ROLE OF DIGITAL MEDIA IN BUILDING WORLD CLASS INSTITUTIONS WITH SPECIAL REFERENCE TO TEACHING-LEARNING: A SURVEY

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Abstract:

The study aims to understand the role of digital media in building world class institutions with special reference to teaching-learning in higher education institutions of Jammu city and their adjoining areas. A descriptive survey method was used for conducting the study. The sample consists of 1478 stakeholders i.e., students, teachers and administrators who were associated with the higher education institutions. The findings of the research reveal that stakeholders have a high level of awareness about various digital media initiatives such as SWAYAM, MOOCs, Swayam Prabha, e-PG Pathshala etc. Results show that 96.9% of stakeholders accessed YouTube for teaching and learning activities and 60.3% of stakeholders considered the SWAYAM Platform for pursuing MOOCs. The stakeholders faced several problems while using digital media in higher education. Lack of knowledge, skills, poor internet speed, the shift from one media to another, affordability of devices, accessibility of information, lack of effective collaborations, teacher's reluctance and political influence on institutions are the problems which are currently being faced by more than 50% of the stakeholders.

Keywords: digital media; world class institutions; SWAYAM; MOOCs

1. Introduction

Digital media popularly known as new media is the 'lovebird' of our present world. Messages meant for a huge number of listeners can be delivered in different forms of channels. Some of the well-liked media used in the world today are either print or

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electronic format. The print includes, (books, newspapers, magazines), electronic versions include, (radio, television, computers, billboards, banners, posters, direct mails) and social media. Digital media is mainly used to represent the use of computers to combine with the various forms of media. In most cases, the term is sometimes used interchangeably with multimedia, but it is more specifically referred to as electronic media that use digital codes rather than analogue signals (Omenugha, 2018).

Digitalisation influences large areas of everyday life and has a long impact on higher education. With the help of electronic systems, it is easy to have book courses, help to arrange studies and offer course materials; lecture recordings and video conferences for classroom teaching and social media platforms allow a new type of social networking and collaboration within the framework of studies (Pumptow, 2020).

In India, Various digital initiatives have been taken to promote digital learning under 'National Mission on Education through Information and Communication Technology' (NMEICT). The Ministry of Education is administering this programme to leverage the potential of ICT to make the best quality content accessible to all learners in the country, free of cost. The various initiatives under this programme are as under:

- SWAYAM: SWAYAM is an online platform for offering various courses from 9th to higher education. Till date, 2769 MOOCs have been provided on SWAYAM, and about 1.02 crore students have enrolled. These online courses are being used by the students as well as the teachers and other stakeholders. These courses can be done through swayam.gov.in. Twelve courses were launched in the first cycle. Twenty courses were launched in the second cycle.
- SWAYAM PRABHA: SWAYAM PRABHA is an innovative step to provide High Quality Educational Channels through DTH across the whole country on 24X7 basis. It has courses which are based on curriculum and the content of these courses covers various disciplines. The main aim of SWAYAM Prabha is making quality learning resources which are easily available to people living in remote areas where internet facility is still a challenge.
- National Digital Library (NDL): The NDL is an Indian project for a virtual repository of learning resources on one hand. More than three crore digital resources are accessible on NDL. The content available on NDL includes all the main fields of education and includes life-long learners. It can be retrieved on ndl.gov.in website.
- Spoken Tutorial: Audio-video tutorials are available on open-source software. It improves the employment capacity of students. It is meant for independent learning. The Spoken Tutorial courses are successfully designed to train a beginner without the help of a guide.
- Free and Open-Source Software for Education (FOSSEE): FOSSEE is a project encouraging the use of open-source software in educational settings. It works through educational material, such as spoken tutorials, documentation, such as textbook companions, and awareness programmes, such as conferences, training workshops, and Internships.

- Virtual Lab: Virtual Lab is an environment which provides fully interactive simulation surroundings for performing the experiment, collecting data, and answering questions to evaluate the knowledge gained.
- e-Yantra: e-Yantra is a project implemented to incorporate robotics into the engineering field in India. Workshops are conducted for providing training to teachers and students where they are taught the basics of systems and programming.

The Department of School Education, Ministry of Human Resource Development has the following schemes through which the learners have access to online resources:

- Study materials developed by NCERT in the form of e-Resources (audio, video interactive etc.) have been shared with stakeholders through web portals (Study Webs of Active-Learning for Young Minds-SWAYAM, e-Pathshala, National Repository of Open Educational Resources (NROER) and mobile applications (e-Pathshala). A web portal (http://epathshala.nic.in/, http://epathshala.gov.in/) and mobile apps (Android, iOS and Windows) have been designed and deployed. The portal has 1886 audios, 1999 videos, 698 e-books and 504 flipbooks.
- Quick Response (QR): QR codes have been created to enable students, teachers, parents and educators to access digital resources.
- National Repository of Open Educational Resources (NROER): It has been designed by NCERT. It hosts many educational resources in different subjects and in various Indian languages for primary, secondary and senior secondary classes.

