PERCEPTIONS OF HEI'S STUDENTS TOWARDS E-LEARNING - AN EMPIRICAL ANALYSIS

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Abstract
Online Learning plays a significant role in the modern education sector. By this students can attend virtual classes anywhere and anytime. It is a method that helps listen to audio recordings of while doing travel, workout etc. This study is undertaken to identify the perceptions of students towards e-learning and received study material and to give recommendations. It is observed that majority of respondents (students) are interested in e-learning by using smart phones and Google Meet app for e-learning. This study recommended that all the universities/institutions should provide e-learning platforms for all courses and also Government should sanction budget to all universities/institutions for organize seminars and workshops for teachers and students regarding training of digital technologies/platforms.
Keywords: Online Learning, Digital Platforms, Study material.

Introduction

India is a developing nation in the world. So, the only possible way of educational prosperity can be lifted from developing nations to developed nations in the world. It is true that Education must influence every citizen of India. Every person nowadays gets educational opportunities in schools and colleges. It is only possible when a school provides attractive and modern teaching methods and techniques for students' learning without stagnation and wastage. [Balachandran, P. & Saravanakumar, A., 2020]

Digital Education is the innovative use of digital tools like Google Meet, Zoom, Google classroom etc., during teaching and learning. It is referred to as Technology Enhanced Learning (TEL) or E-learning.

It is a method of learning which involves technology and digital devices. This is a new and broad technical scope which shall help any student attain knowledge and gain information from any corner across the country. So, we can say that Digital Education in India is the future of education and learning.

E-Learning/Online Learning

Online learning is necessary for this 21st century learners without online teaching is unbelievable success in this recent education sector. Internet and education are inseparable terms. Teaching can become more successful and students can be benefitted in all fields only through internet knowledge. [Sridevi, S., 2022]

The Ministry of Human Resource Development (presently it is known as Ministry of

Education) has launched various e-learning projects and initiatives that serve as valuable resources for both students and educators. Union Minister of Finance and Corporate Affairs, in her national address on 17th May, 2020 announced the launch of the PM e-VIDYA initiative, a program that would serve as a unifier of all modes (online, digital, on-air) of education in the country to enable equitable multi-mode access to education.

Review of Studies

Baruah & Mohalik (2022) This study is based on primary data and sample consists of four Teacher Education Institutions (TEIs), twenty Teacher Educators (TE) and eighty Trainees selected randomly from TEIs affiliated to Guwahati University of Assam, India. The study found that 75% of TEIs have digital cameras, projectors, scanners, power backup and routers but no TEI has a smart classroom. Majority 19(95%) teacher educators sometimes use video clips, 18(90%) share online study material with students, 17(85%) sometimes use ICT for reading e-books, 19(95%) and 18(90%) teacher educators never use any mobile applications and different online libraries. [3]

Jena (2022) The objective of this study was to understand the effectiveness of online support services. In this study an online survey with the help of Google form was conducted among learners, coordinators, and counselors of Indira Gandhi National Open University (IGNOU) during the lockdown period for Covid-19. The study found that about 88% of learners prefer online mode of admission but only 17% of learners prefer a soft copy of the study materials. [8]

Priya et al. (2022) This study examined the core effect of online education on the attention and concentration among the college and school students. Simple percentage distribution was used to assess the level of concentration and attention. A group of two hundred eighty young students from class 2nd to 8th of School and one hundred two students from college selected as sample. The questionnaire is developed on Google forms and sent to the students via emails and Whatsapp after collection of the data descriptive statistics will apply for analyzing final results. The result showed that 59% of the students' was very less attentive in online classes, 77% students prefer face to face learning over online education, 53% students prefer zoom and 67% students reported the network issues while attending the online classes. [14]

Sundararasan & Ganesan (2022) The objective of this study was to reveal the various forms of online learning and teaching ways, to study the perceptions of faculties and student teachers on online learning and teaching and also examine the challenges faced by the faculties and student teachers in adapting to the online learning and teaching process during Covid-19 pandemic. Total seventy five faculty members and three hundred thirty nine student teachers participated as a sample in a descriptive survey and found that 31% of teachers using Google classroom and 44% teachers using Zoom/ Life size/Cisco WebEx/Google Meet/Skype platform for taking online classes. 49% of faculties recorded their lectures on YouTube as teaching through online mode. [17]

Boca (2021) This paper presented a survey about students behavior and attitudes towards online education in the pandemic period from the Technical University of Cluj Napoca, Romania. In this study, a group of three hundred students participated and 41.7% of students appreciated the teachers' teaching skills and the quality of online courses since the beginning of the pandemic and 18.7% percent of the students appreciated the additional online materials for study to support their education. [4]

