable recommendations by focusing on issues like misinformation evaluation, content creation, and ethical engagement. The findings aim to inform policymakers and curriculum designers, aligning higher education in Pakistan with global standards while addressing the unique challenges of its educational landscape.

RQ1: To what extent do undergraduate Media and Communication curricula effectively incorporate digital media literacy skills to prepare students for the demands of the digital media landscape?

2. Materials and methods

This research employed a quantitative content analysis approach to explore the extent to which digital media literacy is embedded in the curricula of undergraduate Media and Communication programs offered by selected universities in Lahore, Pakistan. Quantitative content analysis is a widely used exploratory method for systematically identifying patterns, themes, and categories within textual or multimedia data (Neuendorf, Kumar, 2015). Content analysis provides a rigorous framework for extracting insights from data while maintaining replicability and validity. The focus was on analyzing course content, learning objectives, and instructional materials to determine the extent to which they foster critical digital media literacy skills such as information evaluation, content creation, and ethical digital engagement. The study focused on reviewing curricula to uncover gaps, opportunities, and improvement areas that help align undergraduate education with the global need for digital skills.

The study population included undergraduate BS Media and Communication programs from universities across Pakistan, with a specific focus on public and private universities in Lahore. To ensure relevance and focus, the sample consisted of curricula from six universities' Media and Communication departments—selected based on their ranking among the top ten institutions for Media and Communication Studies in Lahore (see Table 1). These universities were chosen to represent both public and private sector institutions, providing a balanced view of curricular practices across different types of educational establishments. The following are the details of the universities:

Table 1. Name of sample public and private universities

Type of University		Name of Universities	
Public Universities	LCWU, Main campus [Mass Communication Department]	UoP, [School of Communication Studies]	GCU, Main Campus [The Department of Mass Communication]
Private Universities	UCP, Main Campus [FMMC]	UMT [School of Media and Communication Studies]	FCCU, Main Campus [Department of Mass Communication]

The unit of analysis is the courses of the curricula of undergraduate programs in Media and Communication of the selected three public and private universities of Lahore, Pakistan. After examining the data collected, a set of five categories was drawn to code the curricula of the undergraduate programs of Media and Communication at the selected three public and three private universities in Lahore, Pakistan. The categories are as follows:

– Fundamental concepts of Media
– Critical Analysis
– Audio-Visual Skills
– Digital Content Creation
– Others

The operational definitions of the categories are detailed below. Table 2 illustrates how these categories are regarded in this study.

Table 2. Operational Definitions of Categories

Categories of Courses	Definition
Fundamental Concepts of Media	The fundamental concepts of media include an overview of introductory courses, different media channels, various types of media, and the principles behind the relevance of different media specializations.
Critical Analysis	Critical analytical thinking is the capacity to envision concepts, recognize patterns, understand abstract ideas, solve problems, develop procedures, adapt, derive meaning, and comprehend how systems, programs, and ideas interrelate skills.
Audio-Visual Skills	This domain encompasses audio recording and editing, digital photography, software for image and graphics manipulation, web authoring tools, animation software, video recording, editing, and production, along with 3D creation, audio quality, sound effects, layout design, color theory, typography, and the use of images to communicate messages. It also covers visual design principles, video shots, the rule of thirds, transitions, and timing.
Content Creation	Skills in digital content creation include strategizing, researching, developing content, generating ideas, brainstorming, structuring content, creating content, managing SEO, overseeing social media, and promoting content networking.
Others	This category includes courses that are not specifically focused on digital media, like languages, mathematics, social sciences, gender studies, history, and religion studies.

The curricula have been coded into five categories based on the important skills of digital media. The courses have been categorically identified by their respective categories. After completing the coding phase, the researcher trained two coders to code the courses into five categories to obtain reliable results. To check the consistency among coders, the researcher calculated Cohen's Kappa statistics to evaluate inter-rater reliability. Inter-coder reliability for this study was Kappa = k = 0.861 (k > 0.7). Hence, the results obtained for content analysis are significantly reliable.

Data Analysis: Once the curricula have been coded into the categories, the data is analysed to address the research questions of the study. Initially, for the quantitative analysis of the data, the frequency of courses within each individual category is calculated. Subsequently, the frequencies of courses for each category are assessed to analyse the cumulative quantitative results.