Several initiatives in the field of ICT in education have been taken, such as the development and dissemination of ICT curriculum for students and teachers, ICT textbook for class IX, Cyber safety and security guidelines, SWAYAM PRABHA DTH TV Channel 'Kishore Manch', All India Audio Video festival and ICT fest and National ICT awards to school teachers. More such initiatives are:

- ICT in Education Curricula for students, teachers and teacher educators has been developed at the national level and is being implemented across the country.
- Digital learning Initiatives by CBSE: SARANSH is an instrument for extensive self-assessment and examination for CBSE affiliated schools and parents. It helps them to access students' achievements so that corrective steps can be taken.
- Classroom Centric digital intervention: A scheme 'Operation Digital Board' (ODB) for establishing Smart Classrooms in classes IX to XII of Government and Government aided schools is under consideration according to Press Information Bureau Government of India Ministry of Education, 2019.

Digitalisation deals with the use of technology to replenish, clarify and upgrade inputs, processes, and outputs. The digitalisation of education includes various features of quality, varying from organisational problems, and technological facilities to pedagogical approaches and effects internationalisation by providing online and changeable educational schemes. Moreover, it provides solutions related to administrative problems, provides data security, systems to detect cheating, plagiarism, storage of research data, library services and diverse learning resources, as well as

opportunities for better cooperation across campuses. Furthermore, digitalisation also requires adequate competencies for those involved (Tomte et al., 2019).

2. Review of Related Literature

Petko (2012) examined the teacher affiliation for constructivist-style teaching, which is often considered to facilitate the pedagogical use of digital media. Computer and Internet applications are more often used by teachers in the classroom when: (1) teachers consider themselves to be more competent in using ICT for teaching; (2) more computers are readily available; (3) the teacher is a form teacher and responsible for the class; (4) the teacher is more convinced that computers improve student learning; and (5) the teacher more often employs constructivist forms of teaching and learning. Bernard et al. (2013) assessed how mobile phones facilitated the teaching and learning process, identified the mobile phone applications used for teaching and learning, determined the types of learning activities facilitated through mobile phones and also assessed the common limitations of m-learning. It was found that the majority of the respondents used their mobile phones for the teaching and learning process. Users were forced to use SMART/VISA cards for buying online mobile applications of which most respondents were not aware off.

A study by Guma, et al., (2013) reported that teaching staff and administrators had a strong desire to integrate ICT into teaching-learning processes. Montrieux (2015) investigated teachers' and students' perceptions concerning the impact of using tablet devices for teaching and learning purposes. The finding revealed that the use of tablet devices in the classroom setting has an impact on both teaching and learning practices.

The impact of constructivist teaching was small, however.
Arkorful and Abaidoo (2015) investigated the effectiveness of using e-learning in teaching in tertiary institutions and unveiled some views that people and institutions have shared globally on the adoption and integration of e-learning technologies in education through surveys and other observations. Ghavifekretal (2016) analysed teachers' perceptions of the challenges faced in using Information and Communication Technology tools in classrooms. The key issues and challenges found to be significant in using ICT tools by teachers were: limited accessibility and network connection, limited technical support, lack of effective training, limited time and lack of teachers' competency.

A study conducted by Ansong et al. (2017) explored the nature of e-learning adoption in the University of Ghana using a multi-stakeholder approach. The analysis revealed that e-learning was yet to receive a university-wide adoption and again it was discovered that, the prevalent activity on the e-learning platform was "*viewing marks and grades.*" And some of the activities were less popular with the users of the e-learning system and concluded with a discussion of implications and future research directions. Paladan (2019) revealed that the majority of the top 25 universities in Asia and Africa use Facebook, Twitter, LinkedIn and YouTube for their digital and social media marketing

and they differ in terms of the purposes of its usage and the level of adoption of digital technology. Subaveerapandiyan and Ahamed (2020) reported that majority of the respondents are aware of SWAYAM courses through their teachers. Mohile (2021) revealed that there was less awareness of MOOCs and SWAYAM among the students, but students have shown a positive attitude towards accepting this online platform for various online courses provided by the government.

2.1 Need and Significance of the Study

Achieving effective teaching and learning through digital media continues to be a major concern in contemporary education. The daily use of all forms of digital media is a part of our lives and therefore becomes a key component of education. Digital media influences the behaviour and attitude of different stakeholders towards teaching and learning. Digital media and technology are changing the developmental landscape for learners in the digital age of today and the future. Digital media and technology have become a service to help people know, think, learn, inspire, and create. Therefore, there is a need for further research in this area. The teaching-learning process will become more effective and efficient with the help of digital media and different stakeholders will also become aware of the various digital media available for them to use.