Goswami et al. (2021) This study attempted to explore the impact of online learning introduced as a stop-gap arrangement during the pandemic in India and survey was conducted of two hundred eighty nine students of higher education. The study revealed that the majority 153(52.94%) respondents were using Zoom for learning. 122(42.21%) students strongly agreed and 124(42.91%) agreed with the statement that hands-on experience in a physical classroom may not work in an online mode, 221(76.47%) respondents want that future of learning will be in blended mode and 257(88.93%) respondents suggested that the government should provide high-quality video conferencing facilities free to students to mitigate the division created by online education in an already divided society. [7]

Muthuprasad et al. (2021) The present study focused on understanding Agricultural Student's perception and preference towards online learning through an online survey of three hundred seven agricultural graduates from different universities of National Agricultural Research System (NARS) which includes 136 Under Graduates, 84 Postgraduates and 87 students pursuing their Ph.D. The results indicated that the majority 57.98% respondents preferred to use smartphones for online learning, 84.36% respondents used video content supplemented with reading material and 50% of the respondents agree with the statement online learning improves their technical skills as compared to face-face classes. The study revealed that in an agricultural education system where many courses are practical oriented, shifting completely to online mode may not be possible and need to devise a hybrid mode, the insights from this article can be helpful in designing the curriculum for the new normal. [12]

Naik et al. (2021) The present study highlighted the online education during COVID - 19 pandemic. This study took the sample of eight hundred seventy four respondents, among them 81.7% were students, 13.8% were faculties and remaining were professionals/general public. Out of 874 responses, 754 (86.27%) have responded with their preference given to traditional in-class face-to-face learning and 120 (13.73%) respondents recommended for online teaching and majority 714(81.69%) among them were using the Zoom app for online classes and 72.4% participants feel that it affected the individual growth and 22.4% feel unaffected. [13]

Ebaid (2020) The aim of this study was to discover accounting students' opinions of e-learning, which was applied as an alternative to the traditional education system in Saudi universities during the Covid-19 pandemic. The study found that the majority 63(59.4 %) respondents were between 20 and 25 years old, 72(67.9%) respondents have low experience in using e-learning, 40(37.7%) respondents agreed that the use of e-learning has increased flexibility in their study of accounting courses and 72(68%) respondents viewed that working with e-learning does not give the real contact between student and teacher. [6]

Kannadhasan et al. (2020) This study discussed E-Learning System, Internet, Synchronous & Asynchronous Learning and Higher Education. It was dedicated to the issue of re-imagining higher education as higher education in India today needs drastic reform. This study took a sample of 500 students and 200(40%) respondents believed that high quality learning can take place without face-to-face interaction while 250(50%) responded learning is the same in the class and at home on the internet. [9]

Mishra et al. (2020) The objective of this study was to reveal the various forms of online teaching-learning modes adopted during COVID-19 pandemic, study the perceptions of teachers and students on online teaching learning and examine the challenges faced by the teachers and students in adapting to the online teaching-learning process during COVID-19

pandemic. In this study, seventy-eight faculty members and two hundred sixty students participated as a sample in a descriptive survey to assess their perception towards online teaching learning and found that 32% of teachers using Google classroom and 45% teachers using Zoom/Cisco WebEx/Google Meet/Skype platform for taking online classes, but the recipient students were found only 20% and 15% respectively. Moreover, the major challenge while teaching online was the unstable network connection. [11]

Radha et al. (2020) The aim of this research paper was to know the global trend of using E-learning resources among students, to identify the interest and attitude of students towards using E-learning resources across the world and to suggest prospects in using E-learning resources by students across the world. This study was based on primary data and the data have been collected from undergraduate students, online questionnaire through Google Forms has been prepared for collecting data and only one hundred seventy five samples were analyzed. The study found that 144(82.29%) students reported their willingness to learn e-resources, only 39(22.29%) students prefer e-learning while 136(77.71%) of them prefer classroom learning. Around 90 percent of students were opined that e-learning is significantly playing a major role in social change in India, 94(53.71%) of students were preferred mobile phones for e-learning, followed by Laptop 53(30.29%), and remaining students mostly prefer Laptop & Mobile 13(7.43%), Laptop, Mobile and Desktop 5(2.86%) respectively and 67(38.29%) students were learning through Zoom app while 44(25.14%) of students were accessing learning materials through Google Classroom. [15]

Burac et al. (2019) The main purpose of this study was to evaluate the learner's perception of the frequency and nature of use of e-learning, Instructors satisfaction with access to e-learning resources and Instructors views on the impact of e-learning on learners' experiences of higher education. The respondents of the study came from the seventeen instructors and eighty students of different schools and study found that 94% of the respondents strongly agreed that e-learning provides flexibility in the learning process, 81% have a strong belief that e-learning helps students better understand their lessons, improve how staff communicate with learners and save lecturers time by using online resources. [5]

