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# UNDERSTANDING FEMALE EDUCATORS' AND UNDERGRADUATES' PERSPECTIVES ON THE ADVANCES AND CHALLENGES OF DIGITAL MEDIA AT UNIVERSITY LEVEL

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## Abstract

Undoubtedly, over the last two decades digital media has shifted human life to an extraordinary degree. To this end, the current study sought to understand the perspectives of female educators and their undergraduate students through their lived experiences on the advances and challenges of digital media at the university level. Under constructivist paradigm, the study adopted qualitative transcendental phenomenological research design, followed by the Vygotskian Social Constructivism theoretical framework. The population of the study comprised female educators and their undergraduate students at the Shaheed Benazir Bhutto Women University, Peshawar, the first women's university of Khyber Pakhtunkhwa, Pakistan. Purposive sampling technique was employed for selecting 22 female educators and 48 undergraduate students, whose participation was entirely voluntary. The research instruments used for data collection were self-reflected open ended checklist questionnaires, FGDs, semi-structured in-depth interviews, observations of participants shared digital media activities images, and observation of digital media profiles of educators for confirmation of their interviews. For data analysis, an inductive and thematic analysis approaches were employed, that resulted in 7 major themes. Major findings of the study showed that participants attained several advances in the form of digital media skills and opportunities that amplified their personal growth and academic development. The academic advances shared by the participants were the learning of skills of utilizing digital media software and apps for engaging in different digital media academic activities and opportunities. Collectively, the participants shared academic advances attained through digital included: content browsing, searching, creating, sharing, presenting; online courses, awareness sessions, workshops, training, research projects, businesses, entrepreneurship, freelancing, remote jobs, mentorship, scholarships, internships, attending, participating in, and organizing academic activities; organizing online research project collaboration; participating in volunteer activities; joining community services programs; joining social and academic platforms; and job opportunities, among others. Contrarily, the participants also highlighted several challenges in the application of digital media at this university, such as: unreliable internet connections, electricity outage, lack of advanced computers, insufficient time, lack of space, failure in access to university internet, lack of digital literacy skills, privacy issues, AI challenges etc. Finally, it is recommended that all concerned stake holders need to work together for successful application of digital media in the academic life processes of educators and undergraduate students at university level.

**keywords:** AI challenges, career development, digital media literacy, professional development, social constructivism

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## INTRODUCTION

Currently, digital media is one of the most inexpensive and easily accessible modes of communication for academia. Fortunately, the COVID-19 pandemic already forced the world of academia to shift its mode of learning from face-to-face or physical interaction to the digital world of interaction (Alias & Razak, 2024; Alzouebi & Isakovic, 2014; Bista, 2015; Gayen et al., 2023; Naidu, 2020; Papademetriou et al., 2022; Pokhrel & Chhetri, 2021; Pozo et al., 2024; Sacristan et al., 2009; Sultana, 2023). Subsequently after its adoption by the academia, put researchers in struggle to

discover its benefits and challenges for the world of academia. Undoubtedly, the substantial academic advances after the application of digital media technologies in the academic processes of the individuals have generated plenty of opportunities for them (as learners) to understand, build, and develop personal knowledge for problem-solving. Clearly, as learning is a life-long process and in this context of learning through digital media, the following questions emerge: How a learner learns through digital media interaction? And how their understanding develops through digital media? All such learning phenomena according to constructivists and social constructivists demand the revolution of our educational landscape (Sacristan et al., 2009). In the meanwhile, just like social constructivism giving importance to individual self-constructed meaning during social interaction. This phenomenon is endorsed too by Tess (2013) while stating that social media has emerged as a highly useful personal communication technology. Similarly, according to O'Brien and Glowatz (2013), there is a scarcity of research regarding the possible academic uses of Social Networking Sites (SNSs). Further, according to their study findings SNSs like Facebook might enhance students' engagement in a way that traditional educational environment cannot.

Subsequently, in this context, Schrader (2015) stated that the constructivist theoretical concepts blend beautifully with the affordances provided by the digital media. Furthermore, as social constructivist theory has already created the field there is need of conducting research on digital media technology in academic milieu (Almansour & Abdulaziz, 2019; Alshalawi, 2022; Beck, 2017; Elitaş, 2015; Fuchs, 2022; Greenhow et al., 2009; Greenhow & Lewin, 2016; Joosten, 2012; Khoza & Luo et al., 2020; Mpungose, 2020; Mpungose, 2024; Muneeb et al., 2020; O'Brien & Glowatz, 2013; Richardson, 2011; Sullivan et al., 2018; Tess, 2013; Veletsianos & Kimmons, 2016; Xu et al., 2024). Currently, researchers are probing on questions like: how productive is digital media for the world of academia? How effective is digital media in enhancing academic development of undergraduate students and educators at higher level? Simply, by adjusting now to a rapidly digitalized world, digital media has become an essential tool in academia, for supporting career development and professional development of both undergraduate students and educators.

In the same way, Babbar and Gupta (2022), and Gopika and Rekha (2023) too experienced that the unending global condition of COVID-19 pandemic has revolutionized the education system and enforced fundamental changes in the teaching-learning processes (Zhu & Liu, 2020). Undoubtedly, the substantial academic advances after the application of digital media technologies, after the COVID-19 pandemic, generated plenty of opportunities (Dhawan, 2020), for the learners to understand, build, and develop personal knowledge of problem-solving (Jandrić, 2020; Pokhrel & Chhetri, 2021; Zhu & Liu, 2020).

Undeniably, the 21<sup>st</sup> century digital transformation has introduced tremendous advancements in all walks of human life, especially the educational field (Ajegbomogun & Oduwole, 2017; Alias & Razak, 2025; Bahari et al., 2024; Bashabsheh et al., 2019; Banks et al., 2007; Fuchs, 2022; Fuchs 2022; Gayen et al., 2023; Greenhow & Lewin, 2016; Greenhow & Lewin, 2019; Han, et al., 2025; Khoza & Mpungose, 2020; Mpungose, 2020; Naidu, 2022; Nández & Borrego, 2013; Odom et al., 2013; Papademetriou et al., 2022; Pozo et al., 2024; Saha et al., 2023; Salam et al., 2017). Correspondingly, Alshalawi, (2022) found that literature today is replete with progressive learning potentialities and opportunities on the academic use of digital media. Unfortunately, several studies (Jabr, 2011; Kouser et al., 2025; Mohammad & Aziz, 2009; Mehmood et al., 2025; Rehman et al., 2025) highlighted Pakistan's current situation for the problems that still exist in academic context, hampering the wide-ranging application of digital media. The major problems highlighted are the insufficient access to the internet, poor internet connectivity, lack of technology adoption, lack of teacher training; lack of ICT infrastructure, the absence of technological resources, a policy gap that affects educators, lack of policy sustainability, digital equity access, lack of digital literacy, lack of professional development, time constraints, policy and administrative concerns, lack of technology adoption and the innovative instructional strategies that educators might employ to advance digital citizenship skills (Ikram, 2017; Khan et al., 2025; Kouser et al., 2025; Liaqat et al., 2025; Mehmood et al., 2025; Nguyen & Nguyen, 2023; Ikram & Shah, 2025; Rehman et al., 2025).

On the contrary, giving the complete picture of human history and later transformation of human life (Harari, 2014; Harari, 2019), Harari (2022) assumed that digital technologies and tech-companies are collecting user data and utilizing it for its own benefits, thus leaving users unaware of whether it will be beneficial or harmful for them in the future. The author discussed the challenges of "Homo Sapiens," by highlighting concern over the increasing value of user data collection by digital media tools, and further utilizing AI to investigate and act upon this data. Such predictions are highlighting concerns on algorithms understanding and controlling our decision-making influences, such as our physical condition, fortune, and desires, better than we do. Cautiously, the intricacy of these algorithms and centralized data storage makes us both beneficiaries and victims, posing challenges to individual freedom and the tenets of liberal democracies.