2.2 Research Questions

The study attempts to answer the following research questions:
1. What is the level of awareness among different stakeholders in higher education about digital media initiatives?
2. Are the various digital media accessible to stakeholders for teaching and learning?
3. What are the problems being faced by the stakeholders while using digital media in higher education?

3. Research Methodology

3.1 Method

The present study employed a descriptive survey methodology and adopted a quantitative approach for data collection.

3.2 Sample

A sample of 156 stakeholders was taken from different higher education institutions utilising the digital media for day-to-day teaching and learning in the classroom. The stakeholders comprised students, faculty and administrators from selected colleges and universities of the Jammu region.

3.3 Tools Employed

A self-prepared tool namely, "Questionnaire on the Role of Digital Media in Higher Education" was prepared by the researchers.

4. Results and Findings of the Study

The findings have been presented in this section based on the research questions of the study.

Research Question 1: What is the level of awareness among different stakeholders in higher education about digital media initiatives?

Results have been presented in Table 1.

Table 1: Level of Awareness Among Stakeholders About Digital Media Initiatives

Sr.	Statement	Mean	SD
1	The full form of SWAYAM is Study Webs of Active-Learning for Young Aspiring Minds.	0.94	0.23
2	SWAYAM is an Indian Massive open online course (MOOC) platform.	0.94	0.25
3	The SWAYAM PRABHA is a group of 32 DTH channels devoted to telecasting of high-quality educational programmes.	0.74	0.44
4	National Academic Depository is a 24X7 online storehouse of all academic awards viz. Certificates, diplomas, degrees etc.	0.89	0.31
5	Project e-Yantra is an initiative to spread education in embedded systems and robotics sponsored by MHRD through NMEICT.	0.78	0.41
6	The project on Creating Digital Learning Environment for Design is also called e-Kalpa.	0.85	0.36
7	National Digital Library is used to access e-content on multiple disciplines.	0.87	0.34
8	e-PG Pathshala is a Gateway for e-books up to PG level.	0.89	0.31
9	Shodhganga is a reservoir of Research Theses of scholars of Indian Institutes.	0.86	0.35
10	e-ShodhSindhu is a collection of e-journals to get access to full-text e-resources.	0.84	0.37
11	Vidya Lakshmi is a first of its kind portal for students seeking education loan.	0.81	0.39
12	Virtual Labs provides access to web-enabled experiments designed for remote operation on course curriculum	0.83	0.38
13	University Enterprise Resource Planning (SAMARTH) is helpful in E-Governance for Institutions/Universities and Student development Life Cycle	0.81	0.39
14	VIDWAN contains Expert Database and National Research Network	0.87	0.34
15	IRINS: Indian Research Information Network System is meant to Monitor research outcomes at different levels	0.81	0.39
16	ShodhShudhhi (PDS) is a Plagiarism Detection Software platform used to encourage original information by preventing plagiarism and better research outcomes.	0.83	0.37
17	http://www.knowyourcollege-gov.in/ is a good place to get information about the colleges	0.87	0.34
18	The National Institutional Ranking Framework (NIRF) outlines a methodology to rank institutions across the country	0.89	0.31
Total	**Awareness**	**15.33**	**3.39**

The data presented in Table 1 shows that the mean values on the different aspects regarding the awareness among stakeholder on the various digital media initiatives is

high. On each item the minimum mean value is 0.74 out of maximum of 1. This shows that about 74% participants were aware of the various digital initiatives. The total mean value of the scale for all the eighteen items is 15.33. This again shows that the awareness level of all the stakeholders as represented by the sample is quite high about digital media initiatives in higher education. An important information that can be deduced from the data in Table 1 is that the maximum awareness is about the SWAYAM platform which has the largest repository of MOOCs and is catering to the learning needs of most of the stakeholders. Apart from SWAYAM, the stakeholders also have a high level of awareness about e-PG Pathshala which is a Gateway for e-books up to PG level. Results in Table 1 also reveal that the stakeholders exhibited a high level of awareness about e-Kalpa, National Digital Library project, Shodhganga, e-ShodhSindhu, VIDWAN and ShodhShudhhi.

Research Question 2: What are the various digital media accessible to stakeholders for teaching and learning?