Mbabazi et al. (2018) This study explored the factors that are hindering the use of Mobile devices for learning. A total population of 331 students was considered and sample size of 181 was obtained using Krejcie and Morgan tables. The study used the stratified sampling to collect data from each stratum and data was analyzed using SPSS Version 20. The reliability of the data collected was tested using the Cronbach's reliability test coefficient where the overall value of all the options was on average 0.67 which was beyond recommended Cronbach's Alpha coefficient values 0.6 for an instrument to be declared reliable. The study found that majority 125(78.6%) respondents were male, 71(44.7%) respondents were offering Bachelor of Information Systems, 90(56.6%) respondents use Smart phones, 67(42.1%) use Laptops and only 2(1.3%) use Kindle in the Lecture Room. Regarding negative effects of mobile devices during lectures, 152(95.59%) responded that network connection issues while 154(96.85%) responded that lack of mobile devices. [10]

Research Gap

From the review of previous studies, the present study found that it has not been associated with corresponding advances in the preparation of educators to teach online, in pedagogy for online learning, or in other efforts directed toward improved learning outcomes.

Research Questions

● What are the perceptions of students' of universities/institutions regarding prefer application tools and different digital devices for e-learning?

● How satisfied are students of universities/institutions with the received study material and online teaching?

Research Methodology

The objective of study is to identify the perceptions of students towards e-learning and give recommendations. The present study is descriptive as well as empirical in nature and it is related to primary and secondary data which is collected with the help of well drafted and pre-tested questionnaires by google forms and direct personal interview. This study took a sample of 900 students of universities/institutions from four districts of malwa belt of Punjab viz Mohali, Ludhiana, Rupnagar and Fatehgarh Sahib based on Literacy rate (According to census, 2011) with multi-stage sampling technique. The forms were sent through email and whatsapp and each recipient as well as respondent was requested to share the form widely among their peers. The researcher went to various universities/institutions for the data collection in working hours. Perceptions of students is evaluated with the help of various scaling techniques like two labels of nominal scale such as Yes/No, ordinal scale such as Always/Sometimes/Never, continuous rating scale such as completely satisfied/somewhat satisfied/ somewhat dissatisfied/completely dissatisfied/no opinion.

Data Analysis

The analysis covers the demographic profile of the respondents and their perceptions regarding accessibility of digital education. The respondents are distributed on the basis of gender, type of institution, programme and age.

Table-1

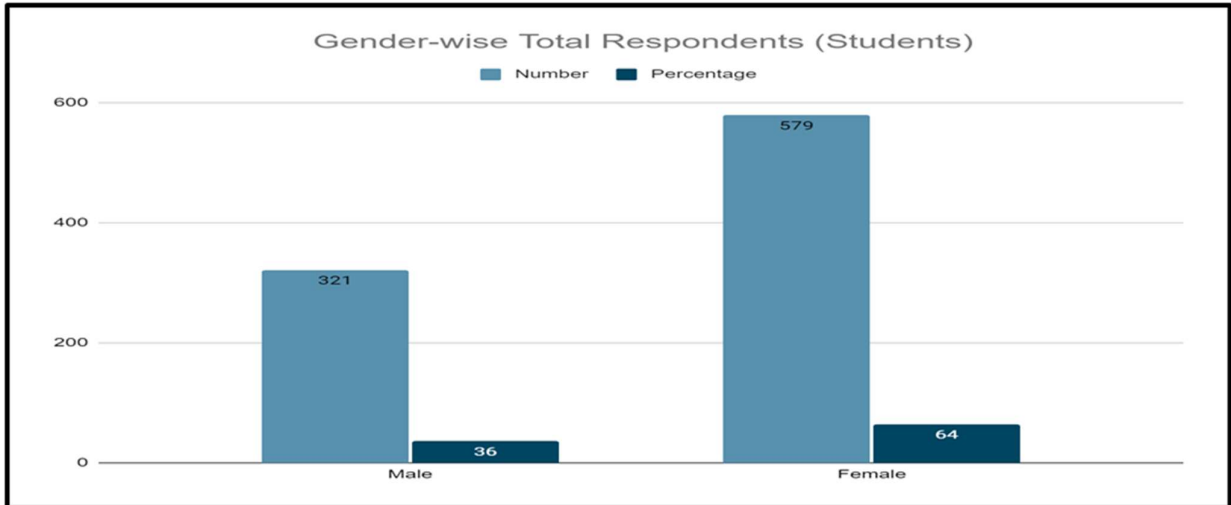**Distribution of the Total Respondents (Students) on the basis of Gender**

Gender/Number of Respondents	Total N = 900 (100%)	
	N	%
Male	321	36
Female	579	64
Total	900	100

Source: Primary Survey

Table-1 and Figure-1 indicates the distribution of respondents (students) on the basis of gender. The received responses of females are higher than responses of males; female responses are 579(64%) while male responses are 321(36%) respectively.

