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Original Contribution

Role of Digital Media in Enhancing Tertiary Education: A Narrative Scoping Review

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The objective of the current study was to review and analyze the academic literature on digital media and tertiary education outcomes reports on the benefits of the university education system. The published English-language literature between June 2015 and July 2022 was retrieved from search results in eight highly resourceful journal databases using specific terms. The critical appraisal technique was incorporated to screen and evaluate the quality of publications, and a thematic analysis was performed. The researcher reviewed 10 articles and 5 reports from 35 documents relevant to digital media and enhancing tertiary education. The study found that there was less information on the quality outcomes of tertiary-level education in Bangladesh. The benefits of digital media include enhanced student understanding level, increased access to education, gender empowerment, student community engagement with learning technologies, and increased self-efficacy. This review provides empirical evidence of digital media's role in tertiary education. The current education system needs to be rethought, and digital media at the university level needs to be integrated. This study's findings suggest that education practitioners should prioritize digital media and adopt them in future planning and implementing digitalized education programs to improve the quality of tertiary education.

INTRODUCTION

Digitalization has become an integral part of our daily life in the era of COVID-19 and it affects many areas of everyday life and has long since arrived in higher education (Zaimakis & Papadaki, 2022). Digital media makes access to reading books, organizing studies, and creating windows of opportunity for course materials such as lecture recordings, video tutorials, classroom teaching, and transfer of data as much as needed (Gisbert & Bullen, 2015). Adaptation of digital media in the education sector as well as higher studies has a significant role and contributes to gender empowerment and achieving the education-related Sustainable Development Goals (Chankseliani & MacCowan, 2021). Recent digitalization processes have changed

educational institutions such as universities (Pettersson, 2021) and digital media in general, and have a positive impact on learning outcomes for tertiary education in developing countries (Shrivastava & Shrivastava, 2022). Many research studies and meta-analysis evidence show that academic self-efficacy, perceptions and personality traits, and academic attainment, reduce inequality among students with different backgrounds, such as in socioeconomic status by providing teaching on the digital platform (Pan, 2020).

In Low-middle income countries, the research studies on digital media and tertiary education are very few, and far fewer on universities as this issue is not too much compared to other kinds of education events in Bangladesh. Relatively digital media is a new field and

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does not lessen its importance as a subject of study as it is one of the major issues for achieving the Sustainable Development Goals (SDGs) for education and gender development. Digital media continuously changes our education system and has paramount importance in higher education. Thus, the aim of the present scoping review is to investigate the use and relevance of digital media in tertiary education and its impact on academic success.

METHODS

In this narrative review, the author has prepared a well-designed protocol following a critical appraisal tool to produce synthesis evidence to evaluate the role of digital media in high-quality education according to PRISMA scoping review guidelines (Sefton-Green, 2003). Articles and grey literature published in high-impact journals on digital media, tertiary education, and university education systems using particular keywords were searched on eight well-recognized websites followed by inclusion and exclusion criteria. A ScR technique includes three steps to extract the published articles and grey reports from different websites. The author followed the steps: selecting the initial list of the articles and reports, techniques used to evaluate the article and the report, and data extraction and analysis (Ammad-ud-din et al., 2014; Miranda et al., 2017).

Protocol Development

The critical appraisal protocol was developed according to the standard format of the PROSPERO guidelines and the protocol maintained the policies of Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocol (PRISMA-P). The researchers completed the PRISMA-P checklist. A summary of eligibility criteria for Population, Intervention, Comparison, Outcome, and Study design (PICOS) was done.

Literature search strategy

The researcher has developed a protocol that is well-known as a critical appraisal tool aiming to produce high-quality evidence to measure the association between the roles of digital media in tertiary education focusing on PRISMA scoping review guidelines. Articles and grey literature published in academic journals on digital media and tertiary education of intervention using particular keywords were searched on relevant websites followed by inclusion and exclusion criteria. SLR technique and well-established three steps to extract the published articles and grey reports from different websites were strictly followed.