To get answer for this research question the following analysis has been done and results and findings have been shown in the following sections:

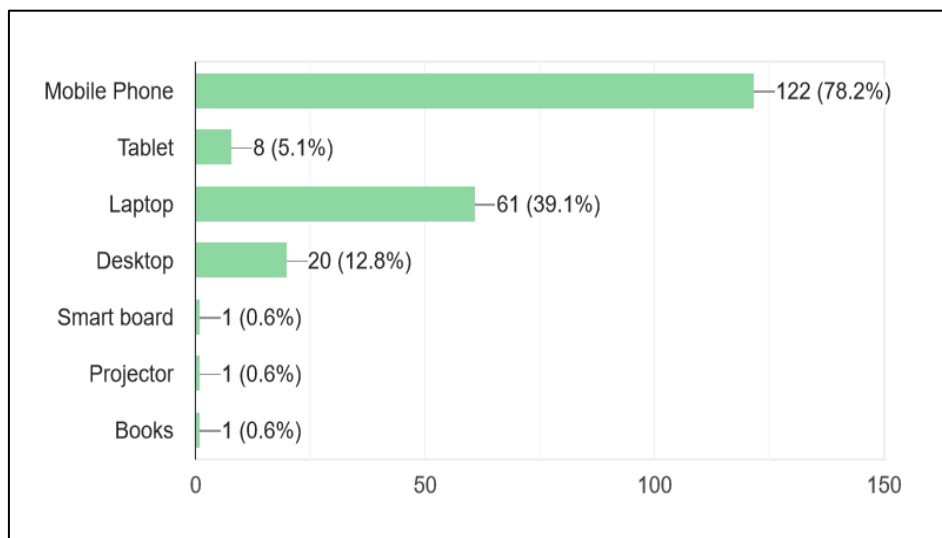## 4.1 Accessibility of Digital Media

Figure 1: Percentage wise distribution of use of digital
media gadgets by stakeholders for teaching-learning

Figure 1 shows distribution of accessibility of digital media by stakeholders for teaching and learning. 122 (78.2%) stakeholders have accessibility of mobile phone, 8 (5.1%) have accessibility of tablets, 39.1% have accessibility of laptop, 12.8% have accessibility of desktop, 0.6% have accessibility of smart board, projector, and e-books. This clearly indicated that mobile learning is becoming a popular medium for teaching and learning. All the major digital media platforms have created mobile friendly versions

of their content. This has led to an enhanced access to digital learning material and encourages learners to study at their own pace and time.
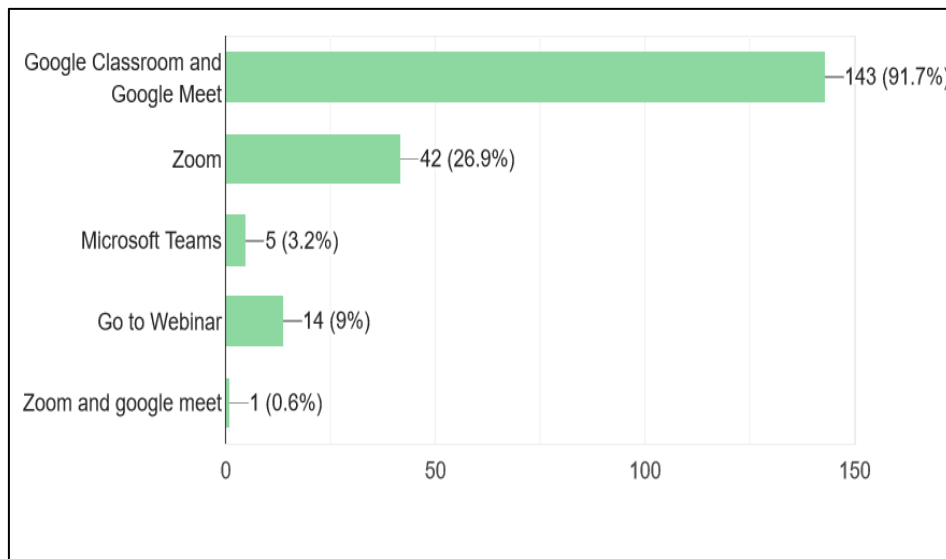
4.2 Usability of Online Platforms

Figure 2: Percentage wise distribution of usability of best
online platform for synchronous teaching-learning activities

