



STUDY ON USE OF VIRTUAL AND COLLABORATIVE EDUCATIONAL TOOLS AMONG COLLEGE STUDENTS

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ABSTRACT

The life in digital era necessitates digital transformation of education and teaching learning experiences. The technology of virtual reality and collaboration on digital platforms brings a drastic change in mind set of student community. The study explored the level of utilisation of virtual and collaborative educational tools among college students. The study conducted on 190 graduate and post graduate students taken from government and private colleges. The tool used for the study is the Utilization Virtual and Collaborative Educational Tools Inventory developed by the researcher which have 25 questions from five dimensions i.e. Social media educational tools, Virtual Multi-Media Archives, Online interactive Platforms, M-learning resources and University Digital Resources. It is four Point-Scale showing the options 'Always', 'Frequently', 'Rarely' and 'Not at all'. The statistical techniques used for the study M, Standard Deviation and t-test. The result of the study revealed that there is significant difference in the utilization of virtual and collaborative educational tools among college students based on gender, type of college and stream of subject. Male college students showed higher level of utilization of virtual and collaborative educational tools among college students than their counterpart and it is also found that utilization of virtual and collaborative educational tools among science student is higher than their counterpart and utilization of virtual and collaborative educational tools students from government colleges is higher than their counterpart. It is also revealed that there is no significant difference in utilization of virtual and collaborative educational tools among female students from government and private colleges and no significant difference found among students of arts from government and private. Post graduate students have higher level of utilization of virtual and collaborative educational tools than graduate students. The study recommends some initiatives to be taken the educational authorities to motivate and encourage the students of higher education to maximize their digital exposure ensuring quality education.



KEY WORDS : Digital learning, Virtual learning technology, Online educational collaborative tools and Higher education.

INTRODUCTION

The quality of every education system greatly depends upon its capabilities to update timely and modify in accordance with new trends and waves. It will be curse to the society and nation if the educational methodologies tempted to be stick on traditional and rigid ways of teaching and learning. Various education commission India recommend need for paradigm shift in educational activities as per the current trends in the society. Information and communication technology is vital source for renovation of teaching and

learning activities especially it enhances the quality of higher education. The advent of virtual reality technology and its effective application in educational scenario brings a drastic change in the perspectives of knowledge management.

It is evident that nowadays one of criteria to ensure the quality and productivity of education is the level of interaction gap between 'digital natives' and 'digital immigrants' as the widening gap poses some critical issues in updating and upgrading education system as per the digital trends. Online interactive and collaborative learning tools especially from web 2.0 educational tools and resources greatly helps the students to enrich their knowledge exposure. (Mason & Rennie 2008), Mc Carroll & Curran 2013). The virtual and collaborative learning such as social media educational tools, asynchronous multimedia archives, synchronous collaborative tools like Doogole Drive, Edmodo, Padlet and other Wiki Spaces etc. and Mobile mediated learning helps maximise the learning exposure and knowledge experience of students of higher education (Rajesh & Michael 2015, Bates, & Martin 2013, Cheon, , Lee, Crooks, & Song, 2012, Cain & Policastri 2011).

RATIONAL FOR THE STUDY

The higher education system of India is the third largest in the world after United States and China. The report of All India Survey of Higher Education 2015-16 shows that the higher education system of India has a total, number of 799 universities which consisted as 44 central universities, 540 state universities, 122 deemed to be universities, 277 private universities, 5 institutions established and functioning under the State Act, and 75 Institutes of National Importance which include AIIMS, IITs and NITs and 39,071 Government Degree and Private Degree Colleges across India including 1800 exclusive women's colleges and India has universities with general nature 459 ,Technical-101, Agriculture & Allied-64 Medical - 50 Law -20, Sanskrit -11 and 7 Language Universities. (AISHE 2015-16). It is very pathetic that though India has such large system of higher education, there is no institution in India which has bagged a world rank under 200 as per Times Higher Education World University Rankings-2018 and it also reported that only two Indian institutions come under best among 50 Asian educational institution.