Figure-1

Gender-wise Respondents (Students)

Gender-wise Total Respondents (Students)

Source: Primary Survey

Table-2

Distribution of the Respondents (Students) on the basis of Programme

Programme/Number of Respondents	Total N = 900 (100%)	
	N	%
BBA	2	0.22
MBA	4	0.44
B.Com	34	3.77
M.Com	4	0.44
B.Tech	129	14.3
M.Tech	4	0.44
BCA	82	9.11
MCA	17	1.88
B.Sc IT	1	0.11
PGDCA	4	0.44
B.A	316	35.1
M.A	21	2.33
B.Ed	159	17.7
M.Ed	1	0.11
B.Pharmacy	2	0.22
DOTT	1	0.11
B.Sc Medical & Non-Medical	20	2.22
BALLB (H)	26	2.88
LLB	16	1.77
LLM	3	0.33
B.Sc HM	25	2.77
M.Sc HM	8	0.88

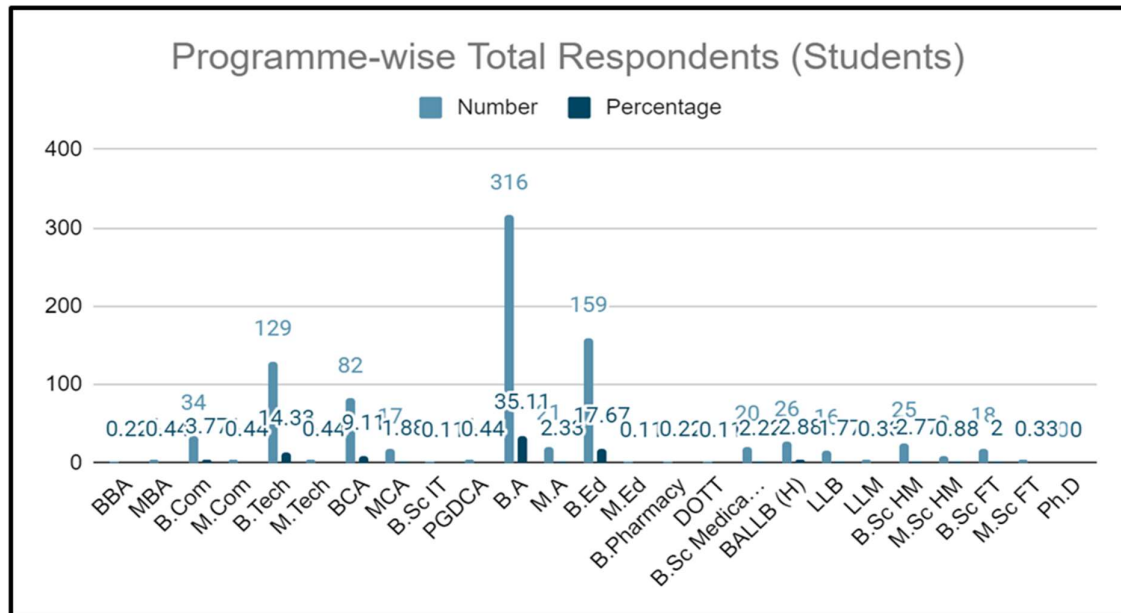|		
B.Sc FT	18	2
M.Sc FT	3	0.33
Ph.D	0	0
Total	900	100

Source: Primary Survey

With regards to the Programme of respondents, it is evident from Table-2 that majority of respondents belong to the Programme B.A. that are 316(35.11%) and no respondent of Ph. D.

