



CONCEPTUALIZING MASSIVE OPEN ONLINE COURSES (MOOCs) AND ITS AWARENESS AMONG SECONDARY SCHOOL TEACHERS OF VARANASI DISTRICT OF UTTAR PRADESH

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Abstract: The 21st century is the age of science and technology. Education is an important tool that is used in this modern age of science and technology to achieve the goal of life. There have been great improvements in the delivery of education, especially with the advent of technology. Education has grown from traditional, regular classroom teaching to addition of distance education mode and now to online education thus, reaching more learners in a more effective and efficient manner with the help of technology. Thus, teachers' needs knowledge and be aware of alternative teaching and learning. Massive Open Online Courses (MOOCs) have been established a new benchmark in the online teaching learning environment. MOOCs are the future of education and source of lifelong learning. MOOCs provide the teacher for the learners across the country with ICT solutions to bridge the gap between urban and rural education. In the crisis of COVID-19 the world indeed suspended physical classrooms and shifted to online classes. The spread of COVID-19 has caused the closure of educational establishments all over the world. Such closure extended the improvement of the online learning environments within those institutions so that learning and teaching would no longer be disrupted. Initiatives like Digital India and more focus on online learning it is the need for the education system to synchronize with the emerging trends. In this way the present study is an endeavor to study the awareness among secondary school teachers about MOOCs.

Key Words – MOOCs, Awareness, Secondary School Teacher, UP Board and CBSE Board

I. INTRODUCTION

Education in its broader sense life long process and recognized as both the acts of imparting and receiving knowledge from someone. The form of education in its formal way is the knowledge received through schooling or instruction from the institution of teaching as a whole. There are various ways to gain knowledge either face to face or in virtual mode. In the words of UNESCO, "Education is the process of facilitating learning or the acquisition of knowledge, skills, values, beliefs and habit. The 21st century is the age of science and technology. Education is an important tool that is used in this modern age of science and technology to achieve the goal of life. There have been great improvements in the delivery of education, especially with the advent of technology. Education has grown from traditional, regular classroom teaching to addition of distance education mode and now to online education thus, reaching more learners in a more effective and efficient manner with the help of technology. The government of India has also taught of reaching the remote areas through technology to provide valuable and free education. Technology is method of use of scientific advances in our daily life. The word technology is derived from Greek word 'techne', means science of craft

i.e. art, skill, cunning of hand. As an actors' category 'technology' is of surprisingly recent vintage, although cognate terms – techne, arts, and so on – have a much longer history (Agar 2020). Technology is the collection of techniques, skills, methods and process used in the production of goods or services in the accomplishment, objectives, such as scientific investigation. It can be used to make human life more sophisticated. Teaching is regarded as both an art or science. As an art, it lays stress on the imaginative and artistic abilities of the teacher in creating a worthwhile situation in the classroom to enable students to learn. As a science, it sheds light on the logical, mechanical, or procedural steps to be followed to attain an effective achievement of goals. Edmund Amidon (1967) defined teaching as “an interactive process, primarily involving classroom talk which takes place between teacher and pupil and occurs during certain definable activities.” Teaching and learning process can be defined as a transformation process of knowledge from teachers to students (Anon n.d.-a). It is referred as the combination of various elements within the process where an educator identifies and establish the learning objectives and develop teaching resources and implement the teaching and learning strategy. The teaching-learning process can be categorized broadly into three main groups namely a) traditional, b) online and c) blended or hybrid mode.

India is one among the fastest developing countries in the world. In most parts of our country traditional teaching-learning modes are prevalent in most of the educational institutions. In the traditional teaching modes, teachers illustrate the concept to the students with the help of chalks and blackboard. Every important activity regarding the delivery of topic is through writing on the blackboard or through oral presentations made by the teacher and students make important notes from the blackboard summary developed by the teacher or the oral discussions of the classroom. The interaction between the teacher and student in traditional classrooms is mainly face to face. In traditional teaching mode, teacher requires basic teaching skills mainly developed through microteaching, practice teaching and pedagogical knowledge of the subject taught. The special technical knowledge of computer is not required so much for general classes.

