81

जुलाई-दिसम्बर, 2021

आज़ादी का अमृत महोत्सव

मध्य भारती

मानविकी एवं समाजविज्ञान की द्विभाषी शोध-पत्रिका

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डॉक्टर हरीसिंह गौर विश्वविद्यालय
(केन्द्रीय विश्वविद्यालय)
सागर (मध्यप्रदेश) - 470 003
दूरभाष : 91-7582-264455
ई-मेल : madhyabharti.2016@gmail.com

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सागर (मध्यप्रदेश) - 470003

दूरभाष : (07582) 297133

ई-मेल : madhyabharti.2016@gmail.com

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मध्य भारती
डॉक्टर हरीसिंह गौर विश्वविद्यालय
सागर - 470003 (म.प्र.)

दूरभाष : (07582) 297133
ई-मेल : madhyabharti.2016@gmail.com

आवरण : डॉ. छबिल कुमार मेहेर

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अनुक्रमणिका

Attitude of Pupil-Teachers Towards Synchronous Virtual Classrooms

Abhishek Kumar Prajapati and Budh Singh

Introduction

Rapidly changing internet technologies have forced Higher Education Institutions (HEIs) worldwide to rethink the way they deliver courses, cater to growing student numbers and increased student diversity. Additionally, there has been, and continues to be, a demand for quality learning and teaching at school as well as at higher education level.

There is no common definition for online learning. Simply, online learning means an Information and Communication Technology (ICT) supported learning where the internet is used for pupil-teacher interaction and distribution of learning material regardless of time and place. Different terms are being used for online learning i.e. e-learning, internet learning, distributed learning, networked learning, tele-learning, virtual learning, computer-assisted learning, web-based learning and distance learning. Ally (2008) has enlisted the common characteristics of these terms;

a) that the learner and tutor are at distance,
b) that the learner uses computer/laptop or mobile to access the learning materials,
c) that the interaction among learners and tutor is supported by technology, and
d) that some form of support is provided to learners.

In the words of Clark and Meyer (2011, p. 28), e-learning means "instruction delivered on a digital device such as a computer or mobile device that is intended to support learning." Online learning, generally, can be classified into two categories namely synchronous learning and asynchronous learning. Whereas asynchronous technologies are highly flexible and can be accessed anytime from anywhere, they include multiple forums such as chat rooms and email services, synchronous technologies in the form of audio/video conferencing, like the virtual classroom, are less flexible in terms of time, but can be accessed from anywhere (Martin, Parker and Allred, 2013). Thus, synchronous learning happens in real time but not in same place. This means multiple users i.e. students, their classmates, and their teacher interact in a specific virtual place through a specific online medium at a specific time. Method of synchronous learning includes video conferencing, teleconferencing, live chatting, chat based live discussion and live-streaming lectures.

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What synchronous virtual classroom is?

Synchronous Virtual Classrooms (SVCs), commonly known as web-conferencing or e-conferencing systems (Rockinson-Szapkiw & Walker, 2009), are teaching and learning spaces which use Information and Communication Technology (ICT) to share, in real time, video and audio, documents, chats, virtual whiteboards, shared desktop etc., as part of a training experience (Masa, et al., 2014). Synchronous learning may help engaging learners, addressing their questions, comments, and exchanges feedback between students and teacher. Roughton, Florence, Jennifer & Courtney (2011) mentioned that the best elements of synchronous online instruction are that faculty and students can talk to each other, express emotion, participate in group activities in the break out rooms, and feel that they can still interact as if they were face to face.

The use of synchronous conferencing techniques can offer opportunities for social interaction in a virtual classroom space (Karaman, Aydemir, Kucuk and Yıldırım, 2013). The word 'virtual' can be defined as, "being actively connected to a network or computer system; usually being able to interactively exchange data, commands, and information" (Suri & Sharma, 2017). Synchronous virtual classroom involves real time interaction between students and instructors from different geographic places with the help of audio-visual communication via video conferencing software. Karaman, Aydemir, Kucuk and Yıldırım also mentioned that Virtual Classroom (VC) offers extensive meeting set-up features, providing both moderators and users with effective options for interaction and learning.