High priority was given to selecting the initial list of the articles and reports, techniques to evaluate the article and the report, and data extraction and analysis.

Exploring the initial list of studies

The researcher searched the articles in the database using very specific keywords to ensure the quality articles and grey literature containing the words ‘digital media along with “tertiary education”, “university education system”, the role of digital media and tertiary education, etc. Eight websites and online databases for articles and grey literature were published between June 2015 and July 2022 to download the relevant articles and grey literature on digital media and education at the tertiary level. The researcher found a total of 51, 780 articles and grey literature by using specific keywords, and the numbers returned about 35 by searching combined keywords.

The majority of literature was available on digital media and tertiary education; we concentrate on developing countries’ contexts and especially Bangladesh's issues. Considering this fact researcher has conducted literature published between June 2015 and July 2022.

Topicality of Evaluation

As part of evaluating quality articles and grey literature from the initial list of the studies researcher has carefully read all articles, grey literature titles, and abstracts, executing summaries and full text to exclude irrelevant articles and reports. Furthermore, the topicality of evaluation of gathered articles and grey literature researchers followed study protocol and inclusion and exclusion criteria (Figure-1).

EXTRACTION AND ANALYSIS OF DATA

In the final stage of the selection of articles and grey literature, the research team considered key details to identify articles and grey literature related to digital media based on inclusion and exclusion criteria. We considered the duration of publications, types of education quality measures, deleting similar articles, the relevance of the results of no longitudinal studies, and wrong intervention. Considering the above criteria, finally, the researcher selected 10 articles of literature and trusted websites to develop the background of the study. As a result, 10 articles and reports were selected for further analysis. Figure 1 below shows the results of the search and selection of studies with exclusion steps.