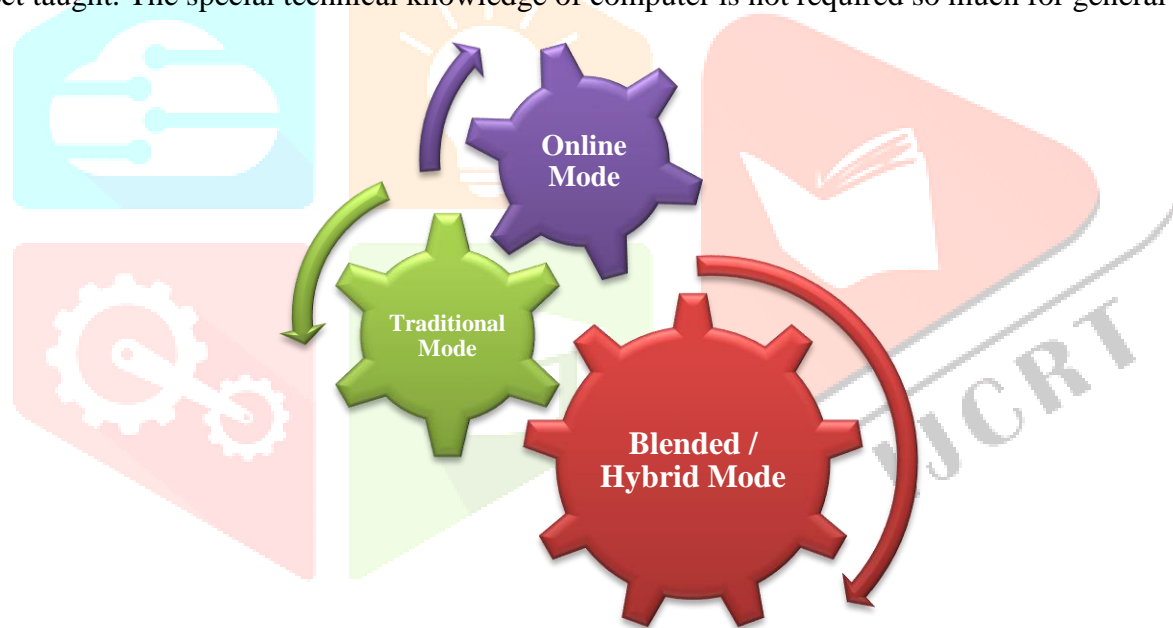


Figure 1 – Showing the Modes of Teaching-Learning Process

The classroom teaching in the traditional teaching-learning environment is mainly based on face to face interaction prevailing the knowledge of pedagogical skills. India is basically rural country and most of the Indian people reside in rural areas. The awareness on MOOC of urban student teachers was higher than the rural student teachers (M and Jaganathan 2019). Similar study was conducted by Sivakumar (2019) regarding SWAYAM (Study Webs of Active-learning for Young Aspiring Minds) and revealed that no significant difference in awareness regarding SWAYAM between male and female student teachers and also no significant difference in awareness regarding SWAYAM between rural and urban student teachers (Anon n.d.-b).

In the recent past, the online teaching, also known as Web-Based Instruction (WBI) or Internet-Based Education (IBE), has become very popular worldwide. In online mode of education, learning takes place through the explicit use of technology and computer networking systems. In this mode of teaching all the course materials are delivered online and also in absence of physical or on-campus activities. It requires some technical skills of computer because it delivers instruction using a computer network, usually over the internet, and does not requires face-to-face meetings of students and teachers. It may be in form of synchronous, asynchronous, or a combination of both as per needs of the situation and objectives. Another mode of pedagogical approach is a mixture of traditional face to face and online modes of teaching with the integration

of synchronous or asynchronous learning tools. A blended learning mode provides ultimate flexibility over traditional and online modes of teaching and learning in many aspects. Blended learning is an innovative concept that embraces the advantages of both traditional teaching in the classroom and ICT supported learning including both offline learning and online learning (Lalima and Lata Dangwal 2017). It can be applied to any program of study which holds on to the values of traditional learning and incorporates digital media with that. The online education has many dimensions and has various available methods to interact the students without contacting them face to face and the most recent and current one is receiving immense attention worldwide in the form of MOOCs an acronym used for Massive Open Online Courses (Baturay 2015). It is the way in which a person can keep abreast of the rapid changes that are taking place in every walk of life due to the advent of ICT (Information and Communication Technology). MOOCs are by nature free online courses available for anyone to enroll but not popular so much even among the teachers and students of higher education institutions. Purkayastha and Singha (2021) concluded that most (69.40%) of the respondents of post graduate students of university level were not aware of MOOCs. These courses are fully online and delivered through internet. MOOCs are based on the philosophy of open and distance learning. The basic philosophy behind MOOCs is 3 A's i.e. "Anytime, Anyone, Anywhere". MOOCs provide an affordable and flexible way to learn new skills, advance the career and deliver quality educational experiences at major scale. The professionals related to ICT, Library and Information Science, and engineering are more exposed towards internet. Therefore, they are more aware towards MOOCs. Shewale (2021) found that the awareness of MOOCs-SWAYAM among Library and Information Science professionals were very high (95.60%) and there was no difference in awareness of MOOCs-SWAYAM among Library and Information Science Professionals of rural and urban areas (Anon n.d.-b). MOOCs designed for participation of large numbers of geographically dispersed learners. This term was first used by Stephen Downes and George Siemens in 2008 in the University of Prince Edward Island (UPEI), Canada (Baturay 2015). MOOCs are such online courses which are developed as per the pedagogical needs and follows the four-quadrant approach. The four-quadrant approach means the e-learning system of MOOCs has the four components. The implementation of MOOC is a comprehensive path-breaking venture in the field of education system in India. In India MOOCs developed under the aegis of Ministry of Human Resource Development (now Ministry of Education) on the web platform called SWAYAM. SWAYAM was launched by the President of India Shri Pranab Mukherjee on 09th July 2017. SWAYAM is designed to achieve the three cardinal principles of education policy viz., access, equity and quality. The objective of the MOOCs programme of SWAYAM is to take the best teaching-learning resources to all. It provides an integrated platform and portal for online courses, using information and communication technology (ICT) and covering high school till all higher education subjects and skill sector courses to ensure that every student from learning material through ICT (Swayam Central).