Clearly, whatever the challenges highlighted above (Harari, 2014; Harari, 2019; Harari, 2022) are a serious threat to humanity, yet it is evident that in the academic context, digital media encompass environments such as virtual or online within physical classroom settings, that enable educators and students to interact, communicate, and participate digitally for improved learning. Additionally, digital media help students in their personal and career development and similarly aid educators in their personal growth and professional development. Advantageously, the digital media platforms are economical and easily accessible via the internet, and can be utilized for various purposes, including

entertainment, teaching, learning, studying, knowledge acquisition, collaboration, research, and business. In academic settings, such platforms have become essential for educational applications, facilitating communication, information sharing, and fostering interaction and collaboration beyond geographical boundaries. Moreover, the COVID-19 pandemic significantly accelerated the trend of attaining online learning activities, skills, opportunities, courses, businesses, freelancing (digital services), mentorship, and entrepreneurship, which are now common terms conversed among university students (Liberona, 2025; Spangenberg & Söbke, 2025; UNESCO, 2019).

Moreover, the researcher too, as an educator, observed and detected (at the research site) significant shifts in digital media's role during post-COVID-19. Digital media is now in common practice among educators and undergraduates, especially in their instructional and learning contexts. Additionally, increased benefits of digital media were felt and observed in the career development of undergraduates and professional development of educators. Such adaptations were primarily driven by the ever-increasing reliance of both female undergraduate students and educators on digital media, thereby establishing essential components of their everyday academic efforts. This revolutionary change was influenced by an array of factors, principally the ease and economic effectiveness of digital media in encouraging academic commitment and simplifying learning situations. Equally, through sustained engagement with university students and faculty members, the researcher has identified substantial deficiencies for serving as challenges in the academic application of digital media by participants at the research sites. These deficiencies remain largely unexplored and continue to pose challenges to the academic progress of both female educators and their undergraduate students. Consequently, the purpose of the current study was determined: to highlight both the condition of the digital media's academic advances and the challenges, and further to address these issues in future literature for the benefit of both educators and their undergraduates. Furthermore, such gaps emphasized new directions for future investigation of digital media (on virtual and online mechanisms) that have shaped academic advancements of both the female educators and their students, all because of wide-ranging benefits of digital media technologies within the academic frameworks.

Despite the fact that, the existing literature delineates a plethora of digital media tools utilized within the academic sphere, such as electronic mail, digital books, online courses, electronic journals, social media, academic social media, software, search engines (like open access Google and Google scholar), digital films, digital photos, web pages, websites, databases, vlogs, blogs, live streaming, video streaming, etc. that are mirrored in the available literature (Budree et al., 2019; Harrison et al., 2017; Misir, 2018; Mungofa & Peter, 2015; Muriithi et al., 2016; Nsizwana et al., 2017; Owusu-Acheaw & Larson, 2015) as an array of web-based resources. However, this study is limited to the digital media that are commonly and actively employed by the study participants in the context of their distinct academic pursuits. Furthermore, this phenomenological framework (flexible nature approach) helped the researcher in conducting a comprehensive analysis of the lived experiences of the participants, focusing particularly on their interactions with digital media for academic advances, along with faced challenges, which serve as an obstacle in their academic pursuits. In conclusion, the study findings provided valuable insights to stakeholders such as federal and provincial governments, curriculum developers, academic leaders, parents, students, and policymakers etc., offering strong theoretical and practical implications of digital media in curriculum at university level.

## THEORETICAL FRAMEWORK OF THE STUDY

The study adopted the Vygotskian Constructivism (or Social Constructivist theory) as a theoretical framework, developed by a Russian psychologist Lev Vygotsky (1896-1934). Vygotsky thought that learning does not solely take place within the individual, instead, it is a social, collaborative, and joint activity where people create meaning through interactions with one another (Beck, 2017; Schreiber & Valle, 2013). Furthermore, he stated that learning takes place primarily in social and cultural settings, rather than only within the individual. Furthermore, Andrews (2012), and Holme (2019) clarified that constructivism as a general term can be seen from both an individual perspective and from the perspective of groups of individuals in social contexts. Accordingly, nowadays, digital media is playing a strong role in constructing our understanding of any phenomenon as it provides us several platforms for social interaction. To this effect, the present study focused on exploring and understanding the perspective of female educators and their undergraduate students on digital socialization for academic purposes. Several research studies have shown that digital technologies play a key role in the academic growth and development of individuals (Basu et al., 2025; Basu & Hamzehlou-Moghadamet al., 2026; Pumprow & Brahm, 2021; Le Roux & Parry, 2017; Ting et al., 2023). Furthermore, its vital role in enhancing our cognitive abilities makes this theory fundamental when considering the utilization of digital media sources in academic processes (Vygotsky, 1986). Additionally, for understanding the popularity and effectiveness of digital media in academic contexts, social constructivism offers an explanation and understanding to clarify this phenomenon.

Essentially, digital media, serving as a platform for academic socialization, fosters social constructivism in education. This process, where students and teachers interact to construct knowledge, is central to both the application of digital media and Vygotsky's constructivism. (Fadiev, 2019) applied Vygotskian constructivism to understand the phenomenon of digital media in the context of learning situations. It paved the way for systems like 'Education on

Screen' to support cognitive learning in literature and history education by employing symbolic mediation, inner speech, social interaction, and the Zone of Proximal Development (ZPD). These digital media platforms utilize multimodal content portrayal mediums, likely for visual, textual, and auditory purposes. These content-sharing mediums are psychological tools used for facilitating learning and participation in educational settings. These digital media environments assist undergraduate students in developing disciplinary thinking that leads them from guided interpretation of complex material to independent inquiry for analysis, awakening inner speech, and fostering creative thinking. However, the list does not end here. Progressively, digital media is now assisting undergraduate students to move in multiple directions, such as finding online jobs, scholarships, career opportunities, and various business and freelancing opportunities.

Likewise, digital media is helping educators in placing novel opportunities in front of them for their professional growth and development. Such as today, digital media technology is supporting educators in refining instructional practices, by engaging in interactive teaching and collaborative activities based on knowledge construction. Subsequently, the multifaceted options in digital media are supporting both students and teachers in their academic development. Equally, this developmental process through digital media is backed by Vygotskian social constructivism, which posits that cognitive development is socially mediated by the society and culturally contextualized (Almogren & Aljammaz, 2022; Alshalawi, 2022; Bamalan, 2024; Bockarova, 2014; Churcher et al., 2014; Daniels, 2001; Fadeev, 2019; Hesrcu-Kluska, 2019; Kurt, 2025; Lantolf et al., 2021; Wibowo et al., 2025). Supportively, this transformation of societies and cultural tools because of digital media is setting new paths for changing academic frameworks (Liberona, 2025; Spangenberg & Söbke, 2025), that needs to be based on equitable and balanced academic opportunities (UN Women, 2025; UNESCO, 2019).

Previously, as (Ikram et al., 2017) and (Sultana, 2023) already highlighted digital media popularity among university students in Pakistan. Furthermore, several studies also recommended that educators might engage students through digital media for their academic processes, for example, by creating classroom discussion groups while utilizing digital media platforms (such as WhatsApp, Facebook, YouTube, and Twitter, etc.). Furthermore, future research directions have already been highlighted in the literature, focusing on how university students and their educators might positively use digital media to enhance their confidence in academic growth and advancements (Agarwal et al., 2023; Agarwal & Kayal, 2024; Gayen et al., 2023; Mohamad & Aziz, 2011; Mufti, 2013; Papademetriou et al., 2022; Xu et al., 2024; Zamri et al., 2022; Zhou et al., 2023).