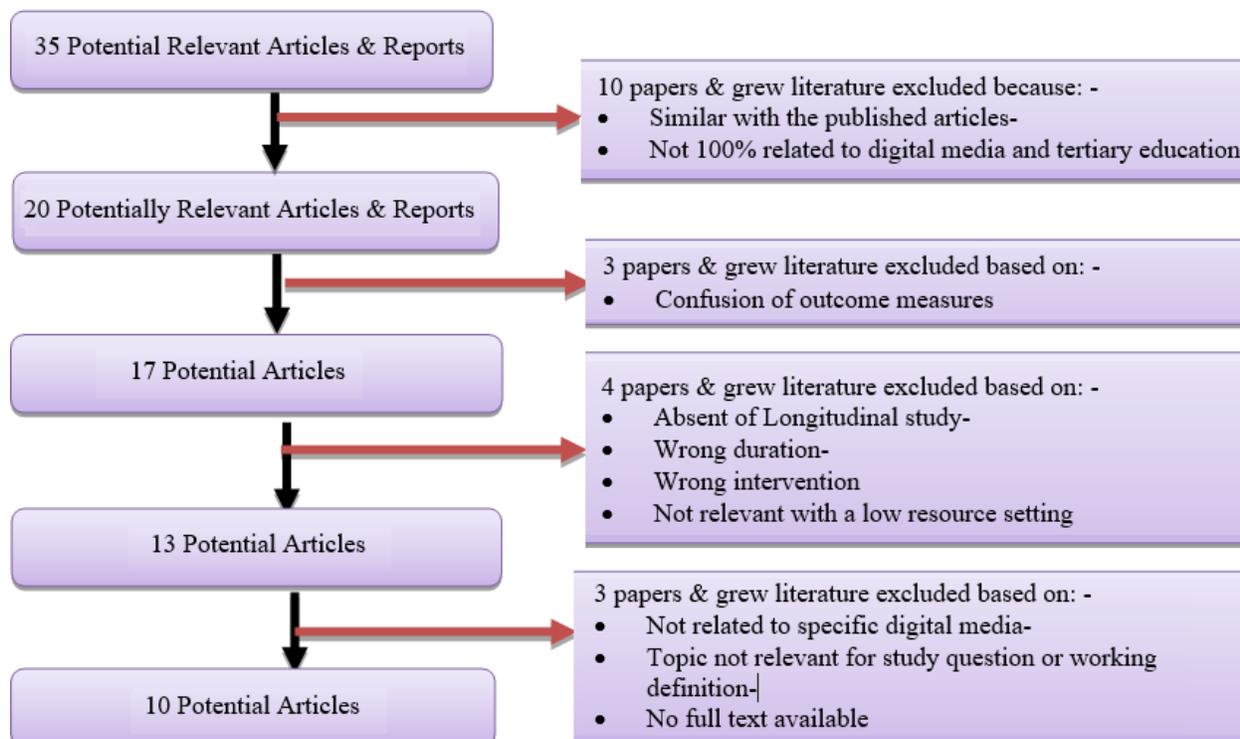


Figure 1: Flow chart of the selection process of articles and reports

RESULTS

The researcher searched a total of 51780 articles and reports on well-known eight websites (table 1) and carefully followed the inclusion and exclusion criteria, 35 articles and reports were identified, and finally 10 articles selected for the synthesis of the findings

addressing the research question and objectives. In the period of exploring full-text articles, the researcher selected three systematic reviews, two meta-analyses, and five original articles in the literature resulting in data sources. Furthermore, three of grew literature were used for background information of the narrative scoping review paper.

Table 1: Outcomes of searched articles and reports

Databases		Search keywords				
Data sources	Field & access	Documents type	Digital media	Tertiary education	Digital media & tertiary education	Digital media, tertiary education & university
Springer Link	All	Journals	11240	3240	1250	10
Science Direct	All	Journals	7890	2780	810	5
Wiley Online Library	All	Journals	6480	2120	320	5
Web of Science	All	Journals	8450	2250	255	5
Applied Social Sciences Index and Abstracts	All	Journals	9830	2775	120	3
TRU library	All	Journals	2550	1120	75	2
British Literary Manuscripts Online	All	Journals	3240	1230	90	2
JSTOR	All	Journals	2100	780	72	2
Total			51780	16295	2992	35

Table 2: provides an overview of the themes based on key features and evidence of digital media and enhancing tertiary education

Digital media	Digital media have generated various changes in tertiary education at the university level and enhanced new skill development and innovative learning models in relation to information and communication technologies (Gutiérrez-Ángel et al., 2022). In the last decade digital literacy has attracted the attention of learners at universities studying graduate/postgraduate level, in addition to treating digital literacy as a main theme, also focuses on perceived and developed self-efficacy (Bejarano et al., 2021). Needs strengthening competencies of digital media, the use of databases, the design of digital content and materials, and their skills to editing, publishing, or sharing them on the web, or applications aimed at treating digital literacy as emerging pedagogies and educational innovation is gained the attention of education policy maker to enhance the tertiary education at universities level (Grothaus et al., 2021).
Tertiary education	In tertiary education, digital media have played a paramount role in both the developed and developing worlds. The use of digital media in tertiary education has brought quality changes and digital media should get top priority in university teaching (Nkomo et al., 2021). Digital media is considered the potential tool to support an increasing internationalization of education, connecting students across borders and in international classrooms. Various digital media and educational tools need more use to enhance the tertiary level education quality (Nkomo et al., 2021).
Digital media & tertiary education	Evidence shows that self-efficacy and digital competence made possible the development and realization of educational practice in higher education (Grothaus et al., 2021). Three core themes were identified in some meta-analysis studies: tertiary-level students no shared understanding of what constitutes student engagement with learning technologies, lack of explanation concerning the contextual variation and modalities of student engagement across digital technologies, and lack of self-efficacy among the students about digital media and learning opportunity (Hammady et al., 2020).
Digital media, tertiary education & university	Tertiary-level education students have to access, manage, and transform information opportunities and such modalities improve our education access and gender empowerment and achieve the SDGs (Nkomo et al., 2021; Hammady et al., 2020). Universities are a place of transforming knowledge and digital media is the new tool for sharing it with students and teachers (Hammady et al., 2020).
Limitations of the study	There is a lack of a model for digital media and tertiary education in Bangladesh concerns and their relationship to universities' quality education (Ammad-ud-din et al., 2014; Miranda et al., 2017). The study also found a gap between digital media needs and the university education system, and a strong policy is needed to close that gap (Miranda et al., 2017). The researcher discovered a gap in the plan for sustaining digital media and making it evident in terms of quality education (Hammady et al., 2020).
Future direction research	To enhance the quality of tertiary education in resource allocation, a model focusing on the relation between digital media and the classroom is required (Miranda et al., 2017; Hammady et al., 2020). It is necessary to improve the monitoring and evaluation system in order to examine the outcomes of the quality education system through the digitalized process.