The main issue regarding the poor functioning of Indian institutions are lack of implementing quality concerns. Availability of resourceful faculty is an important criterion to ensure the quality of an educational system and Indian education system greatly suffers from such dearth. The government of India now implemented many programmes especially in form digital exposure to learn and interact from the faculties from education institutions having a prestige and world level high rankings. It is expected from the student community of higher education to go out side the class room more than what they are exposed from the class room by online mode of teaching and learning. The universities itself provide many digital resources and access to digital interactive platforms to enrich their academic experience. Hence it is important to investigate the level of utilisation of virtual and collaborative educational tools among college students to assess how the digital learning material help then to maximise their learning exposure in and out of class rooms.

REVIEW OF RELATED STUDIES

Firdaus & Haridasan (2015) found that 92% of graduate engineering students use Internet as a chief source of information among web resources. The study reports that 86% use web resources for study and learning purposes while 72 % of students utilize it for keeping up with latest developments. Singh & Khan (2015) found that most students visited the web portals of libraries and the users preferred the electronic resources as compared to print materials. Rani & Chinnasamy (2014) found that users satisfaction of digital sources and ervices in Self-financing Colleges found that only 37.5% users made use of e-resources for study purpose. Dange, Girish, Savitha, Jogan, & Veenakumari (2013) found that the students have only low level of awareness and usage of digital information sources whereas the students showed an average level of awareness and usage of electronic and digital information services. Habiba & Chowdhury (2012) found

electronic journals and electronic books are utilised by the students for educational purposes. The study reported that there is moderate and satisfactory level of utilisation of digital tools and resources among students of higher education. Naude, Rensleigh & Toit (2010) found that students utilise web resources as a useful information resource and internet search engines as an effective retrieval tool for information for academic engagement and other research purposes.

OBJECTIVES OF THE STUDY

1. To find out the significant difference in the use of virtual and collaborative educational tools among government and private college students.
2. To find out the significant difference in the use of virtual and collaborative educational tools among male and female college students.
3. To find out the significant difference in the use of virtual and collaborative educational tools among arts and science college students.
4. To find out the significant difference in the use of virtual and collaborative educational tools among male students from government and private college.
5. To find out the significant difference in the use of virtual and collaborative educational tools among female students from government and private college.
6. To find out the significant difference in the use of virtual and collaborative educational tools among science students from government and private colleges.
7. To find out the significant difference in the use of virtual and collaborative educational tools among arts students from government and private colleges.
8. To find out the significant difference in the use of virtual and collaborative educational tools among post graduate and graduate students.

HYPOTHESES OF THE STUDY

1. There will not be significant difference in the use of virtual and collaborative educational tools among government and private college students.
2. There will be not be significant difference in the use of virtual and collaborative educational tools among male and female college students.
3. There will not be significant difference in the use of virtual and collaborative educational tools among arts and science college students.
4. There will not be significant difference in use of virtual and collaborative educational tools among male college students from government and private
5. There will not be significant difference in the use of virtual and collaborative educational tools among female college students from government and private
6. There will not be significant difference in the use of virtual and collaborative educational tools among science students from government and private colleges.
7. There will not be significant difference in the use of virtual and collaborative educational tools among arts students from government and private colleges.
8. There will not be significant difference in the use of virtual and collaborative educational tools among post graduate and graduate students.

METHODOLOGY

The population of the study consisted graduate and post graduate students from Malappuram district of Kerala, India. The sample selected for the study is 190 students from government and private colleges as 80 and 110 students from government and private colleges respectively. The sample is again divided as 84 students from science subjects and 106 students from arts subjects. The sample for the study was selected through stratified random sampling. The tool used for the study is the Utilization Virtual and

Collaborative Educational Tools Inventory developed by the researcher which have 25 questions from five dimensions i.e. Social media educational tools, Virtual Multi-Media Archives, Online interactive Platforms, M-learning resources and University Digital Resources. It is four Point-Scale showing the options 'Always', 'Frequently', 'Rarely' and 'Not at all'. The statistical techniques used for the study M, Standard Deviation and t-test.