3. Discussion

This study investigates the integration of digital media literacy into undergraduate Media and Communication curricula across six universities in Lahore, Pakistan, revealing significant disparities in institutional prioritization of digital competencies. A comparative content analysis demonstrates that private institutions (e.g., UCP, FCCU, UMT) dedicate 26–44.7 % of their curricula to digital media courses, whereas public universities allocate only 20–30 %, with such content predominantly confined to advanced semesters or niche specializations. These findings resonate with scholarship underscoring the pivotal role of curriculum design in advancing digital literacy (Jamil et al., 2022; Leaning, 2019; Yeşilyurt, Vezne, 2023), particularly in higher education contexts where resource allocation shapes pedagogical outcomes. The establishment of a dedicated digital media department at Punjab University (PU) reflects broader global efforts to align curricula with the demands of a digitized media ecosystem (Blau et al., 2020; Kirchhoff, 2022). However, the sampled programs collectively fall short of international benchmarks, indicating that Pakistani institutions lag in systemic integration compared to Global North counterparts (Rennó, Novaes, 2024). This disparity underscores the nascent stage of curricular reform in Pakistan, mirroring challenges observed in other Global South contexts where infrastructural and ideological

barriers hinder equitable adoption of digital literacy frameworks (Amjad et al., 2024; Maphosa, 2022; Ofosu-Asare, 2024).

These findings are consistent with earlier research highlighting the disparity between public and private institutions adapting to digital trends (Hafeez, Nauman, 2020; Keshavarz et al., 2022). While private universities demonstrate a proactive stance by offering comprehensive digital media courses, public universities adopt a more traditional approach, reflecting systemic challenges such as resource constraints and slower institutional adaptation (Mexhuani, 2024). This supports observations by M.S. Ullah (Ullah, 2016) that infrastructural deficiencies and mismanagement hinder the effective integration of digital tools in the education system. Furthermore, the results reinforce the relevance of Potter's Media Literacy Theory (2013), which emphasizes critical analysis, media effects, and ethical content creation as foundational components of media education (Nash, 2024; Pavlounis et al., 2023). Similarly, digital content creation and essential courses of analysis in private universities align with a previous study, Digital Media Framework (Reyna et al., 2018), which advocates for a holistic approach to developing digital skills. However, the findings also reveal gaps, particularly in public institutions, in embedding comprehensive digital literacy courses that address emerging challenges like misinformation, cybersecurity, and digital ethics.

The results of this study reveal a growing but uneven integration of digital media courses in undergraduate Media and Communication programs across public and private universities in Lahore, Pakistan. Among public universities, Punjab University (PU) demonstrates the highest inclusion of digital media courses, with 38 % of its BS Journalism curriculum and 60 % of its BS Digital Media curriculum dedicated to digital media literacy, reflecting a strong institutional commitment to this domain. In contrast, Lahore College for Women University (LCWU) and Government College University (GCU) allocate only 19 % and 17 % of their curricula, respectively, to digital media education. While these figures indicate efforts to modernize programs, they fall short compared to private universities, where curricula exhibit a more robust emphasis. For instance, the UCP devotes 45 % of its BS Film, TV, and Digital Media curriculum to digital media, followed by Forman Christian College University (FCCU) at 30 % and the University of Management and Technology (UMT) at 26 %.

These findings align with previous research highlighting disparities in media literacy education between public and private sector universities in Pakistan, where private institutions often provide more comprehensive digital media education due to better resources and infrastructure (Ikram, Hameedur Rahman, 2023). The results also support the Media Literacy Theory (Potter, 2013), which emphasises the significance of imparting conceptual, functional, and audio-visual skills to cultivate critical thinkers and content creators (Pavlounis et al., 2023). Public universities' slower adoption of digital media courses aligns with systemic challenges identified in earlier studies, such as resource constraints, outdated curricula, and limited technological infrastructure (Asad et al., 2021; Vicente et al., 2020). Meanwhile, the inclusion of specialized courses at institutions like PU reflects global trends, where universities are restructuring programs to meet the demands of evolving media landscapes.