DISCUSSION

In the narrative scoping review researcher has explored a very recent academic literature focusing on digital media and tertiary education and followed very specific keywords on digital media and quality tertiary education. Our study limitation is that we included the papers and assessed the role of digital media and quality outcomes of tertiary education on the basis of original studies in individual reviews. However, the existing systematic

reviews and meta-analyses imply that most of the synthesis-reviewed articles and reports were relevant to original studies. The researcher discussed above how reviews tended to report qualitatively on selected measures such as digital media impact on tertiary education and enhancing the quality of education. The final limitation is that the majority of the studies focused on the defined problems of the digitalization process and outcomes did not incorporate the focus on effectiveness or quality of tertiary education accurately. There is a wide

range of definitions and interpretations of the concept of digital media and quality education in the literature. Digital media have become popular in tertiary education at the university level and new skills and new learning models are practiced both in developed and developing countries. In the last decade digital literacy has attracted the attention of university-level learners, in addition to treating digital literacy as a central theme, also focuses on perceived and developed self-efficacy. Study synthesis data reveals that strengthening competencies of digital media, the use of databases, the digital design of content and materials, and the skills to edit, publish, or share them on the web, or applications are central themes of digital media and tertiary education. Most of the systematic and meta-analysis review articles address the importance of the use of digital media in tertiary education and such efforts help to improve the quality of tertiary education and digital media should get top priority in university teaching (Miranda et al., 2017; Hammady et al., 2020). Digital media support an increasing internationalization of education, connecting students across borders and in international classrooms. Three core themes we need to address in digital media and tertiary education: tertiary-level students have no shared understanding of what constitutes student engagement with learning technologies, lack of explanation concerning the contextual variation and modalities of student engagement across digital technologies, and lack of self-efficacy among the students about digital media and learning opportunity (Hammady et al., 2020; Bejarano et al., 2021). Tertiary-level education and engaging digital media increase our education access and gender empowerment and achieve the SDGs (Hammady et al., 2020). Universities are a place of transforming knowledge and digital media is the new tool for sharing it with students and teachers. There is a lack of a model for digital media and tertiary education in Bangladesh concerns and their relationship to universities' quality education. The study also found a gap between digital media needs and the university education system, and a strong policy is needed to close that gap. The researcher discovered a gap in the plan for sustaining digital media and making it evident in terms of quality education. To enhance the quality of tertiary education in resource allocation, a model focusing on the relationship between digital media and the classroom is required (Shrivastava & Shrivastava, 2022; Bejarano et al., 2021). It is necessary to improve the monitoring and evaluation system in order to examine the outcomes of the quality education system through the digitalized process.

CONCLUSION

This review provides empirical evidence of digital media's role in tertiary education. We need to rethink our current education system and needs to integrate digital media at the

university level. This study's findings suggest that education practitioners should give priority to digital media and adopt them in future planning and implementing digitalized education programs to improve the quality of tertiary education. The author sincerely acknowledges the limitations of the narrative review. The majority of papers provide limited information about the quality outcomes of higher education and do not incorporate digital media and its impact on the education system in Bangladesh. The researcher suggested further SLR study in this field. The second limitation of the study is less high-impact journal publications from the Bangladesh context. A meta-analysis and systematic review study may be conducted on digital media and the approach to integrating digital media into the university-level education system so that findings may materialize in future education policy and this study can be applied in practice.

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