Figure-2

Programme-wise Respondents (Students)
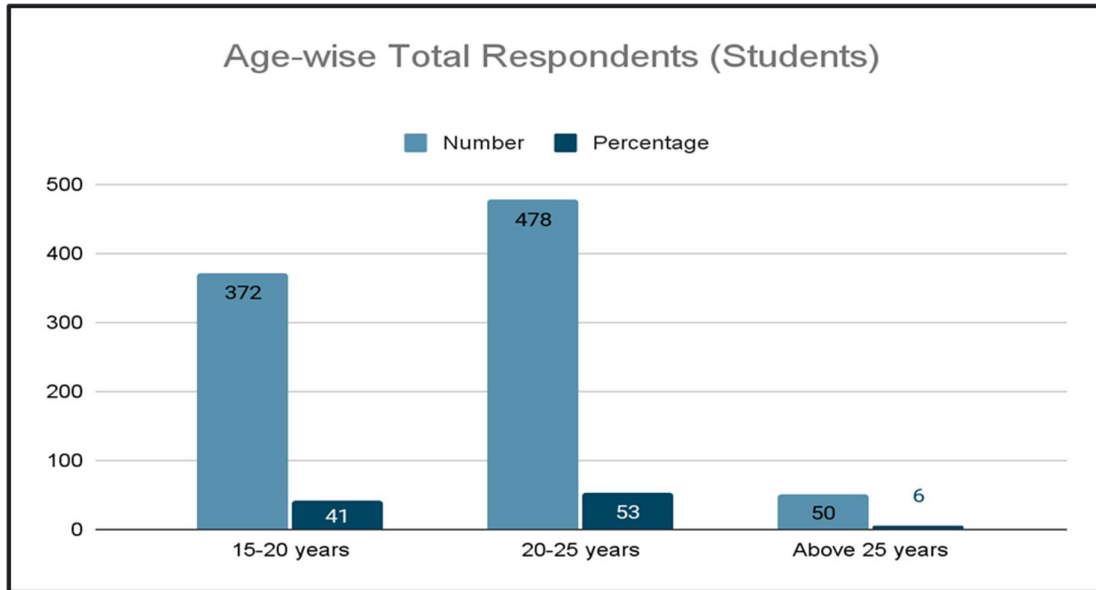

Source: Primary Survey

Table-3

Distribution of the Respondents (Students) on the basis of Age

Age /Number of Respondents	Total N = 900 (100%)	
	N	%
15-20 years	372	41
20-25 years	478	53
Above 25 years	50	6
Total	900	100

Source: Primary Survey

Table-3 and Figure-3 shows the majority of total respondents are from the age group 20-25 years that are 478(53%) followed by 372(41%) in the age group 15-20 years and only 50(6%) are in the age group of above 25 years.

Figure-3

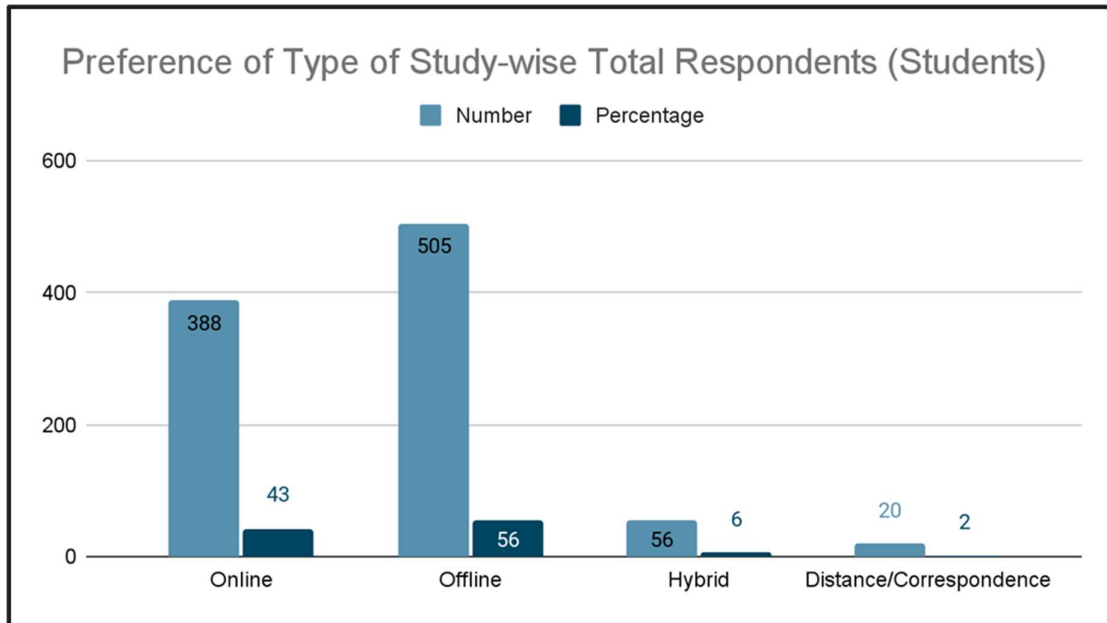Age-wise Respondents (Students)

Source: Primary Survey

Table-4

Distribution of the Respondents (Students) on the basis of Preference of Type of Study

Preference of Type of Study/Number of Respondents	Total N = 900 (100%)	
	N	**%**
Online	388	43
Offline	505	56
Hybrid	56	6
Distance/ Correspondence	20	2

Source: Primary Survey

Figure-4

Preference of Type of Study-wise Total Respondents (Students)

Source: Primary Survey

The Table-4 and Figure-4 indicates that 388(43%) respondents prefer online study, majority of the respondents 505(56%) prefer offline study, 56(6%) prefer hybrid and only 20(2%) respondents prefer distance/correspondence study.