Digital media literacy encompasses more than just technical skills. It is a cognitive framework that enables individuals to analyze, evaluate, and create media content critically (Gillern et al., 2022; Mihailidis, Thevenin, 2013; Wright et al., 2023). This study highlights the importance of integrating these competencies into curricula, aligning with prior research that identifies digital media literacy as vital for fostering critical thinking and responsible engagement (McGowan-Kirsch, Quinlivan, 2024; Pérez-Escoda et al., 2017; Shetye, Indrakanti, 2023). As technological advancements redefine communication behaviors and expectations, incorporating courses that cover media's conceptual and functional aspects is crucial. D. Belshaw (Belshaw, 2011) emphasizes that new literacies are context-specific and evolve with societal needs. Similarly, T. Koltay (Koltay, 2011) outlines core principles of media literacy education, including understanding the constructed nature of media, recognizing diverse interpretations, and critically evaluating the motivations behind media messages. These principles are increasingly relevant as universities seek to prepare students for the complexities of modern media ecosystems.

Despite progress, the findings suggest significant room for improvement in ensuring standardized integration of digital media literacy across universities in Pakistan. Scholars emphasise the importance of education in promoting media literacy, particularly for journalism and communication students (Jamil et al., 2022). However, resource gaps, policy misalignments, and limited faculty training hinder broader adoption (Ikram, Hameedur Rahman, 2023). Updated

curricula with a focus on conceptual, functional, and critical media skills can enhance universities' roles as key contributors to societal progress (Gammon, White, 2011). By aligning their curricula with international standards and frameworks like Potter's Media Literacy Theory, higher education institutions in Pakistan can more effectively prepare students with the digital skills necessary for professional and civic engagement in today's digital landscape.

4. Results

In this study, content analysis of curricula of six universities in Lahore, Pakistan, offering undergraduate programs in Media and Communication has been conducted. The curricula have been coded into five formulated categories (Table 3). The courses falling under the operational definition of each category have been coded into the respective categories after which frequencies, i.e., the number of courses related to each particular category, have been calculated together with the sum of all courses coded for all categories that represent the total number of courses for each category.

Table 3. Categories of courses for the undergraduate Media and Communication curricula

	Categories of Courses
1.	Fundamental Concepts of Media
2.	Critical Analysis
3.	Audio-Visual Skills
4.	Digital Content Creation
5.	Others

In the BS Film, TV, and Digital Media program at the Faculty of Media and Mass Communication, UCP, Punjab, 44.7 % of the 47 courses are directly related to digital media (see Table 4). The courses cover fundamental concepts of media, critical analysis, audio-visual skills, and content creation. The remaining courses fall into the "Others" category, covering subjects like English Language, Islamic Studies, Quantitative Reasoning, and Pakistan Studies.

Table 4. Frequencies of Courses for categories under institute "Department of Film, TV and Digital Media, UCP"

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	2	2	100 %
Critical Analysis	5	2	40 %
Audio-Visual Skills	11	11	100 %
Content Creation	13	6	46.1 %
Others	16		34 %
Total	47	21	44.7 %

N = 47

The BS Media and Communication Studies Program at the UCP consists of 66 courses, with 20 focusing on digital media (see Table 5). Within the curriculum, 7 courses cover fundamental media concepts, with 3 of these including digital media topics. There are 18 courses in the "Critical Analysis" category, with 4 directly related to digital media, making up 22.2 % of the category. Table 5 shows that 3 out of 4 courses in the "Audio Visual Skills" category focus on visual communication, audio and video editing, and animation. In the "Content Creation" category, 10 out

of 18 courses are related to digital media. The remaining 19 courses fall into the "Others" category, covering various subjects like International Relations, Psychology, and Entrepreneurship.

Table 5. Frequencies of Courses for categories under the department of Media and mass Communication, UCP

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	7	3	42 %
Critical Analysis	18	4	22.2 %
Audio-Visual Skills	4	3	75 %
Content Creation	18	10	55.5 %
Others	19		28.78 %
Total	66	20	30.3 %

N = 66

Out of 50 courses in the BS Media and Communication Studies curriculum at the University of Management and Technology, 13 (26 %) are related to digital media (see Table 6). These courses cover fundamental concepts, critical analysis, audio-visual skills, and content creation. Additionally, 17 courses fall into the "Others" category, including subjects like economics, mathematics, international relations, and sociology.