Literature Review

Many researchers have made several studies on SVCs and their roles in learning and teaching. Researchers from different countries of the world conducted studies about SVCs, its problem, challenges in teaching -learning process along with principal components of SVCs. In this part of the paper, the researchers present some of these related works.

Suri & Sharma (2016) in their study found that teachers are in favor of e-learning. The results also revealed a significant effect of age on teachers' attitude towards computer & e-learning. Khan (2016) found that the prospective teacher educators show a highly favorable attitude towards e-learning. LaPointe, Greysen, and Barrett (2004) conducted a study entitled, “Speak2Me : Using Synchronous Audio for Teaching in Taiwan” and reported that both the audio and visual components in synchronous systems help to bridge cultural differences. Martin, Parker, and Deale (2012) conducted a study on the importance of interaction within a synchronous virtual classroom on US graduate students and suggested that live communication in SVCs definitively enhanced interaction. Al-Qahtani (2019) conducted a study on perceptions of teachers and students towards virtual classes and reported that the majority of students and teachers possess positive attitudes towards teaching and learning through virtual classes and they also agreed that virtual courses play a significant role in enhancing communication skills. Racheva (2018) studied the social aspects of synchronous virtual learning environments and concluded that flexibility, interaction, learner-centered instruction, constructive

feedback, and collaborative learning are the key benefits of virtual learning. Forsyth, Yovkova and Aleksieva (2018) found that UG students have a positive attitude towards the use of technology in education. Computerized tools incorporated in the teaching methodology could enhance students' learning experience by allowing them to ask for, share, discuss and extend knowledge (Wong and Fong, 2014). Karaman, Aydemir, Kucuk, & Yıldırımin corporated that interaction is the most important thing in synchronous virtual classrooms. Masa, et al. argued that SVCs with a productive methodology enhance students' creativity, virtual collaborative work, promote critical thought to stimulate students' active participation by means of flexible and attractive interfaces.

Rationale of the Study

Recent developments and innovations in the field of Information and Communication Technology (ICT) have tremendous effect on education. Now, education is not restricted to the boundaries of educational institutions (Ullah, Khan & Khan, 2017). Online learning, sometimes also known as e-learning is increasingly becoming a vital stream and modern model of education worldwide (Rhema, Miliszewska & Sztendur, 2013) and is naturally suited to distance and flexible learning (Ansari, 2014). Online learning has become an essential part of higher education. This is no longer a mission for distance learning, rather it is systematically exercised by campus-based Higher Education Institutions (HEIs) to make the teaching-learning effective. But during this Covid-19 pandemic when every learner is helpless to be stuck at home under lockdown situations, online learning proves itself a panacea to manage learning. This has become the hope of teachers, students, parents and educational planners. The UGC Chairman told a news agency ANI, "We are seeing at this time of Covid-19 and even later when all of this (is) over, to give a push to online education. It is important for improvement in the Gross Enrolment Ratio (GER) in the country (as cited by Menon, 2020)." Whereas some teachers have a positive attitude towards online learning others feel that e-learning cannot replace traditional classroom learning (Suri & Sharma, Xhaferi, Farizi & Bahiti, 2018) and have negative attitude towards e-learning (Sridevi, 2010). Teachers must change their mindset and accept a new teaching paradigm that is from teaching to facilitating and managing learning rather than disseminating information and must be able to incorporate e-learning with the traditional learning and be competent enough in web-based teaching (as cited by Khan). So, attitude plays a vital role in using technology as a strong tool for positive change. In the present study efforts have been made to study the attitude of would-be teachers towards synchronous virtual classrooms.

Objectives of the study

- To study the attitude of pupil-teachers towards synchronous virtual classrooms.
- To compare the attitude of male and female pupil-teachers towards synchronous virtual classrooms.
- To compare the attitude of rural and urban pupil-teachers towards synchronous virtual classrooms.
- To compare the attitude of art and science stream pupil-teachers towards synchronous virtual classrooms.

Hypotheses

- here is no significant difference between the attitude of male and female pupil-teachers towards synchronous virtual classrooms.
- here is no significant difference between the attitude of rural and urban pupil-teachers towards synchronous virtual classrooms.
- here is no significant difference between the attitude of art and science stream upil-teachers towards synchronous virtual classrooms.