### **Research Question**

How do female educators and undergraduate students perceive and experience the application of digital media in their personal academic growth and development?

### **Subsidiary Research Questions**

1. What are the lived experiences and perspectives of female educators and undergraduate students in using digital media within their academic lives?
2. What are the lived experiences and perspectives of female educators and undergraduate students regarding digital media literacy for academic purposes?
3. What are the lived experiences and perspectives of the challenges faced by the female educators and undergraduate students during academic application of digital media?
4. How do lived experiences and perspectives of female educators and undergraduate students influence the suggestions for challenges free academic application of digital media?

The population of the study is a single women's university, named Shaheed Benazir Bhutto Women University Peshawar (SBBWUP), in Khyber Pakhtunkhwa, Pakistan. Furthermore, the population is distributed across two faculties of this university, the Faculty of Social Science and Faculty of Sciences. Currently, the population of permanent female faculty both regular and contract (excluding the visiting faculty) is 171, and the population of female undergraduates collectively of all final semesters (or last semester) from both the faculties is 1,039 (students). Furthermore, the study population consisted of all the current departments permanent teaching faculty (female educators), plus undergraduates' students of BS (Hons) program (session 2020-2024 & 2019-2024 only for LLB which has 10 semesters instead of 8 semester) final semesters studying at the Shaheed Benazir Bhutto Women University Peshawar, Khyber Pakhtunkhwa, in Pakistan. Finally, the data collection process was carried out during the year 2024.

## **METHODOLOGY**

Undoubtedly, over the last two decades digital media has shifted human life with extraordinary revolutionary changes. To this effect, the current study sought to understand the perspectives of female educators and their undergraduate students through their lived experiences regarding the academic advances and challenges of digital media at the

university level. The study adopted qualitative transcendental phenomenological research design, guided by the Vygotskian Constructivism (or Social Constructivism) theoretical framework. The population of the study consisted of all the regular teaching faculty of the current departments (associate professors, assistant professors, and lecturers) and their undergraduate students in the final semesters of the 4-year BS (Hons) program (session 2020-2024) and the 5-year LLB with BS (Hons) program (session 2019-2024) at the Shaheed Benazir Bhutto Women University, Peshawar, the first women's university of Khyber Pakhtunkhwa, Pakistan. The data collection process was carried out during 2024 from all 25 presently functioning departments (collectively the Faculty of Social Sciences and Faculty of Sciences). A purposive sampling technique was employed to select 22 regular female educators and 48 undergraduate students, and their participation was entirely voluntary. The research instruments used for data collection were self-reflective open-ended checklist questionnaire (designed for self-reflection by asking participants to select digital media used for academic purposes from a given list in the questionnaire and to elaborate on their choices during interviews), Focus Group Discussions (6 FGDs were designed with 6-10 participants each for collecting data from undergraduates), semi-structured in-depth interviews for individually collecting data from 22 educators (a number sufficient for data saturation), observations of images (of digital media academic activities of undergraduates), and observation of digital media profiles of educators for confirmation of their interview data (also serving the purpose of data triangulation). The interviews were recorded simultaneously using a digital device. After reaching data saturation, the researcher began interpreting and analyzing the data. The data were listened to repeatedly, translated, and carefully transcribed. After transcribing, the recorded data were analyzed several times to appropriately arranged into codes and categories. The data analysis process was carried out in two stages, by employing inductive approach (developed by Moustakas, 1994 for transcendental phenomenology) and a thematic analysis approach (developed by Braun and Clark, 2007), which finally resulted in 7 major themes. Additionally, the research participants supported the researcher in confirming the data, thereby contributing to research validation through summarizing discussions at the end of each FGD for “data confirmation” and by conducting “member checks” where interview data was shared with educators for authentication and further improvement through their comments or edits on their interview transcripts. Conclusively, for qualitative research trustworthiness the crucial standards of qualitative data analysis suggested by (Lincoln et al., 1985) such as: credibility, transferability, dependability, and confirmability were assured during data analysis process of this research that were recommended as well by several studies (Adler, 2022; Richards & Morse, 2012; Rose & Johnson, 2020). Conversely, and finally due to the qualitative nature, the study is not free from certain limitations.

## FINDINGS AND DISCUSSION

### Theme-1: Defining and Describing Digital Media in the Academic Context

Several research studies have already supported the use of digital media by students, educators, and educational institutions for academic purposes at the university level (Mufti, 2013; Pan and Luo, 2022; Pan & Luo, 2022; Sultana, 2023; Sultana & Ahmed, 2024). Such developments were observed during and after the COVID-19 pandemic, rapidly changing the mode of education and moving away from traditional methods. Specifically, the digitalization of education has been undertaken because of its several explored benefits. The excerpts below from the respondents portray their wide-ranging understanding (definitions) and descriptions (explanations) of digital media benefits, expressed through the self-reflection of undergraduates (during FGDs) and educators (individual interviews) during their interview processes. Equally, below excerpts of the respondents for definitions and descriptions shows their understanding of the digital media phenomenon in the academic context.

Digital media is a medium that is polishing our skills. The way someone interacts with digital media is important and indicates their approach. E10 (Dept. of Arts & Design)

I would say that digital media has a very positive impact on my academics, because I use apps that increases my access to information. Further, we can use, practice, and apply this information for our learning. This is how digital media can be used by anyone for enhancing personal knowledge. S34 (FGD4)

During COVID-19 pandemic, I gained a deeper understanding of digital media. I explored its potential, particularly for girls who were unable to move out. I discovered that digital media offers a great opportunity for girls to stay at home and still benefit greatly. They might acquire knowledge, gain job opportunities, and access online resources from the comfort of their homes. I believe this is an ideal opportunity for girls, as it allows them to learn and benefit without having to leave their homes. S33 (FGD4)

...our knowledge has become very vast, and we are listening to different point of views from experts all over the world... it has developed in us broad mindedness. Now, it is up to individuals how to assess and develop our own point of view and establish our own opinion. S32 (FGD4)

I would say there are positive and negative aspects to everything. Well, it depends on the individuals how they utilize digital media. Let us suppose, I am a teacher. how I use it and how I recommend it to my students. For example, we have many YouTube videos full of information and I recommend those videos to my students, and I tell them to watch them repeatedly. Such videos are very important for their research. E18 (Dept. of Mathematics)

I think digital media is such a useful platform or resource, with the help of which you become connected to a new world. For example, there is the 'Times Higher Education' platform that allows us to attend 'webinars' so that we can discuss further possibilities. And it provides us with further opportunities and training, which is how universities could, in your own universities, involve students in higher education, and after completion of their education, they could explore jobs for themselves. Confidently, as soon as the students graduate from university, they could have job opportunities in front of them through this way, and this is how different avenues open in front of you through the connection of digital media. E8 (Dept. of English)

Digital media is quick access to recent, older, exact, and concise information and it enables us to avoid wasting time in reading lengthy books and pages. Clearly, we get quick and accurate information through digital media sources. It saves our time, it is easy to access, and it is available wherever you are sitting. The more we move towards digitization, the more ease it brings. In less time, you can achieve more. All this is because of digital media. E16 (Dept. of Zoology) ...digital media helps us work smartly. Using different digital media apps and software and in a very short time, one can accomplish significant work. It provides significant output with one click that you can analyze ten years of data through various software available for such purposes. But the most important thing is its use, if you are aware of the use of software or apps for data analysis, you will work smartly; otherwise, if you are not aware of its usefulness, it means, you are not properly familiarized with digital media tools, and this is how you will never be able to use such tools smartly. E19 (Dept. of Physics)

As supported by Vygotskian Social Constructivism, the excerpts showed the participants self-constructed meaning for digital media utility in their attained academic advances academic. According to the excerpts, 'Digital Media' is a medium for enhancing our various academic skills and is filled with several benefits when used with a positive approach. It has positive impact on our academic performance. It is increasing our access to information: using, practicing, and applying this information for our personal and academic development. It supports individuals' potential, while offering them several academic and non-academic skills and opportunities. It makes us broad-minded in understanding others' points of view. Equally, it saves our time and enables us to access quickly and easily to the previous, recent, accurate and exact information while searching for anything in any corner of the world. Clearly, the definitions and explanations provided with examples by the participants, from daily academic practices digital media showed that familiarization with digital media, helped them in accomplishing their work smartly, and its use of multiple software and apps helped as well in analyzing and interpreting any form of data.