Table 6. Frequencies of Courses for categories under institute “University of Management and Technology”

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	8	3	37.5 %
Critical Analysis	10	2	20 %
Audio-Visual Skills	5	2	40 %
Content Creation	10	6	60 %
Others	17		34 %
Total	50	13	26 %

N = 50

In the BS (Hons) in Mass Communication program at Forman Christian College University, out of 30 courses, 9 (30 %) are related to digital media (see Table 7). The courses are organized into four main categories: "Fundamental Concepts of Media," "Critical Analysis," "Audio Visual Skills," and "Content Creation." Each category features courses pertaining to digital media, including Introduction to Mass Communication, Media Systems, Documentary Making, and Online Journalism. The other courses are grouped under the "Others" category, which encompasses topics such as English, Thesis, and Internship Reports.

Table 7. Frequencies of Courses for categories under institute "Forman Christian College University"

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	6	1	16.6 %
Critical Analysis	10	3	30 %
Audio-Visual Skills	4	2	50 %
Content Creation	6	3	50 %
Others	4		13 %
Total	30	9	30 %

N = 30

Out of 78 courses in the BS Mass Communication Studies curriculum at Lahore College for Women University, 15 (19.2 %) are related to digital media (see Table 8). These courses cover fundamental media concepts, critical analysis, audio-visual skills, and content creation. Specifically, there are 7 courses related to fundamental media concepts, 12 courses related to critical analysis, 3 courses related to audio-visual skills, and 16 courses related to content creation, with 40 courses falling under "Others" category covering subjects such as Literary Reading, Islamic Studies, Mathematics, Pakistan Studies, Statistics, Gender Studies, Economics, and International Relations.

Table 8. Frequencies of Courses for categories under institute "Lahore College for Women University"

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	7	3	42.8 %
Critical Analysis	12	3	25 %
Audio-Visual Skills	3	1	33.3 %
Content Creation	16	8	50 %
Others	40		51 %
Total	78	15	19.2 %

N = 78

In the BS Media & Communication curriculum at Government College University, out of 53 courses, 9 (17 %) are directly related to digital media (see Table 9). The courses are categorized as follows:

1. Fundamental Concepts of the Media: 8 courses, 2 (25 %) related to digital media.
2. Critical Analysis: 14 courses, 4 (28.5 %) related to digital media.
3. Audio Visual Skills: 5 courses, 2 (40 %) related to digital media.
4. Content Creation: 9 courses, 1 (11.1 %) related to digital media.

Additionally, there are 17 other subjects falling into the "Others" category, such as English Language, Islamic Studies, Maths, Geography, Pakistan Studies, Managerial Communication, Business Writings, Business and Marketing Communication, and Organizational Behavior.

Table 9. Frequencies of Courses for categories under institute “Government College University”

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	8	2	25 %
Critical Analysis	14	4	28.5 %
Audio-Visual Skills	5	2	40 %
Content Creation	9	1	11.1 %
Others	17		32 %
Total	53	9	17 %

N = 53

In the BS Digital Media curriculum at Punjab University, 28 out of 46 courses are directly related to digital media. Three courses cover fundamental media concepts, while seven focus on critical analysis of digital media. These courses aim to equip students with a solid understanding of digital media concepts and the ability to evaluate global media content critically. Table 10 indicates that all 3 courses in the "Audio Visual Skills" category are directly related to digital media, including Graphic design and Animation, Web Development and SEO, blockchain, AI, & Machine Learning. The "Content Creation" category features 15 courses focused on digital media, addressing topics like Digital Video & Podcast Production, Digital Content Monetization, Data Journalism, Digital PR Advocacy & Content Marketing, E-Commerce, Digital Entrepreneurship, and others. There are also 15 courses categorized as "Others," which include subjects such as Introduction to Biology, Fundamentals of Economics, Introduction to Statistics, Functional Urdu, English Comprehension, and Media and Psychology.

Table 10. Frequencies of Courses for categories under institute “Department of Digital Media, Punjab University”

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	3	3	100 %
Critical Analysis	10	7	70 %
Audio-Visual Skills	3	3	100 %
Content Creation	15	15	100 %
Others	15		32.6 %
Total	46	28	60.9 %

N = 46

In the BS Journalism curriculum at Punjab University's Department of Journalism, 38.2 % of the 34 courses are directly related to digital media (see Table 11). The courses cover fundamental concepts of media, critical analysis, audio-visual skills, and content creation. Courses include Introduction to Mass Communication, Contemporary World Media, Research Methods, Media Information Literacy, Audio and Video Production, Editing, Data Journalism, Mobile Journalism, Photojournalism, Media Management and Entrepreneurship, and Multimedia Journalism. The remaining courses cover various subjects such as Quran Class, English Writing, History of Journalism, Statistics for Social Science, Functional Urdu, and English Comprehension.