Table-5
Distribution of the Respondents (Students) on the basis of Preference of application tool for e-learning

Preference of application tool/Number of Respondents	Total N = 900 (100%)	
	N	%
Zoom	214	24
Google Meet	772	86
Microsoft Teams	51	6
Cisco Webex Teams	18	2
Amazon Chime	10	1

Source: Primary Survey

The Table-5 and Figure-5 indicates the Preference of application tool for e-learning-wise Total Respondents (Students). It is observed that the maximum 772(86%) respondents prefer Google Meet, 214(24%) prefer Zoom, 51(6%) prefer Microsoft Teams, 18(2%) prefer Cisco Webex Teams and 10(1%) respondents prefer Amazon Chime application tool for e-learning.

Figure-5
Preference of application tool for e-learning-wise Total Respondents (Students)

Preference of application tool for e-learning-wise Total Respondents (Students)
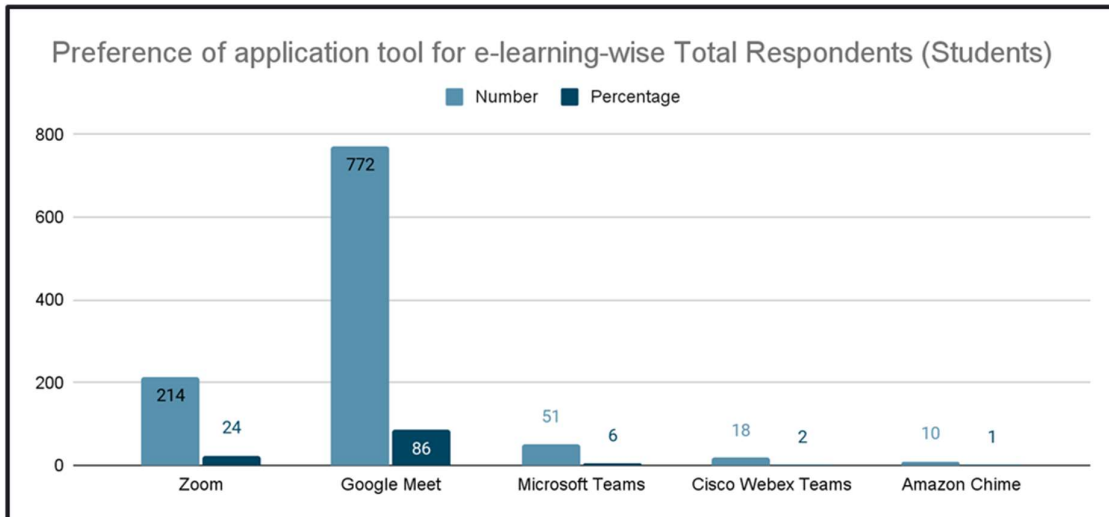
Source: Primary Survey

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Table-6

Distribution of the Respondents (Students) on the basis of Frequency of use of different digital devices for learning

Frequency of use of digital devices/Number of Respondents	Total N = 900 (100%)		
	1	2	3
Official Desktop Computer	162	262	139
University Laboratory Computers	112	250	170
Personal Laptop	259	213	117
Smart Phone	599	143	13
CD/DVD	59	215	214
Flash Drive	78	199	214
Multimedia Projector	106	242	152
University /Institution Learner Management System (LMS)	129	228	157
Smart Board/Smart Screen	166	218	135

Source: Primary Survey

The Table-6 and Figure-6 indicates a maximum of 599(66.55%) respondents always use smart phones while 117(13%) respondents never use personal laptops for learning.

Figure-6

Frequency of use of different digital devices for learning-wise Total Respondents (Students)
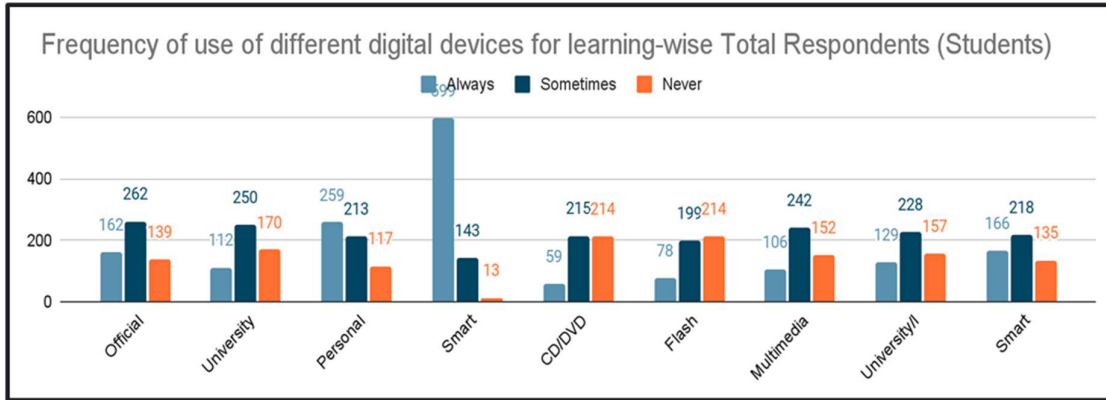
Source: Primary Survey