Figure 2 shows distribution of usability of best online platform for synchronous teaching- learning activities. 91.7% stakeholders used Google classroom and Google meet online platform, 26.9% stakeholders used Zoom platform, 3.2% stakeholders used Microsoft Teams and just 9% stakeholders used the Go to Webinar platform. Thus, Google Classroom emerged as the most highly used platform for carrying out the teaching and learning activities and was the most preferred medium for the stakeholders.
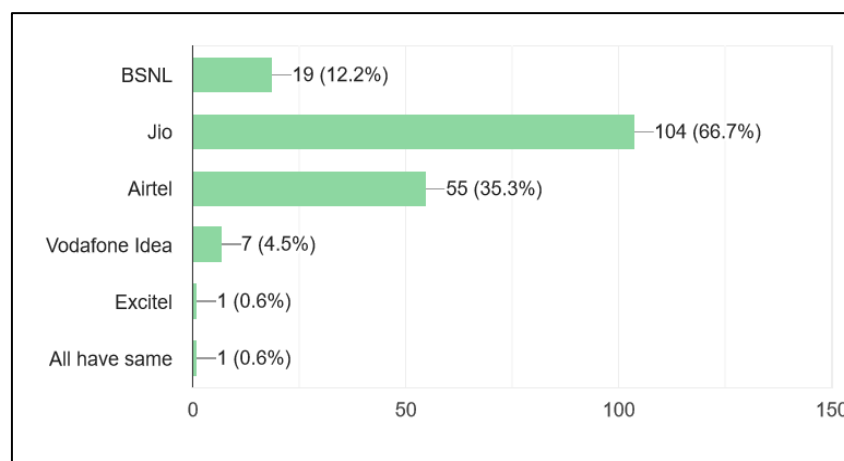
4.3 Preferred Internet Service Provider

Figure 3: Percentage wise distribution of usability of different internet
service providers subscribed for online teaching-learning activities

Figure 3 shows distribution of usability of different internet service providers subscribed by the stakeholders for online teaching-learning activities. 12.2% stakeholders use BSNL, 66.7% use Jio, 35.3% use Airtel, 4.5% use Vodafone Idea, 0.6% use Excitel and remaining 0.6% use other internet service providers for online teaching- learning activities. Thus, Jio emerged as the most preferred Internet Service Provider for undertaking the various online teaching-learning activities.

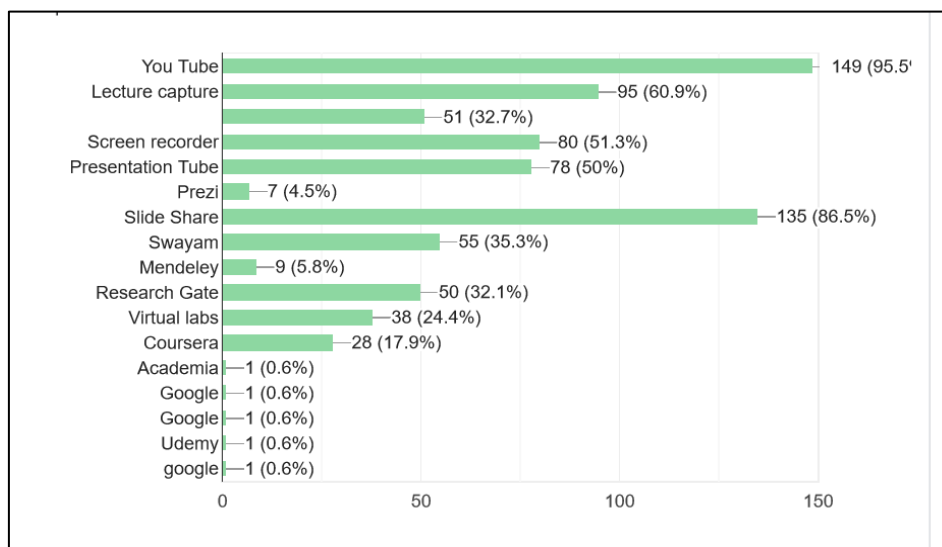## 4.4 Usage of Media/Platforms/Software

Figure 4: Percentage wise distribution of usage of different
media/platform/software by stakeholders for teaching-learning process

Figure 4 shows distribution of the accessibility of different media/platform/ software by the stakeholders for teaching- learning processes. 95.5% have used the You Tube platform, 86.5% have used Slide share, 60.9% have used a Lecture capture system, 32.7 % have used Screencast for Live Streaming, 51.3% have used a screen recorder software, 50.0 % have used presentation tube, 35.3% have accessibility of SWAYAM, 32.1% have accessibility of Research Gate, 24.4% have accessibility of Virtual labs, 17.9% have accessibility of Coursera, 5.8% have accessibility of Mendeley, 4.5% have accessibility of Prezi, and 0.6% stakeholders have accessibility of Academia/Unacademy.