DISCUSSION AND ANALYSIS

Table 1

Comparison of use of virtual and collaborative educational students among government and private college students

Name of Groups	N	Mean	SD	T-Value	Table value	level of Significance
Government College Students	80	58.27	8.67	2.72	2.56	0.01 level
Private College Students	110	54.66	9.29			

Table-1 shows that the mean score and standard deviation for uses of virtual and collaborative educational tools among government and private college students are 58.27, 8.67 and 54.66, 9.29 respectively. The calculated t- value is 2.72 which is greater than the table value at 0.01 level. It shows that there is significant difference in the use of virtual and collaborative learning tools among government and private college students as the use of the virtual and collaborative educational tools for educational purposes among government college students is higher than their counterpart. Hence the null hypothesis that stated there is no significant difference in use of virtual and collaborative educational tools among government and private college students is rejected.

Table 2

Comparison of use of virtual and collaborative educational students among male and female college students

Name of Groups	N	Mean	SD	T-Value	Table value	level of Significance
Male College Students	102	57.82	8.19	2.41	1.96	0.05
Female College Students	88	55.11	7.13			

It is evident from the Table-2 that the mean score and standard deviation for uses of virtual and collaborative educational tools among male and female college students are 57.82, 8.19 and 55.11, 7.13 respectively. The calculated t- value is 2.41 that is greater than the table value at 0.05 level. It shows that there is significant difference in the use of virtual and collaborative educational tools among male and female college students as the use of the virtual and collaborative educational tools for educational purposes among male college students is higher than their counterpart. Hence the null hypothesis that stated there is no significant difference in use of virtual and collaborative educational tools among male and female college students is rejected.

Table 3

Comparison of use of virtual and collaborative educational students among science and arts subjects

Name of Groups	N	Mean	SD	T-Value	Table value	level of Significance
College Students from	84	59.88	9.81	4.67	2.56	0.01

Science subject						
College Students from Arts subjects	106	53.05	10.16			

Table-3 shows that the mean score and standard deviation for uses of virtual and collaborative educational tools among science and arts college students are 59.88, 9.81 and 53.05, 10.16 respectively. The calculated t- value is 4.67 which is greater than the table value at 0.01 level. It shows that there is significant difference in the use of virtual and collaborative educational tools among science and arts college students as the use of the virtual and collaborative educational tools for educational purposes among science college students is higher than their counterpart. Hence the null hypothesis that stated there is no significant difference in use of virtual and collaborative educational tools among science and arts college students is rejected.

Table 4

Comparison of use of virtual and collaborative educational tools among male students from government and private colleges

Name of Groups	N	Mean	SD	T-Value	Table value	level of Significance
Male students from Government College	37	60.48	9.16	3.04	2.56	0.01 level
Male Students from Private College	65	55.16	8.06			

Table-4 shows that the mean score and standard deviation for uses of virtual and collaborative educational tools among male students from government and private colleges are 60.48, 9.16 and 55.16, 8.06 respectively. The calculated t- value is 3.04 which is greater than the table value at 0.05 level. It shows that there is significant difference in the use of virtual and collaborative educational tools among male students from government and private colleges as the male students from government college have a higher level of using the virtual and collaborative educational tools for educational purposes than their counterpart. Hence the null hypothesis that stated there is no significant difference in use of virtual and collaborative educational tools among male students from government and private college is rejected.

Table 5

Comparison of use of virtual and collaborative educational tools among female students from government and private colleges

Name of Groups	N	Mean	SD	T-Value	Table value	level of Significance
Female students from Government College	43	56.06	10.65	0.89	1.96	Not Significant
Female Students from Private College	45	54.15	9.65			

Table-5 shows that the mean score and standard deviation for uses of virtual and collaborative educational tools among female students from government and private colleges are 56.06, 10.65 and 54.15, 9.65 respectively. The calculated t- value is 0.89 which is lesser than the table value at 0.05 level. It shows that there is no significant difference in the use of virtual and collaborative educational tools among female students from government and private colleges. Hence the null hypothesis that stated there is no significant

difference in use of educational and collaborative learning tools among male students from government and private college is accepted.

Table 6
Comparison of use of virtual and collaborative educational tools among science students from government and private colleges

Name of Groups	N	Mean	SD	T-Value	Table value	level of Significance
Science students from Government College	38	60.28	9.56	0.37	1.96	Not Significant
Science Students from Private College	46	59.47	10.63			

Table-6 shows that the mean score and standard deviation for uses of virtual and collaborative educational tools among science students from government and private colleges are 60.28, 9.56 and 59.47, 10.63 respectively. The calculated t- value is 0.37 which is lesser than the table value at 0.05 level. It shows that there is no significant difference in the use of virtual and collaborative educational tools among science students from government and private colleges. Hence the null hypothesis that stated there is no significant difference in use of virtual and collaborative educational tools among science students from government and private college is accepted.