### **Theme-2: Digital Media Commonly Used for Academic Purposes**

Previously, during the COVID-19 pandemic, almost all educators (100%) and their undergraduate students (100%) had already used MS Teams for online classes, for which email IDs had been officially generated by the university. Equally, both the educators' and their undergraduate students verify that they have used MS Teams for academic purposes during COVID-19 pandemic. However, if due to some reason the MS Teams failed to work, then the educators used alternate digital media platforms (like email, Zoom, Google Meet, Skype, WhatsApp, etc.). Fortunately, the researcher herself was part of this MS Teams digital media phenomenon as an educator (lecturer) at the research site. The same digital media platform played a strong role in the academic development of students and educators at the university. Still, the continued challenges faced during and even after the COVID-19 pandemic were shared during conversations with students and faculty from time to time. For this reason, the researcher decided to investigate this phenomenon through qualitative, transcendental phenomenological lenses, under the Vygotskian Constructivist theoretical framework for the benefit of both educators and undergraduates. As it was already stated, the researcher too was part of this MS Teams and used to conduct online classes through it. MS Teams is currently not operational, almost all the participants confirmed that the university started online classes through it when the lockdown began worldwide, and they considered it a useful source for contributing to their academic development.

As technology continues to advance, it will be interesting for researchers to see how educators and their students' preferences evolve in terms of the use of digital media tools. Supportively, and previously Srivastava and Dey (2018) hypothesized before COVID-19, that, societies are significantly developing and changing because of digital media, thus leading us towards the paradigm shift in academia. Obviously, for that reason "Educators" nowadays must act as digital networkers who might use intelligent tools to inspire students by altering their creativity and act as change agents. Already, the excerpts of the undergraduates' and their educators showed that they are using any digital media that is approachable and convenient for their academic purposes. Equally, if educators are utilizing digital media for their professional development and the same developmental approach they used to transfer to their students (for their career development). Pragmatically, making them understand the benefits of digital media, thus creating a positive cycle of continuous development throughout their personal and academic career. For example, educators first search for course-related books and other content, which is then further, shared with students in the form of links or PDFs through WhatsApp groups or via email. Equally, after sharing, the undergraduate students used to download content and delete after reading. Clearly, once students realize the importance of digital media, they download books and articles from open-access Google or Google Scholar for making study notes, assignments, research, and MS test preparations. Correspondingly, participants from the Department of History mentioned history.com and Wikipedia as

frequently used for self-studying purposes. Simply, the undergraduates using frequently digital media for academic development include email, online books, online courses, WhatsApp, YouTube, Facebook, Twitter/X, Google Scholar, Google Meet, Zoom, Instagram, ResearchGate, and LinkedIn. Equally, a reasonable number of female undergraduates mentioned about the use of Mendeley, EndNote, and SPSS for research purposes. In the same way, the female educators shared of digital media use for academic advances purposes were email, online books, online journals, online courses, WhatsApp, YouTube, Facebook, Twitter/X, Google Scholar, Google Meet, Zoom, Instagram, ResearchGate, LinkedIn and SPSS. Simultaneously, some of the female educators mentioned as well for Mendeley, EndNotes, Zotero, Academia, Digital Library, and Skype, used for academic development purposes.

In short, the respondents shared lived experiences showed that all the above-mentioned digital media are playing significant role in their academic advances. Further, this included advances in career development and professional development of the participants. Fortunately, according to Vygotsky's Constructivism, digital media (use of WhatsApp, YouTube, Facebook etc.) is serving as a scaffolding tool used both by educators and undergraduates for its characteristics such as ZPD (Zone of Proximal Development), More Knowledgeable Others (MKO) and Scaffolding, Social Interaction, Mediating Tool, Collaboration, Digital Media Context and Cultural Context. Here, in this situation according to Wibowo et al. (2025) the Vygotsky's Social Constructivism stresses the social interaction, historical or cultural interaction tools, and individual personal factors are the core principles of human development.

### **Theme-3: Digital Media and Academic Advances: Skills and Opportunities**

Starting with the excerpt of the undergraduate S7 (FGD1), which is the representation of her attitude towards digital media. Further, this is followed by the excerpts of the undergraduates and educators who shared their experiences of the availed academic skills and opportunities through the employment of digital media in their academic life processes. Below are the examples of their excerpts:

Whatever digital media we are using, our first and the foremost purpose behind it is the academic purpose. S7 (FGD1)  
The online courses opportunity...I have enrolled myself in some online courses. S27 (FGD4)

Digital media has given me this online earning opportunity, and it is quite a significant aspect of digital media. S17 (FDG3)

I will be connecting this with my students. My achievements and opportunities are my students. My students are aware of this latest digital media technology, and they are using it for example, for developing Android apps (or websites). E18 (Dept. of Computer Science)

Further, through digital media I got the skill and opportunity of finding an online job at Amazon. S27 (FGD4)

I would share here about the volunteering opportunity. I worked voluntarily in graphic design at two or three places for the organizations involved in community service. S31 (FDG4)

...the opportunity of research, where my research mentors from Nebraska University (USA) discusses my research with me. And then I am doing lots of volunteer work through WhatsApp with different organizations. S24 (FGD3)

Through this digital media I think we can get opportunities like scholarship programs, study abroad opportunities like student exchange programs, sister-to-sister exchange, and there are numerous scholarship opportunities that one can avail. I am myself a scholarship student (and my name is in the Ehsaas program). All these opportunities we have through digital media. Without digital media, we would not have availed those opportunities. And then the tablet I won during English Works course where during COVID-19, there were 120 limited seats for students and the US Embassy delivered them for this course to 120 students. S42 (FGD5)

I can say that during my student life, I learned a great deal about digital media, and now, in my professional life, I am trying to learn and to develop myself as much as I can. E3 (Dep of Economics)

The opportunity that I want to mention here is GIS (Geographic Information System). For example, if from the University of Peshawar, from the Department of Geology, one can obtain a diploma in GIS, and students receive a diploma from the University for What They Learn. Literally, I have learnt all myself through YouTube videos and from YouTube I have learned a lot better than those diploma students did because there are lots of foreign experts who teach you in a much better way. And even full courses are available on YouTube if someone wants to learn about any digital media program and not only that, but I have also learned LaTeX (software) and Python (software), among others. Furthermore, these experts even share cracked versions of software, which can be downloaded via shared links and installed for personal use instead of purchasing them. E19 (Dep of Physics)