4.5 Future Usage of Media/Platforms/Software
Figure 5 shows percentage wise distribution of accessibility of different media/platform/software by stakeholders for their future teaching learning requirements. 85.9% stakeholders want to use YouTube in the near future, 60.9% stakeholders want to use lecture capture, 55.1% want to use screen recorder, 51.9% stakeholders want to use presentation tube, 2.6% stakeholders want to use Prezi, 70.5% stakeholders want to use slide share, 42.3% stakeholders want to use SWAYAM, 11.4% stakeholders want to use Mendeley, 31.4% want to use Research gate, 30.8% stakeholders

want to use virtual labs, 14.1% stakeholders want to use Cousera, 0.6% stakeholders want to use Academia/Google/Unacademy.
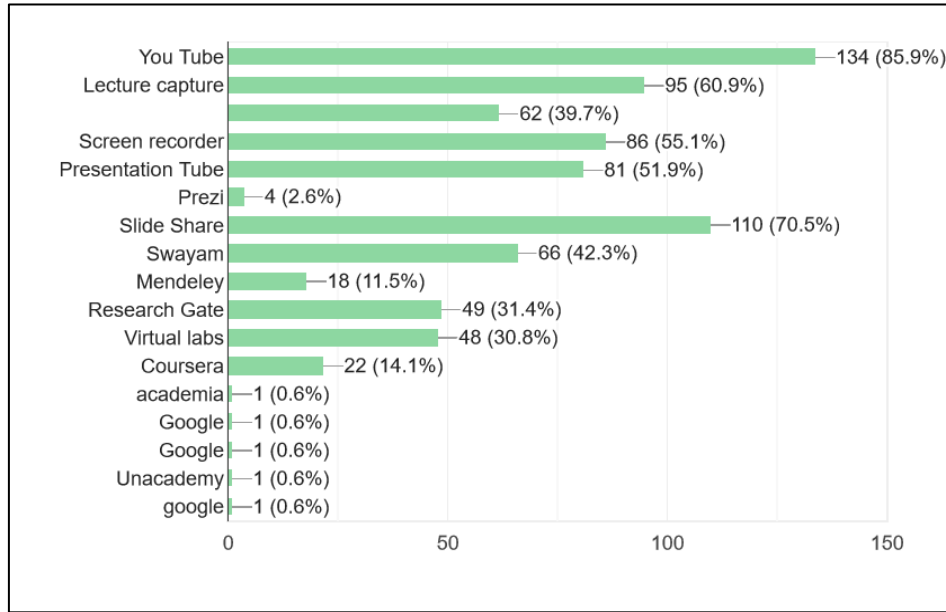

Figure 5: Percentage wise distribution of accessibility of different media/platform/software to stakeholders in near future for teaching-learning processes

Research Question 3: What are the problems being faced by the stakeholders while using digital media in higher education?

The problems being faced by the various stakeholders are given in Table 2:

Table 2: Problems Being Faced by the Stakeholders
While Using Digital Media in Higher Education

Sr.	Statement	Response	Frequency	Percentage
1.	Lack of knowledge about different digital media	Strongly Disagree	235	15.9%
		Disagree	343	23.2%
		Undecided	258	17.5%
		Agree	520	35.2%
		Strongly Agree	122	8.3%
2	Lack of ICT skills; hardware, software, communication	Strongly Disagree	186	12.6%
		Disagree	337	22.8%
		Undecided	310	21.0%
		Agree	503	34.0%
		Strongly Agree	142	9.6%
3	Non-availability of technological gadgets	Strongly Disagree	197	13.3%
		Disagree	352	23.8%
		Undecided	293	19.8%
		Agree	486	32.9%
		Strongly Agree	150	10.1%
4	Poor internet connectivity	Strongly Disagree	181	12.2%
		Disagree	296	20.0%
		Undecided	195	13.2%
		Agree	516	34.9%
		Strongly Agree	290	19.6%

5	Non-friendly nature of digital media tools	Strongly Disagree	170	11.5%
		Disagree	353	23.9%
		Undecided	313	21.2%
		Agree	480	32.5%
		Strongly Agree	162	11.0%
6	Lack of dedicated time	Strongly Disagree	142	9.6%
		Disagree	359	24.3%
		Undecided	315	21.3%
		Agree	495	33.5%
		Strongly Agree	167	11.3%
7	Frequent power failure	Strongly Disagree	163	11.0%
		Disagree	300	20.3%
		Undecided	310	21.0%
		Agree	491	33.2%
		Strongly Agree	214	14.5%
8	Lack of support	Strongly Disagree	185	12.5%
		Disagree	354	24.0%
		Undecided	292	19.8%
		Agree	465	31.5%
		Strongly Agree	182	12.3%
9	Shift from one media to another	Strongly Disagree	128	8.7%
		Disagree	262	17.7%
		Undecided	363	24.6%
		Agree	568	38.4%
		Strongly Agree	157	10.6%
10	Digital divide	Strongly Disagree	112	7.6%
		Disagree	219	14.8%
		Undecided	472	31.9%
		Agree	509	34.4%
		Strongly Agree	166	11.2%
11	Affordability of media tools and devices	Strongly Disagree	122	8.3%
		Disagree	230	15.6%
		Undecided	327	22.1%
		Agree	604	40.9%
		Strongly Agree	195	13.2%
12	Excessive Information on media	Strongly Disagree	107	7.2%
		Disagree	205	13.9%
		Undecided	280	18.9%
		Agree	681	46.1%
		Strongly Agree	205	13.9%
13	Non-indigenous nature of digital media	Strongly Disagree	105	7.1%
		Disagree	241	16.3%
		Undecided	482	32.6%
		Agree	502	34.0%
		Strongly Agree	148	10.0%
14	Lack of self-motivation	Strongly Disagree	213	14.4%
		Disagree	376	25.10%
		Undecided	243	16.4%
		Agree	477	32.3%
		Strongly Agree	169	11.4%
15	Lack of real/effective collaboration with others	Strongly Disagree	162	11.0%
		Disagree	309	20.9%
		Undecided	321	21.7%
		Agree	515	34.8%