Table 11. Frequencies of Courses for categories under institute “Department of Journalism, Punjab University”

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	1	1	100 %
Critical Analysis	10	5	50 %
Audio-Visual Skills	2	2	100 %
Content Creation	9	5	55.5 %
Others	13		38.2 %
Total	34	13	38.2 %

N = 34

In the BS Advertising and Public Relations curriculum at the Department of Advertising and PR, Punjab University, out of 51 courses, 14 are directly related to digital media (see Table 12). There are 3 courses related to the category "Fundamental concepts of media," with only 1 directly related to digital media, which is "Introduction to Mass Communication." Additionally, there are 16 courses related to the category "Critical Analysis," out of which 5 are directly related to digital media. Table 12 shows that 2 courses, Digital Design Software (Adobe Suite) and Photography (PR & Ad), fall under the category "Audio Visual Skills" and are directly related to digital media. In the category of "Content Creation," out of 10 courses, 6 are directly related to digital media. The remaining 20 courses fall under the "Others" category, including subjects like Sociology, Statistics, Functional Urdu, English Composition, Social Psychology, Philosophy, Ecology, Geography, and Pakistan Studies.

Table 12. Frequencies of Courses for categories under institute “Department of Advertising and PR, Punjab University”

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	3	1	33.3 %
Critical Analysis	16	5	31.2 %
Audio-Visual Skills	2	2	100 %
Content Creation	10	6	60 %
Others	20		39.21 %
Total	51	14	27.4 %

N = 51

In the BS Development Communication curriculum at Punjab University, 12 out of 57 courses are directly related to digital media (see Table 13). These courses cover topics such as Introduction to Mass Communication and Digital Media & Development. Additionally, courses in audio-visual skills and content creation are also offered. The remaining courses cover various other subjects.

Table 13. Frequencies of Courses for categories under institute "Department of Development Communication, Punjab University"

Categories of Courses	Overall courses	Digital Media Courses	Percentage
Fundamental Concepts of Media	5	1	20 %
Critical Analysis	26	7	26.9 %
Audio-Visual Skills	2	2	100 %
Content Creation	10	2	20 %
Others	14		24.56 %
Total	57	12	21 %

N = 57

Table 14 presents the percentages of digital media courses in BS Media and Mass Communication programs at various Lahore universities. The results show that the UCP and the University of Management and Technology offer around 30 % of digital media courses, while Forman Christian College University offers 30 %. Table 14 shows the inclusion of digital media courses in the undergraduate Media and Communication program at three public sector universities. Results show that Lahore College for Women University (LCWU) and Government College University (GCU) offer fewer digital media courses than private sector universities. The analysis of BS programs at Punjab University's School of Communication Studies shows that digital media is a significant focus. The BS Advertising and PR program has 27.4 % of its courses related to digital media, while the BS Journalism program has 38.2 %. The Department of Development Communication's BS program includes 21 % of courses relevant to digital media. The BS Digital Media program offered by the Department of Digital Media is entirely dedicated to digital media studies, with 60.8 % of its courses focused on digital media education.

Table 14. Percentage of Digital Media Literacy courses in UG Media and Communication studies curriculum in sample universities

University	N	Frequency	Percentage
Department of Film, TV and Digital Media, UCP	47	21	44.7 %
Department of Media and Communication Studies, UCP	66	20	30.3 %
University of Management and Technology	50	13	26 %
Forman Christian College University	30	9	30 %
Lahore College For Women University	78	15	19.2 %
Government College University	53	9	17 %
Department of Digital Media, Punjab University	46	28	60.9 %
Department of Journalism, Punjab University	34	13	38.2 %
Department of Advertising and PR, Punjab University	51	14	27.4 %
Department of Development Communication, Punjab University	57	12	21 %

Figure 1 provides a graphical representation of the findings of the content analysis of the Undergraduate Media and Communication studies curriculums of the selected universities. Furthermore, Content analysis answers the first research question of the study. It provides statistics derived from first-hand data, illustrating the degree to which undergraduate Media and Communication programs in both public and private universities in Lahore, Pakistan, focus on equipping students with digital media literacy skills.