Even though I am skilled at using digital media for scholarly research, learning must be ongoing due to the rapid development of digital technology. Every day, I come across fresh advancements in digital media, and I recognize the necessity of continuous skill improvement. Gaining proficiency in digital literacy and critical thinking is essential for thriving in the digital world. I am determined to seek training opportunities in digital media skills as part of my professional growth because I am a lifelong learner. E6 (Dep of Psychology)

Digital media is a medium that polished our skills. The way someone interacts with digital media is important. It indicates the orientation of one's approach (towards positive or negative). Then definitely for positivity, it polishes one's positive and social skills. It helps you in building your connection with a range of people worldwide, and one is connected to anyone very easily...we recommend it in the same positive way to our students for enhancing their

hidden artistic skills. It is so good for the arts and design field it keeps one updated about one's field and here at our place Peshawar there is not much scope or awareness. And then our university is at a distant place where it does not have as much interaction with other institutions. Consequently, in this regard, digital media is effective in keeping us updated about our field. E10 (Dept. of Arts & Design)

It is obvious from the above excerpts of the participants, who with considered digital media with examples as a tool for enhancing their personal and academic skills. Further, they considered it a source of providing multiple opportunities related to their personal, career, and professional development. In a nutshell, their short list of shared academic skills and opportunities are as following: such as, self-learning skills of digital media use for academic purposes, skills of using different digital media (software, apps, etc.), advancing scholarly research skills, continues skill development, skill of attaining updated knowledge, positive skills approach, social interaction skills, enhancing hidden skills, online courses opportunity, online earning (freelancing or business) opportunities, both student and educator skills development (like app development etc.), online job skills and opportunity, research mentorship (research under foreign expert, a sign of global research collaboration), winning digital devices opportunity (participating in competition), scholarship opportunities, volunteer work opportunities, field updates and lifelong learning. Equally, the same approach of academic development of individuals (here both the female educators and their undergraduate students) is supported by Vygotskian Constructivism, such as cognitive development is a lifelong process of every individual's life and is dependent on social interaction or digital media interaction.

#### **Theme-4: Beliefs (Trust) on Digital Media for Academic Advances**

For understanding the perspectives of participants through their lived experiences with digital media, it was essential to understand the belief of the participants employed during academic processes for personal and academic development. The excerpts below show the participants' firm belief in the benefits of digital media in their academic processes.

I have this belief that whenever I will be looking for some new information then I will be getting it first through digital media much better than printed books, due to multiple sources on digital media. As I am already using digital media very much and my belief is more on digital media instead of printed books. Also, during college timings (FSc) I used to watch a lot of YouTube lectures by different experts for my study purposes. S2 (FGD1)

Yes, I have this belief that already I am using it a lot and I must say everyone must be using it owing to its many benefits. Digital media is giving us exposure to lots of things and experiences and through this exposure a person might learn about many more things. I think everything is good in digital media if you are using it positively and not negatively. S3 FGD1

Well, my belief is if we want to answer for something from digital media 100%, we get in return 110% so we come with total belief and this is why we are stuck in it... but I think there ought to be some boundaries.... We get more than assignment like my belief is that it will be providing us all sorts of material we need for our academic growth and development. S5FGD1

I know that digital media will help me a lot in developing my skills. Although we are not as advanced in using digital media as developed countries, if we can understand the different ways of using it for progress and development, it will greatly benefit our professional development. All it depends on the users how they prefer using digital media, whether for personal growth and development or just for the sake of entertainment. I have used it myself for my online business when I was on study leave, so it was a big support not only for my studies but also for providing monetary support. E3 (Dept. of Economics)

Yes, if I am using digital media for academic purposes, then it will take me to the peak, as it has created a global platform. Previously, we used to wait for newspapers to check for updates and advertisements. For documents or certificates, we had to visit a place 3 to 4 times. If you wanted to apply for admission somewhere and could not afford to travel, you could not do much. Now, you can apply online through digital media. It has made things easier globally for us. Along with that, digital media enhances our knowledge and skills today. This was not possible before to such an extent through books, as every book and type of information is not always available in your library. Now, much of this diverse knowledge is accessible to us online. E13 (Dept. of Botany)

Evidently, the above excerpts from the participants, with self-constructed meanings and examples, depict participants' strong beliefs (trust) in digital media application for their academic purposes to enhance their overall development. Fortunately, digital media is now commonly used by individuals for its numerous benefits such as for: accessing online news, diverse information, utilizing different experts' channels like YouTube, Instagram, Facebook etc., for studying purposes, for giving exposure to lots of things and experiences that amplify their learning, better progress (valuing its positive use, source of developing skills, source of progress and professional development, economical support (online business, freelancing, remote jobs), benefits through global platform, and numerous other online conveniences to its users.

#### **Theme-5: Digital Media Literacy**

those who use digital media positively for their own purposes, and for their own benefits, are considered digitally literate. S32 (FGD4)

I think one must keep one's privacy in all matters. I have good command on digital media for my academic purposes, but still, I want more training on digital media understanding. E5 (Dept. of Urdu)

I am not aware of how to deal with privacy issues or how to protect privacy on digital media. Whenever, I face a problem related to my mobile, I ask my husband to solve it for me. E3 (Dept. of Economics)

As we have internet issues at our universities. Besides that, some of the digital media platforms are banned in the university and students use VPN for YouTube purposes. It shows that students are unaware that it is illegal and banned in Pakistan. E13 (Dept. of Botany)

I use it a lot for my academic activities, but one of its drawbacks is that if you share even a little bit of your personal information in it, there is a chance of privacy issue. Simply, if you are using a lot of apps even if you are using them for academic purposes but there are hackers who can hack your data. S3 (FGD1)

digital literacy is very important for all of us, as we are already in the Era of AI...here we are supposed to make our generation ready for the constructive use of digital technology. As all the digital literacy skills that I have are because of this business courses and further I got motivation through this and passed the different levels of it till that I became a supervisor and started controlling and creating online sessions for the beginners...during my 1<sup>st</sup> semester in this I was totally unable to communicate properly in front of others. However, when I started doing this online business, I gained such a confidence that, during 5<sup>th</sup> semester one day I requested one of my teachers to allow me in front of the class for presentation. When I started my presentation all my friends were surprised that how you got this confidence. I shared with them that I am doing online business. They were so much motivated for it because of my enhanced communication skill. S37 (FGD5)

I think still we have much to learn about digital media as we are in learning phase all the time and as it is developing each day.... E15 (Dept. of Microbiology)

As a lifelong learner, I am committed to seek opportunities of digital media skill training as part of my professional development. E6 (Dept. of Psychology)

I would recommend that there need to be workshops and awareness sessions for students about what is your private data and that is accessible and that can be misused against you. E22 (Dept. of Bio-Informatics)

The threat posed by digital media is that our daily lives are increasingly reliant on online platforms, including job applications and email communications. This makes us susceptible to potential risks, such as fake emails or scam content, which can compromise our personal data. This is a significant concern for me. In my opinion, it is essential for universities to conduct awareness seminars and workshops on privacy and online security, to educate both educators and students. However, we should not solely rely on the university; we must take personal responsibility for our online safety. S33 (FGD4)

#### **Themes-6: Challenges in Academic Application of Digital Media**

Here in hostel, we face lots of problems of Wi-Fi. Like, when you make account with HEC one thing, then the problem of the electricity, then the Wi-Fi problem because it takes so much time for connection, then the data package problem and data package cost which is wasted as due to remote area the data does not work here properly.... it is very difficult for us to work on our research under all such kinds of problems around us. (S7 & S8, FGD1)

Yes, there is an internet issue at our university and sometimes in my room as well. I feel that in the absence of internet connection, all our work is delayed. When delivering a lecture using multimedia, and you need an internet connection to show pictures or videos, it becomes impossible for me to use digital media effectively. In such a case, electricity issue often forces you to abandon your lecture on digital media, so most of the time you fail and must continue with the traditional Plan B. Usually, I take printed notes with me to a class, but some students learn better through visual (screen) experiences. This situation is very discouraging for a teacher who works hard on their lecture but is unable to deliver it with its proper essence. I think it is seriously affecting our teaching skills. E3 (Dept. of Economics)

There is a frequent issue with slow internet at our university. E1 (Dept. of Islamiyat)

The challenges right now we are facing at the university is either no internet or slow internet speed... E16 (Dept. of Zoology)

I have enrolled myself in one online course, which I failed to attend later properly with certificate, due to our busy studies schedule. S39 (FGD5).