		Strongly Agree	171	11.6%
16	Lack of genuine software/ economic/low-cost hardware	Strongly Disagree	148	10.0%
		Disagree	290	19.6%
		Undecided	349	23.6%
		Agree	505	34.2%
		Strongly Agree	186	12.6%
17	Poor or no administrative support	Strongly Disagree	157	10.6%
		Disagree	363	24.6%
		Undecided	334	22.6%
		Agree	437	29.6%
		Strongly Agree	187	12.7%
18	Lack of alignment between technology, curriculum, and instruction	Strongly Disagree	155	10.5%
		Disagree	322	21.8%
		Undecided	337	22.8%
		Agree	491	33.2%
		Strongly Agree	173	11.7%
19	Teachers' reluctance to use new technologies	Strongly Disagree	157	10.6%
		Disagree	293	19.8%
		Undecided	381	25.8%
		Agree	478	32.3%
		Strongly Agree	169	11.4%
20	Political influence in educational institutions	Strongly Disagree	155	10.5%
		Disagree	278	18.8%
		Undecided	365	24.7%
		Agree	484	32.7%
		Strongly Agree	196	13.3%

Note: N=1478

Table 2 depicts the statements, responses, frequency and percentage of problems being faced by the stakeholders while using digital media in higher education. The results show that:

1. 15.9% of stakeholders 'strongly disagree' with the statement "lack of knowledge about different digital media" while 23.2% of them 'disagree', 17.5% are 'undecided', 35.2% 'agreed' and 8.3% 'strongly agree' with the given statement.
2. 12.6% of stakeholders 'strongly disagree' with the statement "lack of ICT skills", while 22.8% of them 'disagree', 21.0% are 'undecided', 34.0% 'agree' and 9.6% 'strongly agree' with the given statement.
3. 13.3% of stakeholders 'strongly disagree' with the statement 'non-availability of technological gadgets', while 23.8% of them 'disagree', 19.8% are 'undecided', 32.9% 'agree' and 10.1% 'strongly agree' with the given statement.
4. 12.2% of stakeholders 'strongly disagree' with the statement 'poor internet connectivity', while 20.0% of them 'disagree', 13.2% are 'undecided', 34.9% 'agree' and 19.6% 'strongly agree' with the given statement.
5. 11.5% of stakeholders 'strongly disagree' with the statement 'non-friendly nature of digital media tools', while 23.9% of them 'disagree', 21.2% are 'undecided', 32.5% 'agree' and 11.0% 'strongly agree' with the given statement.

6. 9.6% of stakeholders 'strongly disagree' with the statement 'lack of dedicated time', while 24.3% of them 'disagree', 21.3% are 'undecided', 33.5% 'agree' and 11.3% 'strongly agree' with the given statement.

7. 11.0% of stakeholders 'strongly disagree' with the statement 'frequent power failure', while 20.3% of them 'disagree', 21.0% are 'undecided', 33.2% 'agree' and 14.5% 'strongly agree' with the given statement.

8. 12.5% of stakeholders 'strongly disagree' with the statement 'lack of support', while 24.0% of them 'disagree', 19.8% are 'undecided', 31.5% 'agree' and 12.3% 'strongly agree' with the given statement.

9. 8.7% of stakeholders 'strongly disagree' with the statement 'shift from one media to another', while 17.7% of them 'disagree', 24.6% are 'undecided', 38.4% 'agree' and 10.6% 'strongly agree' with the given statement.

10. 7.6% of stakeholders 'strongly disagree' with the statement that there is 'digital divide', while 14.8% of them 'disagree', 31.9% are 'undecided', 34.4% 'agree' and 11.2% 'strongly agree' with the given statement.

11. 8.3% of stakeholders 'strongly disagree' with the statement 'affordability of media tools and devices', while 15.6% of them 'disagree', 22.1% are 'undecided', 40.9% 'agree' and 13.2% 'strongly agree' with the given statement.