The Table-7 revealed that Distribution of the Respondents (Students) on the basis of satisfaction with received study material and online teaching. On the basis of this table, it is noticed that the majority of the respondents are completely satisfied.

Table-7

Distribution of the Respondents (Students) on the basis of satisfaction with received study material and online teaching

Descriptions/ Number of Respondents	Mohali N = 69 (100%)		Ludhiana N = 118 (100%)		Roopnagar N = 322 (100%)		Fatehgarh Sahib N = 391 (100%)		Total N = 900 (100%)	
	N	%	N	%	N	%	N	%	N	%
Completely satisfied	37	54	53	45	142	44	182	47	414	46
Somewhat satisfied	28	41	52	44	88	27	129	33	297	33
Somewhat dissatisfied	4	6	9	8	26	8	24	6	63	7
Completely dissatisfied	1	1	5	4	23	7	22	6	51	6
No Opinion	2	3	5	4	47	15	39	10	93	10

Source: Primary Survey

Figure-7

Satisfaction with received study material and online teaching-wise Total Respondents (Students)
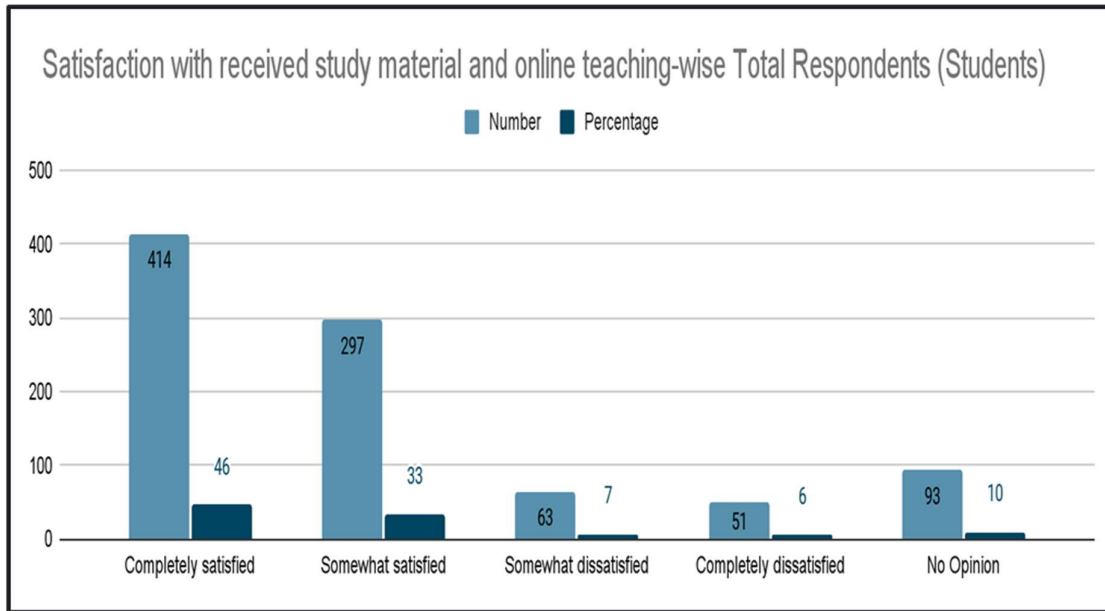
Source: Primary Survey

The Figure-7 shows the satisfaction with received study material and online teaching-wise Total respondents (students) of four districts. It indicates that a maximum of 414(46%) respondents are completely satisfied with receiving study material and online teaching and 297(33%) respondents are somewhat satisfied.

Findings related to Respondents (Students) on the Basis of Demographic Profile

● Gender-wise, responses of females are higher than responses of males. Female responses are 579(64%) while responses of males are 321(36%) respectively.

● Programme-wise, majority of 316(35.11%) respondents from Bachelor of Arts (B.A) Programme, 159(17.67%) respondents from Bachelor of Education (B.Ed) Programme and 129(14.33%) respondents from Bachelor of Technology (B.Tech.).

● Age-wise, 372(41%) respondents belonged to the age group of 15-20 years, majority 478(53%) respondents aged between 20-25 years and only 50(6%) respondents belonged to the age group of above 25 years.