Actually because of lots of administrative tasks at the university, the whole faculty is so much overloaded that we are totally unable to think and carry out any other academic activity for our academic development. E16 (Dept. of Zoology)

And then is the issue of allied courses the combination of which is totally unmatched. Allied courses mean they must support the major courses. So, if there is some Zoology course it cannot be made as our statistics course allied because we need a course that enhance our students' statistics side, and this seemed totally unacceptable. So, here we cannot see any support of these courses, and this is a big challenge. As I am the member of the curriculum committee, and I

have already decided this thing in my mind to highlight this issue, as allied courses mean the courses that support our discipline courses. E20 (Dept. of Statistics)

The institution has limited access to various digital media sources (like YouTube) and other digital social media sites. As linguistics students, we need extensive preparation before our presentation. I believe this is a serious issue that many students in Pakistan encounter and must be solved. S14 (FGD2)

...we have very limited downloading of papers. Since in China, during my studies, I was not facing any paper downloading issues at the university. If students were in university premises, the journal sites were always open for students and teachers, and we were always able to download papers easily. But here in our university we are lacking this facility. So, if you have a good book or paper online, then the only solution is you need to purchase it. E16 (Dept. of Zoology)

...I left my online job in Amazon because of the internet connectivity issue. S27 (FGD4) (Dept. of Bioinformatics)

We have an internet issue at this university that affects our students' quality of work. E10 (Dept. of Arts & Design)

...for instance, students from tribal and remote regions frequently shared their frustrations regarding internet connections and lack of signals. E13 (Dept. of Botany)

... we have already observed during COVID-19 pandemic that students living in remote areas often faced extensive internet connection issues. S14 (FGD2)

All our laboratory machinery requires electricity, which presents a significant challenge. Relying on generators is not a possible solution. We are unable to perform experiments, whether for laboratory work or research purposes, as tasks such as weighing samples become impossible. This leads to significant delays in our research and teaching activities. E14 (Dept. of Chemistry)

... We do not have our own department. ... Further, as "Arts and Design" students you need a proper place, and proper physical and digital setup, where you can plug in your laptop (or your pen tablet) with computer system. S19 & S20 (FGD3)

Lacking a proper digital lab system is a significant challenge for us. Here at the start of semester when we visited the computer lab for internet access, the condition of the computers was even taking three hours to start. Consequently, it seems very backward in terms of digital media. S42 (Dep of Mathematics)

...and we do not have a computer lab that is our need and our requirement... E10 (Dept. of Arts & Design)

if you do not have online access or have a slow internet connection, you cannot do well with any software.... The program we currently work on requires strong internet connections, updated labs, and updated machinery, which includes high-processor desktop PCs and updated books for our library. E18 (Dept. of Mathematics)

.... we are using several digital media platforms, and surprisingly nowadays every student is using WhatsApp AI and Chat GPT too much. It will have negative effects on our critical thinking. S5 (FGD1)

I think this new feature AI introduced in our smart phones is not a good tool for our critical thinking. As in exams, when we use it too much, we will not be using our brains. This is how our brains will lose all creativity. S23 (FGD3)

Students do not even check the terminology and relevancy in their assignments, and they are just copying and pasting AI content. I think this is the drawback of AI; it shows that students in the future might be searching through AI for themselves and will be totally dependent on it. E10 (Dept. of Arts & Design)

The above excerpts from the participants (female educators and their undergraduate students) showed that they are facing several challenges at the present university. Consequently, they were unable to employ digital media properly for academic purposes (for theory and practice). The challenges highlighted by the participants were such as: electricity and internet issue affecting female undergraduates' and educators academic progress, restricted access to digital media resources, internet signals and electricity issue in rural and remote areas, electricity issue affecting teaching and learning skills and delayed research, lack of proper space, lack of advance computer labs, unmatched allied courses, insufficient time (to enroll in any online academic activity, like online courses) and challenge of AI.

### **Theme-7: Suggestions**

They need training to understand that only making TikTok videos and playing PUBG games is a waste of time. E13 (Dept. of Botany)

Students, instead of concentrating on their lectures, seemed more engaged in activities on Tik Tok. E10 (Dept. of Arts & Design)

I think anything that is not good for or is useless for our youth should be banned by the government. I suggest that students and teachers use digital media for academic development. E1 (Dept. of Islamiyat)

...there needs to be a proper place in the labs for the use of laptops and computers because what is done in the presence of teachers is not possible at home. S36 (FGD5)

... students are unfamiliar with computers. For that reason, during their first semester, they need proper training. This is particularly challenging in our university, as the computers in our computer labs are outdated, and most of them are not functional. This issue needs a permanent solution. Although there is a computer subject in the first semester, teachers make students practice after theory classes. But the lack of functional computers renders this effort ineffective, as students do not get enough hands-on experience. E3 (Dept. of Economics)

We are lacking resources; we do not have a computer lab in our department. Some of our students are talented and want to excel in the field of physics. E19 (Dept. of Physics)

As there are so many apps and software like SPSS, although we have training for SPSS but still, I think I am not an expert in making tables and graphs in SPSS, and then there is Mendeley and EndNote that are used for references and we still need to learn many such digital tools for our research. S35 (FGD5)

I think, with the speed at which digital media is developing, our university needs to arrange frequently as many workshops and training sessions as possible for training both teachers and students on the proper use of digital media for academic purposes and to stay updated with its advancements. Unfortunately, we belonged a culture where some students, during their first semester, arrive without a mobile phone. As they cannot afford it, or due to strict family rules, especially for girls. Even if some parents allow their daughters to have mobile phones, they often do not know how to use it. Seriously, my workload doubles when it is time for my research students, as I must teach them all about research from the beginning. I think both teachers and students need to stay engaged with digital media through regular monthly training sessions or activities with softwares like SPSS, STATA, MS Excel, EndNote, and Mendeley, instead of relying on annual trainings. E3 (Dept. of Economics)

The opportunity for easy access to knowledge. Now we can see that there are lots of physical courses going on that are offered by the academies and these courses are all paid courses. I did not invest anything in physical courses; I directly got everything on digital media because all three courses that I did online were free of cost. I would say they were academic courses related to my field and I attended them online for free. S19 (FGD3)

...Personally, I think as my use of digital library is zero, and this is all because of lots of administrative activities. I think it will be good if our university can arrange training both for students and faculty. E3 (Dept. of Economics)

All concerned stakeholders and policy makers need to understand from the mouth of an expert who is apparently presenting issues related to the adversity of Arts and Design field.