Research Methodology

Methodologically, the study was conducted from an empirical, quantitative and descriptive perspective. In the present study the survey method of descriptive research was adopted. The study was carried out on the pupil-teachers of B.Sc. B.Ed. & B.A. B.Ed. (Year Integrated Programme) of Department of Education, Doctor HarisinghGour Vishwavidyalaya (A Central University), Sagar, Madhya Pradesh, India. A sample comprising 100 pupil teachers of (49 boys and 51 girls) B.Sc. B.Ed. & B.A. B.Ed. (Year Integrated Programme) from 8th Semesters were selected. The sample was selected purposively from the pupil teachers who attended synchronous virtual classes in lockdown during Covid-19 pandemic situation. A self-developed five-point likert scale was developed by researchers and administered for measuring the attitude of pupil-teachers towards synchronous virtual classrooms by using an online survey. SPSS software package and microsoft office excel were used to analyse the quantitative data. In this study different statistics like, percentage, mean, standard deviation and t-test statistical techniques were employed for the analysis and interpretation of the data.

Analysis and Interpretation of data

The participants involved in this study are pupil-teachers of B.A. B.Ed. and Bc. B.Ed. (4 Year Integrated Programme). In quantitative research, a hypothesis is specified, and measurable data from a sample population is captured. All data gathered were coded, organized, and maintained using a digital spreadsheet in order to facilitae analysis and protect anonymity. In addition, SPSS statistical software was used to analyze the data. After the analysis of date following finding were drawn :

bjective : 1 To study the attitude of pupil-teachers towards synchronous virtual classrooms.

Table No. 1 : Percentage of pupil-teachers regarding attitude towards Synchronous Virtual Classrooms

Classification	Global Score of pupil-teachers regarding Attitude towards SVCs (Total)	Number of pupil teachers	% of pupil-teachers
High	156 & above	10	10
Medium	116-155	76	76
Low	115 and Below	14	14

Table no. 1 describes the percentage of pupil-teachers regarding attitude towards synchronous virtual classrooms. It can be observed from the table that 10 percent pupil-teachers had a high level of attitude, 76 percent pupil-teachers had average

level of attitude and 14 percent pupil-teachers had low level of attitude towards synchronous virtual classrooms. It means that most pupil-teachers had possessed an average level of attitude towards SVCs.

Hypothesis-1: There is no significant difference between the attitude of male and female pupil- teachers towards synchronous virtual classrooms.

Table 2 : Mean (M), Standard Deviation (SD) and t- value of male and female pupil-teachers

Group	N	M	SD	t-ratio
Male	49	134.14	19.107	0.033*
Female	51	134.02	18.459	

*0.05 level of significance

Table no. 2 describes the mean, standard deviation and t-value regarding the attitude of male and female pupil-teachers towards synchronous virtual classrooms. The mean value and SD of male pupil-teachers regarding attitude towards SVCs was 134.14 and 19.107 respectively while mean value and SD of female pupil-teachers was 134.02 and 18.459 respectively. The calculated t-value, was 0.033, which was less than the table value that was 1.98. Therefore, the hypothesis-1 that, "There is no significant difference between the attitude of male and female pupil-teachers towards synchronous virtual classrooms" is accepted. It means that there is no significant difference between the means of attitude of male and female pupil-teachers towards synchronous virtual classrooms. It can be concluded that there is no significant difference between the attitude of male and female pupil-teachers towards synchronous virtual classrooms.

Hypothesis - 2 : There is no significant difference between the attitude of rural and urban pupil-teachers towards synchronous virtual classrooms.

Table - 3 : Mean, SD and t-value of rural and urban pupil teachers.

Group	N	M	SD	t-ratio
Rural	59	133.32	18.021	
Urban	41	135.17	19.805	0.484*

*0.05 level of significance

Table no. 2 describes the mean, standard deviation and t-value regarding the attitude of rural and urban pupil-teachers towards synchronous virtual classrooms. The mean value and SD of rural pupil-teachers regarding attitude towards synchronous virtual classroom was 133.32 and 18.021 respectively while mean value and SD of urban pupil-teachers was 135.17 and 19.805 respectively. The calculated t-value, is 0.484, which was less than the table value that was 1.98. Therefore, the hypothesis-2 that, "There is no significant difference between the attitude of rural and urban pupil teachers towards synchronous virtual classrooms" is accepted.