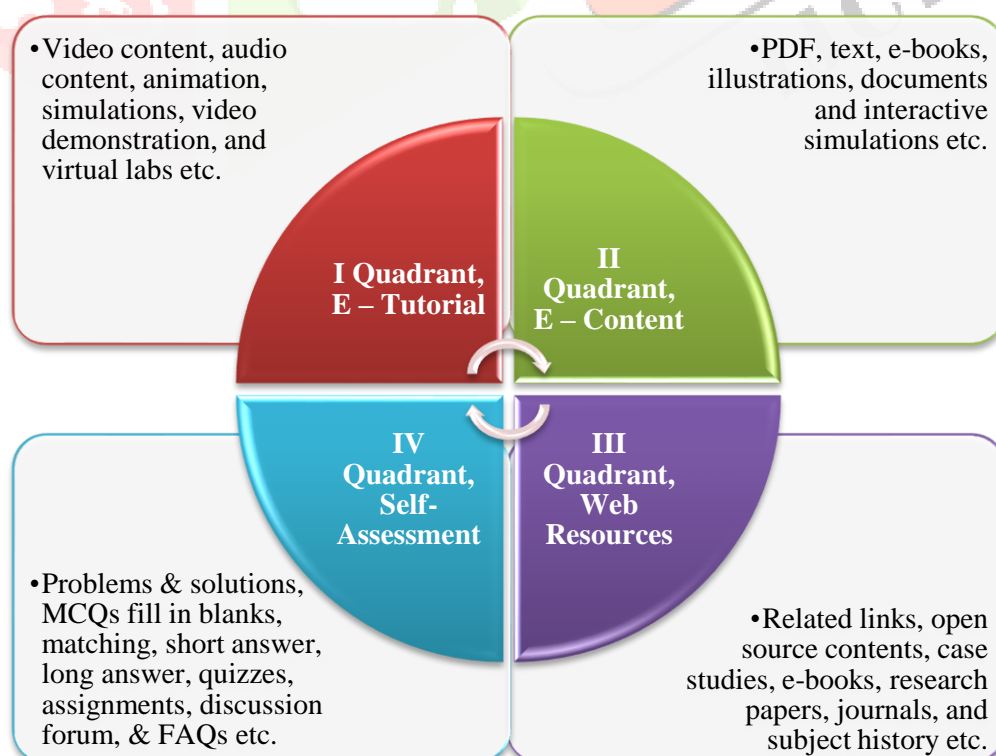


Figure – 2 Showing the Four-Quadrants of MOOCs

To ensure and develop best quality study materials and their distribution over online platform, nine national coordinators have been identified. The growth and advancement of technology in the educational sector is wide-ranging and opens new doors for teachers, it provides an extensive opportunity as well as challenges in the field of education. Technology meets the needs of different teaching and learning styles and thereby affects the way of teaching and learning. Thus, teachers' needs knowledge and be aware of alternative teaching and learning. MOOCs have been established a new benchmark in the online teaching learning environment. MOOCs are the future of education and source of lifelong learning. MOOCs provide the teacher for the learners across the country with ICT solutions to bridge the gap between urban and rural education. In the crisis of COVID-19 the world indeed suspended physical classrooms and shifted to online classes. The spread of COVID-19 has caused the closure of educational establishments all over the world. Such closure extended the improvement of the online learning environments within those institutions so that learning and teaching would no longer be disrupted. Initiatives like Digital India and more focus on online learning it is the need for the education system to synchronize with the emerging trends. To enable the students update, it is also important that teacher must be aware and update with their surroundings. In this way the present study is an endeavor to study the awareness among secondary school teachers about MOOCs. MOOCs are becoming increasingly popular among students and educators alike. MOOCs are online courses that are available to anyone, allowing individuals to