Table 7
Comparison of use of virtual and collaborative educational tools among arts students from government and private colleges

Name of Groups	N	Mean	SD	T-Value	Table value	level of Significance
Government College students from Arts subjects	52	56.26	8.17	3.79	2.56	0.01
Private college students from Arts subjects	54	49.83	9.26			

Table-7 shows that the mean score and standard deviation for uses of virtual and collaborative educational tools among arts students from government and private colleges are 56.26, 8.17 and 49.83, 9.26 respectively. The calculated t- value is 3.79 which is greater than the table value at 0.01 level. It shows that there is significant difference in the use of virtual and collaborative educational tools among arts students from government and private colleges as the use of virtual and collaborative educational tools among government arts students is higher than their counterpart. Hence the null hypothesis that stated there is no significant difference in use of virtual and collaborative educational tools among arts students from government and private college is rejected.

Table 8
Comparison of use of virtual and collaborative educational tools among post- graduate and graduate college students

Name of Groups	N	Mean	SD	T-Value	Table value	level of Significance
Post -Graduate College students	36	59.76	10.14	3.37	2.56	0.01

Graduate students	College	154	53.17	10.65			
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Table-8 shows that the mean score and standard deviation for uses of virtual and collaborative educational tools post-graduate and graduate college students are 59.76, 10.14 and 53.17, 10.65 respectively. The calculated t- value is 3.37 which is greater than the table value at 0.05 level. It shows that there is significant difference in the use of virtual and collaborative educational tools among post-graduate and graduate college students as the use of virtual and collaborative educational tools among post-graduate college student is higher than their counterpart. Hence the null hypothesis that stated there is no significant difference in use of virtual and collaborative educational tools among post-graduate and graduate college students is rejected.

DISCUSSION

The utilization of virtual and collaborative internet educational tools among college students is above average and there is a gender difference in use of virtual and collaborative educational tools as male college students showed a better level of utilization of virtual and collaborative internet educational tools than female students. The study confirmed the findings of the study conducted by Maxwell & Maxwell (2014). Kumari & Verma (2015) found no gender difference in utilization of virtual and collaborative educational tools. It is also evident that the students from government colleges showed a higher level of utilization of virtual and collaborative internet tools for their learning purposes than students from government colleges. The study of Hossain and Rahman (2017) and Loan (2011) supports the finding that students from science and commerce discipline use virtual educational tools than the students from arts discipline. Science college students have higher level of virtual and collaborative internet educational tools than arts students. The significant difference cannot be established on virtual and collaborative educational tools among female students from government and private colleges. It is also showed that there is no significant difference in the virtual and collaborative internet educational tools among science students from government and private colleges. The students from government colleges get more access to effective virtual and collaborative educational tools which enables them to use and enrich their domain of knowledge and information. Male students also show an interest to use virtual and collaborative educational tools for their curricular and non-curricular reading and exploration.

CONCLUSION

The college students should be encouraged and effectively motivated to maximise their access and utilisation of digital resources to enhance the quality of higher education. It is expected a higher level of utilisation of virtual and other collaborative educational tools to widen their divergent curricular and co-curricular exposure. Though there is a moderate level usage of digital resources among college students, it is required to broaden the range of experience of college students by implementing digital programmes. The curriculum should be framed its transactional content and educational exposure with a consideration to bring the students to this stream learning equally in and out side of classroom. It is expected from the educational administrative authorities and university level monitoring bodies to supplement required and upgraded digital learning material setting stage for students' interaction with faculties of high ranked national and global institutions. The government of India introduced many digital programmes to enhance the quality of higher education such as Swayam, Swayam-Prabha, NPTEL, NDL (National Digital Library) E- PG Patashala, etc. that are transforming Indian higher education system. The study recommends educational policy makers in higher education and concerned national and state level educational monitoring and administrative bodies to set provisions and initiatives to maximise the engagement in utilisation of web resources for enriching the teaching and learning students of higher education.

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