It means that there is no significant difference between the means of attitude of rural and urban pupil teachers towards synchronous virtual classrooms. It can be concluded that there is no significant difference between the attitude of rural and urban pupil teachers towards synchronous virtual classrooms.

Hypothesis - 3 : There is no significant difference between the attitude of arts and science stream pupil teachers towards synchronous virtual classrooms.

Table - 4 : Mean, SD and t-value of arts and science stream pupil teachers.

Group	N	M	SD	t-ratio
Arts Stream	41	140.54	17.280	2.992*
Science Stream	59	129.59	18.462	

* 0.05 level of significance

Table no. 2 describes the mean, standard deviation and t-value regarding the attitude of arts and science stream pupil teachers towards synchronous virtual classrooms. The mean value and SD of arts stream pupil teachers regarding attitude towards synchronous virtual classroom was 140.54 and 17.280 respectively while mean value and SD of science stream pupil-teachers was 129.59 and 18.462 respectively. The calculated t-value, is 2.992, which is greater than the table value that is 1.98. Therefore, the hypothesis-3 that, "There is no significant difference between the attitude of arts and science stream pupil teachers towards synchronous virtual classrooms" is not accepted.

It means that there is a significant difference between the means of attitude of arts and science stream pupil teachers towards synchronous virtual classrooms. It can be concluded that there is a significant difference between the attitude of arts and science stream pupil teachers towards synchronous virtual classrooms.

Result and Discussion

The present study is limited to pupil-teachers of Doctor Harisingh Gour Vishwavidyalaya, Sagar (Madhya Pradesh) India. The findings are unable to generalize about all the students who are studied in different undergraduate and postgraduate programmes. Another limitation is that participants' ages 18-22 were from a particular area. Singularity of field (teacher education) can be considered as another limitation of this study. According to findings, no significant effect of gender regarding the attitude of pupil teachers towards synchronous virtual classrooms is similar to the study done on teacher's attitude towards computer and e-learning (Suri and Sharma). Moreover, another finding of the study explored that most pupil-teachers possessed a medium level of attitude towards synchronous virtual classrooms which is parallel with the study done by Al-Qahtani. In the literature review carried out, no direct evidence related to SVCs was found that points to the correlation between pupil-teachers' gender and SVCs. However, Konver (2017) reported that the attitude of college students towards e-learning is independent with regard to gender and locality. Moreover, Bradley & Russell (1997) reported that female teachers had a greater degree of anxiety (as cited by Jimoyiannis and Komis, 2007) and were less confident computer users (Lee, 1997) than males (as cited by Jimoyiannis and Komis). A report (European Commission, 2003) noted that gender is an issue which determines the use of ICT by teachers and the gap between males and females is even wider as far as the use of the Internet is concerned. In general, the male teachers are positive about ICT in education while the female teachers are neutral or negative(as cited by Jimoyiannis and Komis). However, the present study revealed that the attitude of pupil-teacher towards synchronous virtual classrooms is not affected by gender.Further, findings indicate that the gender factor still seems to be

critical in fostering positive beliefs about ICT in education in teachers despite the fact that its importance appears to be falling relative to a previous study in the area (Jimoyiannis&Komis)

Educational Implication of the Study

Every research work bears some educational implications. These educational implications are important for our researcher, teachers, stakeholders, educational planners and administrators and government machinery who are responsible for the betterment of the educational environment in our society and country. The present study was an attempt to know the attitude of pupil-teachers towards SVCs. Some important educational implications of the study are as:

Based on the resultsince most pupil-teachers have an average level of attitude towards SVCsit should be integrated into the teacher education curriculum with its pedagogy.

The teacher education institutions should provide training to the faculty members as well as pupil-teachers with the SVCs and its different dimensions.

Educational institutions should provide adequate ICT facilities to faculty as well as students that would enable the functionality of SVCs.

Department of Education
Doctor Harisingh Gour Vishwavidyalaya
Sagar (M.P.)

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