access high-quality educational content from any location. MOOCs provide many benefits, such as increased access to educational materials, improved engagement with learning material, and the ability to connect with peers and educators around the world. MOOCs offer a wide range of topics, including humanities, sciences, mathematics, and business. The awareness of MOOCs among secondary school teachers of Varanasi district of Uttar Pradesh is still in its nascent stage. The majority of teachers are not aware of MOOCs and its potential to offer high quality educational content. Although the use of technology in teaching is growing, there is still a gap in terms of the implementation of MOOCs in the classroom. This can be attributed to the lack of training and support for teachers in this area. To increase the awareness of MOOCs among secondary school teachers in Varanasi district of Uttar Pradesh, it is important to create targeted initiatives that support teachers in using MOOCs. Such initiatives could include providing training sessions, workshops, and conferences that focus on the effective use of MOOCs.

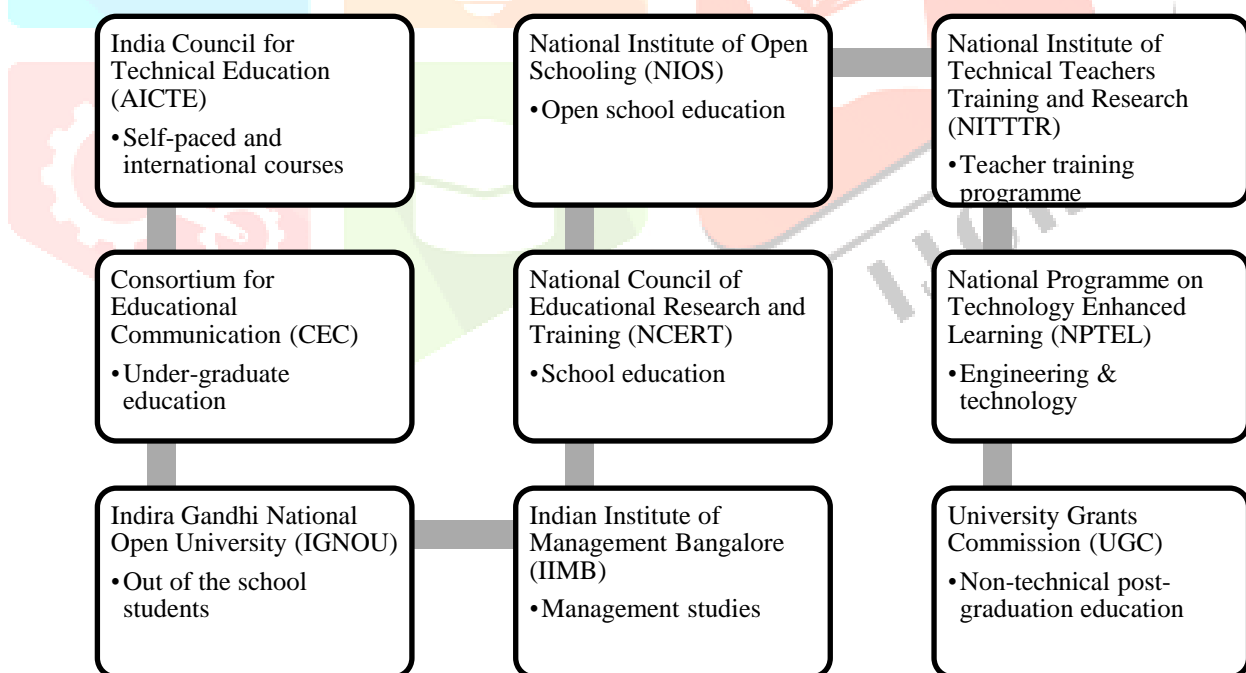


Figure – 3 National Coordinators of SWAYAM and their Areas

Objective of the Study : The present study focuses on the following objectives –

- To study the awareness about MOOCs among secondary school male teachers.
- To study the awareness about MOOCs among secondary school female teachers.
- To compare the awareness about MOOCs between male and female teachers of secondary school.
- To study the awareness about MOOCs among UP board teachers of secondary schools.
- To study the awareness about MOOCs among CBSE board teachers of secondary schools.
- To compare the awareness about MOOCs between UP board and CBSE board teachers of secondary schools.