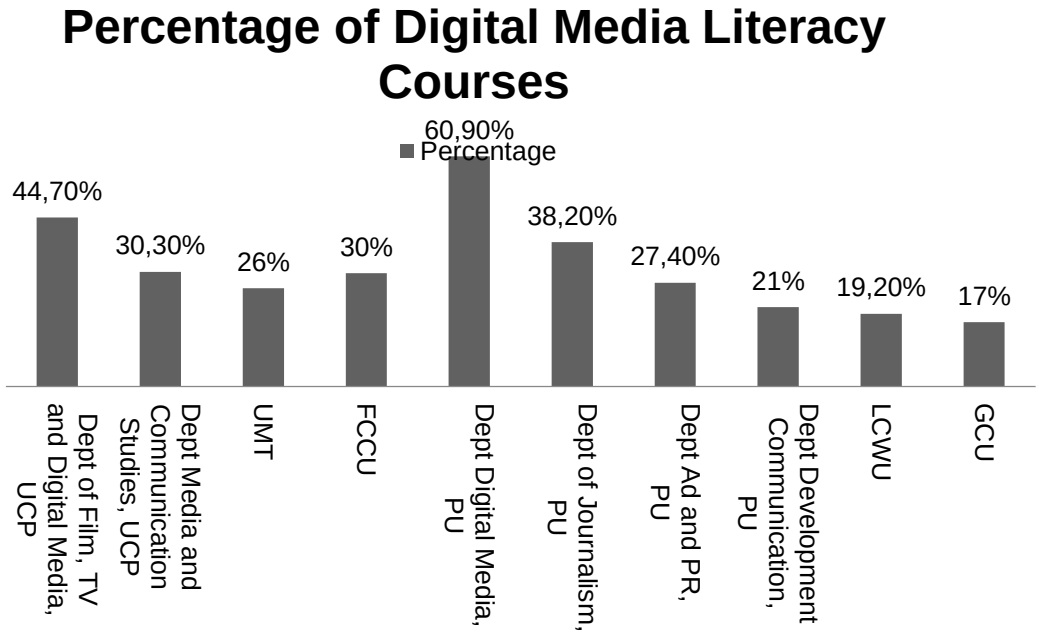

Fig. 1. Proportion of Digital Media Literacy Courses within the Undergraduate Media and Communication Studies curriculum at selected universities

5. Conclusion

This study examined media education and how digital media literacy is incorporated into undergraduate Media and Communication programs in Lahore, Pakistan. The findings reveal that while public and private universities have made efforts to include digital media courses, the extent of integration remains limited, with an average of 20–30 % of curricula dedicated to digital media literacy. Private universities demonstrate a stronger emphasis, reflecting greater flexibility and responsiveness to global educational trends than public institutions. The study also highlights the challenges universities face: resource constraints, limited faculty training, and the lack of standardized curricula aligned with international benchmarks. Despite these challenges, this research identifies opportunities to enhance digital media literacy education, emphasizing the importance of faculty development, practical training, and the introduction of dedicated undergraduate programs.

This study, while contributing valuable insights, is subject to certain limitations. First, the research focused exclusively on the curricula of Media and Communication programs at universities in Lahore, which limits the generalizability of the findings to other regions in Pakistan. Second, the analysis focused on curriculum documents but ignored practical aspects like teaching methods and student outcomes. Third, the research mainly targeted undergraduate programs, overlooking other educational tiers such as primary, secondary, and intermediate education. Lastly, while the study employed a strong content analysis approach, it failed to capture a complete view of students' and educators' attitudes toward digital media literacy education.

To address these limitations and build upon this research, future studies could explore the integration of digital media literacy in curricula at primary, secondary, and intermediate educational levels. Expanding the geographical scope to include universities from other cities and provinces in Pakistan would provide a more comprehensive understanding of the national landscape. Additionally, qualitative research, including interviews and focus groups with students,

educators, and administrators, could offer deeper insights into the practical challenges and successes of implementing digital media literacy courses.

From a policy perspective, the government should prioritize increasing the education budget to address resource constraints and invest in faculty training programs that focus on modern digital media tools and teaching techniques. Universities ought to partner with global academic institutions to create standardized curricula that reflect international best practices, enabling students to develop the necessary skills to succeed in the global digital media environment. Additionally, the implementation of specialized undergraduate programs concentrating on digital media literacy could greatly expand and enrich digital education. By promoting practical, hands-on learning opportunities, universities can prepare students with the essential skills required to excel in a progressively digital world.

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