Being an art expert, I would suggest there need to be no semester system in our arts and design field...artwork has its own technicality and practicality, and its nature is different from other subjects. For artwork, techniques learning, you need sufficient time so that you can work with a piece of mind. Simply, for “arts and design” field annual system is preferable... they always remain under pressure of assignment completion. And this is the reason that our student’s degree time crossed as they do not get proper time to complete their artwork. Besides that, university needs to provide proper space for Arts and Design students. E10 (Dept. of Arts & Design)

We have combined offices, making it challenging for faculty members to join online trainings or classes. In my personal experience, during my current online training, I had to listen wearing headphones. Although, I hesitated to participate in discussions because I did not want to disturb the entire office. This significantly hindered my learning as active participation is crucial. This is a serious infrastructure issue. In combined offices, using digital media is not feasible. E4 (Management and Sciences)

Similarly, when entering data into apps like SPSS and you are making a Smart PLS model, so at this stage, the threat of data leakage is a constant concern. If someone sees your work or if it is unintentionally shared, all your efforts can be wasted. In conclusion, I believe that all official spaces in the university where digital media is used should provide faculty members with protected spaces (cabins) to work comfortably in their own setup. E4 (Management and Sciences)

Academically, students can search for lots of opportunities for their future goals on digital media. We need to inform our students that if they cultivate an extended academic circle on digital media, they will be having more opportunities for their academic and professional development. Making Tik Tok videos and playing PUBG games are a waste of time. If our students are not aware of MS Office software and searching applications, then they will not be able to search for opportunities on digital media. E13 (Dept. of Botany)

We have encountered several instances of scam courses. These accidents made us learn through our mistakes. S7 (FGD1)

In Pakistan, we have many scams in the name of online training courses. Usually, students enroll themselves for some training course online and they pay for it, but later they come to know that it was a scam. Therefore, the university needs to design an immediate strategy, as students have the potential, and they are always looking for opportunities that can be trustworthy and improve their digital skills. E16 (Dept. of Zoology)

Sometimes, there is an internet issue even at my home. We do not have Wi-Fi connection, for which I am using an internet package...students face challenges in terms of even our four years have been completed, but still they have not received registration for internet access. Now we just got internet access at this research time, as we spent our four years without internet access. S23 (FGD3)

If we continuously face this electricity issue, the university needs to address it. When there is an electricity outage for long hours, our laptops run out of charge, and the internet also stops working. This is how all our digital teaching and learning systems collapse in its absence. And then using mobile data is expensive for both teachers and students. E4 (Dept. of Managements & Sciences)

I think we should be given more training from our very first semester on the use and application of digital media...as when in 8<sup>th</sup> semester we start working on our research project, and that is the critical time for displaying of our acquired

digital media research skills. However, unfortunately, as we never had a chance of practical application of such research skills, it clearly becomes so much difficult for students to work under this stress for producing research thesis under undeveloped skill of digital media tools.... Consequently, our research supervisor becomes so much overburdened. S35 (FGD5)

our university needs to offer proper use of digital media courses, ... as for academic progress both students and teachers need digital empowerment. E9 (Dept. of Political Science)

I think, not as an institution we are lagging in the terms of technology but as a nation we are lagging in the world. Our moral values are this much low that we cannot say that we are ahead of other nations. Being Muslims, our very first challenge is this. E18 (Dept. of Computer Science)

Currently, in our department, we have started AI in mathematics, as it is a branch of mathematics, for which our students of 5th semester will start specialization in it. This AI in mathematics program, we need AI labs, updated books, and updated computer systems. So, the coming era is of AI and if we are not going to introduce it in our department, then in the market our students will lag. Therefore, to prepare our students for the market, we need all these advanced versions of machinery for AI. E18 (Dept. of Mathematics)

...there are certain websites where only individuals from some countries can access, and individuals from other countries are not allowed to access. S44 (FGD6)

...and then for article or book subscription, I then abandon it without sharing my personal information. S37 (FGD5)

One of the most frustrating issues are the subscription barriers. I believe that the government and the Higher Education Commission (HEC) need to address these concerns effectively. E6 (Dept. of Psychology)

I think if the faculty is facing the access issue, the students may also be facing the same issue. E17 (Dept. of Zoology)

Currently along with my studies I am doing online remote job, since from my 7<sup>th</sup> semester with a company. S19 (FGD3)

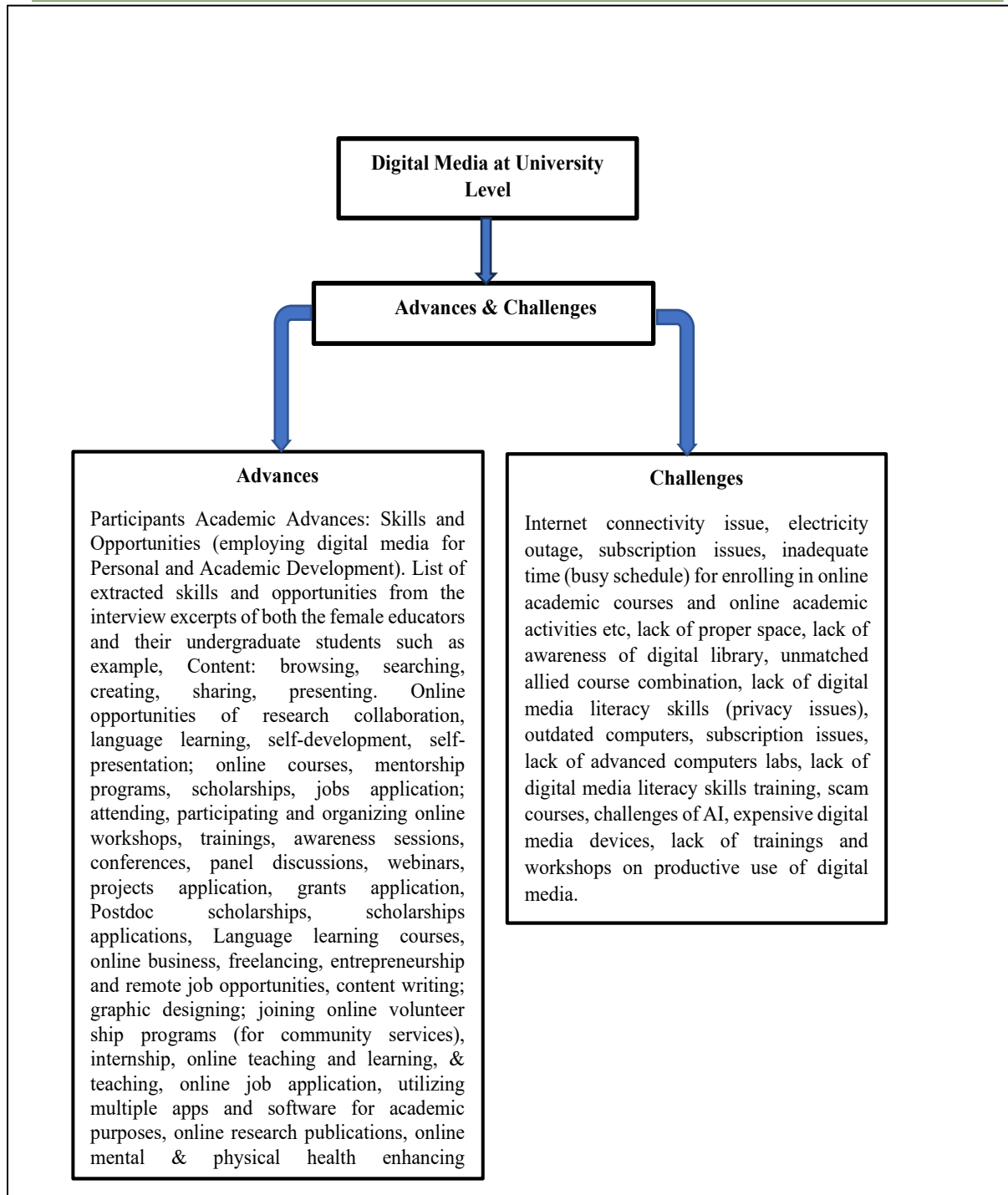
Many of our students who are proficient and possess extra skills in the use of digital media are involved in the freelancing business...and students who are lagging in proper use of digital media need to give time to it and learn about the proper use of digital media. E8 (Dept. of English)