Findings related to Perceptions of Respondents (Students) towards e-learning and received study material

● Type of study-wise, 388(43%) respondents prefer online study followed by maximum 505(56%) respondents prefer offline, 56(6%) respondents prefer hybrid study and very less 20(2%) respondents prefer distance/correspondence study.

● Type of application tool-wise, 214(24%) respondents prefer Zoom, majority 772(86%) respondents prefer Google Meet app followed by 51(6%) respondents prefer Microsoft Teams, 18(2%) respondents prefer Cisco Webex Teams app while only 10(1%) respondents prefer Amazon Chime application tool for e-learning. It has been observed that maximum respondents (students) are not aware about Cisco Webex Teams and Amazon Chime application tool.

● On the basis of use of official desktop computers for learning, 162(18%) respondents always use official desktop computers, majority 262(29.11%) respondents use it sometimes and 139(15.44%) respondents do not use official desktop computers for learning.

● It is found that 112(12.44%) respondents always use university laboratory computers

for learning, maximum 250(27.77%) respondents use them sometimes and 170(18.88%) respondents never use university laboratory computers for learning.

● Maximum 259(28.77%) respondents always use personal laptops for learning, 213(23.66%) use it sometimes and only 117(13%) respondents do not use personal laptops for learning.

● It has been observed that a maximum of 599(66.55%) respondents always use smart phones for learning, 143(15.88%) respondents use them sometimes while 13(1.44%) respondents never use smartphones for learning.

● Few 59(6.55%) respondents always use CD/DVD for learning, 215(23.88%) sometimes use while 214(23.77%) respondents do not use CD/DVD for learning.

● It is noticed that only 78(8.66%) respondents always use Flash Drive, 199(22.11%) respondents sometimes use and maximum 214(23.77%) respondents do not use Flash Drive for learning.

● Only 106(11.77%) respondents always use multimedia projector for learning, 242(26.88%) use it sometimes and 152(16.88%) respondents never use it for learning.

● It is found that 129(14.33%) respondents always use university/institution Learner Management System (LMS), majority 228(25.33%) respondents use it sometimes and 157(17.44%) respondents never use University/Institution Learner Management System (LMS) for learning.

● Regarding Smart Board/Smart Screen 166(18.44%) respondents always use it for learning, 218(24.22%) respond use sometimes and 135(15%) respondents never use it.

● On the basis of satisfaction with received study material and online teaching, It is obvious that 414(46%) respondents are completely satisfied, 297(33%) respondents are somewhat satisfied, 63(7%) respondents are somewhat dissatisfied, 51(6%) respond that they are completely dissatisfied while 93(10%) respond no opinion regarding satisfaction with received study material and online teaching.

Recommendations for Universities/Institutions

● All the universities/institutions should organize programmes for guidance to students and teachers about digital application tools/platforms,

● All the universities/institutions should provide computers to teachers and students for online teaching and learning,

● All the universities/institutions should provide e-learning platforms for all courses,

● All the universities/institutions should have multimedia teaching tools to teachers and students and utilize smart classroom equipments such as virtual classroom, digital board, digital content in the form of PPT, PDF and Word file, etc.,

● All the universities/institutions should have all equipments should be in working conditions,

● All the universities/institutions should provide online library resources to students,

● All the universities/institutions should organize programmes for guidance to use of online library resources and

● All the universities/institutions should upload the recorded videos of class teachers on websites of their universities/institutions, it is helpful to the students to rewatch for clarify their doubts.

Recommendations for Teachers of Universities/Institutions

● All the teachers of universities/institutions should make efforts to motivate students for use different digital technologies,

● All the teachers of universities/institutions should provide Learner Management System (LMS) to students and

● All the teachers of universities/institutions should be highly skilled so that they should give their best to help support innovative ideas in students and to make teaching-learning more effective.

Recommendations for Students of Universities/Institutions

● All the students of universities/institutions should use the different digital technologies/platforms for search of study material and

● All the students of universities/institutions should take interest to learn new digital technologies/platforms.

Recommendations for Government regarding Universities/Institutions

● Government should sanction budget to all universities/institutions for organize seminars and workshops for teachers and students regarding training of digital technologies, to use of online library resources etc.,

● Government should sanction budget to all universities/institutions for develop digital classrooms by integrating education systems and technology, to boost their ICT facilities and other learning management systems,

● Government should make efforts on specialized courses so that educators can acquire enough knowledge on how to use various digital devices and platforms and Pedagogy courses to enable them to run online classes and assess learners in the modern way. Local platforms created must be easy for both the students and teachers and

● Government should sanction budget to all universities/institutions regarding projects or case studies related to digital education.

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