12. 7.2% of stakeholders 'strongly disagree' with the statement 'excessive information on media', while 13.9% of them 'disagree', 18.9% are 'undecided', 46.1% 'agree' and 13.9% 'strongly agree' with the given statement.

13. 7.1% of stakeholders 'strongly disagree' with the statement 'non- indigenous nature of digital media', while 16.3% of them 'disagree', 32.6% are 'undecided', 34.0% 'agree' and 10.0% 'strongly agree' with the given statement.

14. 14.4% of stakeholders 'strongly disagree' with the statement 'Lack of self-motivation', while 25.10% of them 'disagree', 16.4% are 'undecided', 32.3% 'agree' and 11.4% 'strongly agree' with the given statement.

15. 11.0% of stakeholders 'strongly disagree' with the statement 'lack of real/effective collaboration with others', while 20.9% of them 'disagree', 21.7% are 'undecided', 34.8% 'agree' and 11.6% 'strongly agree' with the given statement.

16. 10.0% of stakeholders 'strongly disagree' with the statement 'lack of genuine software/economic/low cost hardware', while 19.6% of them 'disagree', 23.6% are 'undecided', 34.2% 'agree' and 12.6% 'strongly agree' with the given statement.

17. 10.6% of stakeholders 'strongly disagree' with the statement 'poor or no administrative support', while 24.6% of them 'disagree', 22.6% are 'undecided', 29.6% 'agree' and 12.7% 'strongly agree' with the given statement.

18. 10.5% of stakeholders 'strongly disagree' with the statement 'lack of alignment between technology', while curriculum, and instruction, 21.8% of them 'disagree', 22.8% are 'undecided', 33.2% 'agree' and 11.7% 'strongly agree' with the given statement.

19. 10.6% of stakeholders 'strongly disagree' with the statement 'teachers' reluctance to use new technologies', while 19.8% of them 'disagree', 25.8% are 'undecided', 32.3% 'agree' and 11.4% 'strongly agree' with the given statement.

20. 10.5% of stakeholders 'strongly disagree' with the statement 'political influence in educational institutions', while 18.8% of them 'disagree', 24.7% are 'undecided', 32.7% 'agree' and 13.3% 'strongly agree' with the given statement.

Thus, lack of knowledge, skills, poor internet speed, shift from one media to other, affordability of devices, accessibility of information, lack of effective collaborations, teacher's reluctance and political influence on institutions are the problem which are currently being faced by more than 50% of the stakeholders.

5. Conclusions and Discussion of the Study

It can be concluded from the results that:

1) There is high level of awareness among different stakeholders in higher education about digital media initiatives. The result is similar to the study conducted by Suveerapandiyan and Ahamed (2020) and Mohile (2021) that stakeholders had appropriate awareness about various digital media initiatives.

2) Most of the stakeholders use mobile phones as a digital gadget for teaching and learning activities. Same result was found by Bernard et al. (2013) that most of the stakeholders used mobile phone for their teaching-learning activities because mobile phone is easily accessible to all as compared to laptop, tablet, and desktop.

3) Google Meet and Google Classroom are the most used platforms for synchronous teaching-learning activities by stakeholders because most of the institutions use these platforms for their teaching-learning activities.

4) Jio as an internet service provider is used to a greater extent by different stakeholders for online teaching because it has cheaper data plans and has good internet services.

5) Out of the digital media platforms, YouTube is the mostly accessible and used platform by the stakeholders for teaching and learning process because all the android phones have an in-built app of YouTube which is cost-effective whereas other apps like SWAYAM, Slide Share, Mendeley need to be download in phones and requires subscription also which is not affordable for all stakeholders.

6) The stakeholders face a number of problems while using digital media in higher education. Lack of knowledge, skills, poor internet speed, shift from one media to other, affordability of devices, accessibility of information, lack of effective collaborations, teacher's reluctance sometimes and political influence on institutions are the problem which are currently being faced by more than 50% of the stakeholders. Identical result was found by Ghavifekr et al. (2016).

5.1 Educational Implications of the Study

1) The obtained result indicates that stakeholders have high level of awareness about digital media initiatives. With the change in time, new technologies are being introduced in the education system. So, it the foremost duty of the government and policy makers to organise time-to-time workshops, seminars and orientation programmes related to new digital media. It is also important for the teachers and administrators to motivate students to use different digital platforms for their teaching-learning process.

2) The obtained result indicates that most of the stakeholders use only mobile phone for their teaching-learning activities. So, government should provide different digital gadgets (laptop, desktop, tablets etc.) to various institutions so that these can be easily made accessible to various stakeholders.

3) Results of the study revealed that stakeholders face many problems while using digital media. The government and other private organisations should provide technological gadgets, proper internet connectivity, and proper support to the stakeholders and also resolves the issue of frequent power failure.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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