...I see this improvement and confidence in the artwork of my students: some of whom, despite not yet earning their degrees, have started remote jobs and online small businesses. E10 (Dept. of Arts & Design)

One thing here I want to share about digital media is that “Elon Musk” has played the most significant role in AI establishment, but his mobile does not have AI features. So, in this context, we need to think about where we are going. S43 (FGD6)

WhatsApp was perceived to be performing well and playing a positive role in the development of students, but its new AI feature is damaging their creative skills. For instance, just before this interview, I was in a class and one of the students wanted to show me her work. Mistakenly, she opened her browser and her Chat GPT was open. She was copying that program from Chat GPT and running it. While it would be acceptable for her to use a ready-made program, this raises questions about the impact on her learning level. Such reliance on Chat GPT, especially at the emerging stage of their learning, indicates a concerning decline in their skill development. E17 (Dept. of Computer)

The above theme represents the participants’ excerpts in narrating the role of digital media in their academic development. Further, they shared their suggestions for the productive use of digital media, which is possible only through the following shared facilities: reliable internet connections and electricity, access to digital media sources (free or minimum subscription), restriction on unproductive digital media, advanced computer labs, frequent workshops, seminars, conferences, and trainings to stay updated with digital media advancements, building students and faculty confidence in the use of digital media, training for digital library use, annual system adoption instead of semester system, protected online course learning and interaction facility for faculty, confidential research data protection, understanding use of digital media for academic benefits, solution for scam courses, digital media use courses, training for digital media source subscription, digital media ethics and morality training, promoting freelancing businesses and entrepreneurship, AI-powered computational labs, access to restricted journals and sources, and balanced use of AI trainings etc., facilities. In short, this digital media progress is marked as well as in this context the same facilities are endorsed too by several research studies (Gutiérrez-Ángel et al., 2022; Chankseliani & McCowan, 2021; Grothaus et al., 2021; Hammady et al., 2020; Nkomo et al., 2021; Sultana, 2023).



**Figure-1: Proposed Model Showing Advances and Challenges of Digital Media at University Level**

## DISCUSSION

The study findings showed that both female educators and their undergraduate students had already gained several benefits from the academic application of digital media. The female educators shared about self-progress in the form of professional development owed those female educators showed that they are practicing digital media for multiple academic purposes. It showed their belief and confidence in digital media as it is leading them for being more professionally attuned in the era of digital media (followed by AI). Equally, the female undergraduate students too shared their experiences of academic development for the academic application of digital media. The participants shared academic advances are the “Skills and Opportunities” that they think have become possible because of the digital media. While employing digital media for personal and academic development, the “Skills and Opportunities”

collectively shared by them through excerpts are: creating content, browsing, searching, creating, sharing, presenting content, online opportunities of research collaboration, language learning, self-development, self-presentation; online courses, mentorship programs, scholarships, jobs application; attending, participating and organizing online workshops, trainings, awareness sessions, conferences, panel discussions, webinars, projects application, grants application, Postdoc scholarships, scholarships applications, language learning courses, online business, freelancing, entrepreneurship and remote job opportunities, content writing; graphic designing; joining online volunteer ship programs (for community services), internship, online teaching and learning, online job application, utilizing multiple apps and software for academic purposes, online research publications, online mental and physical health enhancing opportunities, career development opportunities, and professional development opportunities etc.

Unfortunately, despite these shared benefits and advances the participants expressed dissatisfaction regarding the challenges they face during their academic development at the university. While employing digital media for academic development, they were facing several challenges such as unreliable internet connectivity, power outages, subscription issues, inadequate time (busy schedule) for enrolling in online academic courses and online activities, lack of proper space, unmatched allied course combinations (which served as a waste of students' time), insufficient digital media literacy skills, privacy issues, outdated computers, lack of advanced computer labs, challenges of AI, expensive digital media devices, lack of trainings and workshops on productive use of digital media etc.

Undoubtedly, it is evident that personal and academic developments are interdependent. Furthermore, as a nation, if our goal is to expedite the academic development of both female educators and their undergraduate students through digital media, the foremost requirement to make this possible is the complete integration of digital media in our educational system by addressing all its challenges. Currently, the most serious issue is the unreliable internet connection along with outdated technological equipment's and power outages. such conditions at the university are not supporting the advanced tools of digital media, thus putting actual stakeholders (female educators and students) academic advances at risk. Lastly, all the concerned authorities need to take an interest in resolving and minimizing the challenges mentioned by the respondents through their lived experience on a permanent basis. This needs serious attention, as such challenges pose a threat to women's sustainable development, which aligns with 2030 target of 17 SDGs. Consequently, such digital media challenges need to be resolved on a permanent basis, as working in fully empowered digital environments is the only solution to align with a futuristic approach while competing with other nations.

## CONCLUSION AND RECOMMENDATIONS

Based on the present study's findings and discussion, it is concluded that digital media is an adequate, efficient, and advanced opportunistic medium whose application enhances the academic developments of both educators and their undergraduate students. The study's empirical data showed that both female educators and their undergraduate students were significantly using digital media for their academic purposes. However, the most serious challenge faced by the participants was the unreliable internet connection, along with the outdated equipment and support system that hamper their process of using digital media for their academic growth and development. Under such conditions, there is a need for a continuous monitoring system to be required for empowering female educators and their undergraduates in the use of digital media adapted for the AI era. This requires serious attention as such challenges are a threat to their sustainable development, which aligns with SDGs 4 (Quality Education) and SDG 5 (Gender Equality) promoting equal education and employment opportunities to all individuals without any gender discrimination for personal and academic development. Fortunately, recently in this context a study by Damanik (2025) recommended for need of strengthening monitoring frameworks, growing access to education for marginalized groups, and integrating gender equality principles into educational curricula to support sustainable development.

In this academic context of digital media, certain recommendations have been proposed to guide stakeholders in the future for providing better facilities that can strengthen and support the digital media environment for female educators and their undergraduates' academic development. Such recommendations are as follows:

1. All stakeholders, such as federal and provincial governments, HEC, institutional leaders, educators, parents, and students, need to develop an understanding of the importance of full integration of digital media at the university level especially, in empowering women through digital media, so they can play their part in country's economy.
2. The insistent challenges of internet connectivity and electricity on campus need to be addressed permanently.
3. Universities need to introduce courses, workshops, training sessions, seminars, conferences, and awareness programs for strengthening understanding of digital media literacy and its associated ethical and moral dimensions thereby supporting smooth academic processes as suggested by UNICEF (2025) regarding training for safe internet use and awareness of privacy issues (e.g., cybercrime or cyber security issues).
4. Universities need to focus on training educators and undergraduates for the secure, responsible, and productive use of digital media technologies, including artificial intelligence.

5. Underprivileged, rural, and remote areas undergraduate students should be provided with digital media support such as laptops, computers, and internet facilities, for achieving equal academic advancement (skills and opportunities).

### Future Research Directions

For future researchers, further in-depth studies may be conducted to investigate the academic advances resulting from digital media application in the academic processes of female educators and their undergraduate students. Additionally, researchers may also conduct an in-depth investigation into the continued challenges faced by these participants, along with the impact of such challenges on their academic practices. Such probes could extend to the role of digital media at the university level and its connection with the United Nations (2015) Sustainable Development Goals (SDGs), particularly those related to women's education and empowerment.

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