- To study the percentage of secondary school teacher who have registered and completed any MOOCs at any platform.

Hypothesis of the Study : To study about the above objectives following hypotheses were tested –

- The awareness about MOOCs among secondary school male teachers will be normal.
- The awareness about MOOCs among secondary school female teachers will be normal.
- There will be no significant difference between male and female teachers of secondary schools about the awareness of MOOCs.
- The awareness about MOOCs among UP board secondary school teachers will be normal.
- The awareness about MOOCs among CBSE board secondary school teachers will be normal.
- There will be no significant difference between UP board and CBSE board teachers of secondary schools about the awareness of MOOCs.

Research Methodology:

- Research Method:** The survey method of descriptive research was followed in the present study. The study mainly comprises of field survey method to collect analyze and interpret the data.
- Population and Sample of the Study:** The population of the present study was the secondary school teachers affiliated to UP board (Board of High School and Intermediate Education Uttar Pradesh) and CBSE board (Central Board of Secondary Education, New Delhi) of Varanasi district of Uttar Pradesh. To select the sample from the population, 150 secondary school teachers were selected by purposive sampling technique.
- Tool:** For collection of data, an online MOOCs Awareness Questionnaire (MAQ) was constructed by the researchers. Initially total 67 items were constructed for the questionnaire consisting of yes and no responses on each statement. The items in the scale have both positive and negative statements with only yes and no responses. The data was collected by using above questionnaire. The scoring on positive items is 1 for response as 'yes' and scoring for negative items is 1 for response as 'no'. The developed tool was administered through Google Form and the link of the Google Form was shared to the selected secondary school teachers to fill in via their email addresses and WhatsApp contacts.
- Statistical Techniques:** For the analysis and interpretation of the collected data mean, standard deviation, skewness, kurtosis, t-test and percentage were calculated. First of all, tests of normality were calculated for each separate group sample and after normalization independent sample t-test were calculated to compare the means between the different samples. The collected dataset was analyzed by Microsoft Excel and IBM SPSS statistics of version 20.

Analysis and Interpretation of the Data :

- For the present study the first objective was to study the awareness about MOOCs among secondary school male teachers. It was hypothesized that the scores of awareness about MOOCs among secondary school male teachers will be normal. To test this hypothesis the data was analyzed and descriptive statistics was calculated and findings are depicted in the table No. 1.

Table No. 1 Showing the Results of Descriptive Statistics for Awareness about MOOCs among Secondary School Male Teachers

Gender	N	Mean	Standard Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Secondary School Male Teacher	91	39.46	5.065	-0.022	0.253	-0.398	0.500

The above table No. 1 shown that secondary school male teachers (N=91) have mean scores on awareness about MOOCs is 39.46 and standard deviation is 5.065. It is also revealed that the descriptive statistics for skewness and kurtosis for awareness about MOOCs for secondary school male teachers are -0.022 and -0.398 respectively.

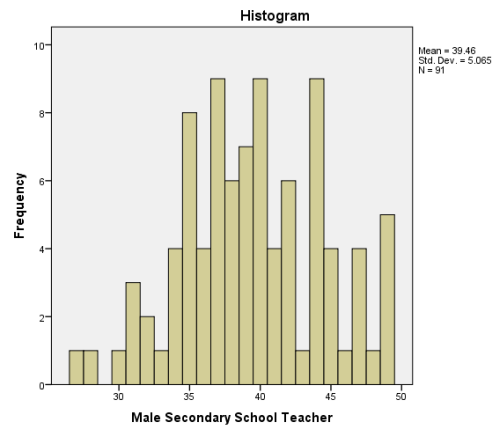


Figure – 4 Frequency of Scores of Awareness about MOOCs of Secondary School Male Teacher

The figure – 4 depicted the frequency in form of histogram for the scores of awareness about MOOCs of secondary school male teachers which is normally distributed.

Table No. 2 Showing the Result of Normality Test

Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Secondary School Male Teacher	0.079	91	0.200	0.983	91	0.263

Table No. 2 revealed that for the scores of awareness about MOOCs of secondary school male teachers the Kolmogorov-Smirnov test and Shapiro-Wilk test of normality both are not significant at degree of freedom 91. Therefore, it is referred that scores on awareness about MOOCs among secondary school male teachers is normal.

- For the present study the second objective was to study the awareness about MOOCs among secondary school female teachers. It was hypothesized that the scores of awareness about MOOCs among secondary school female teachers will be normal. To test this hypothesis the data was analyzed and descriptive statistics was calculated and findings are depicted in the table No. 2.

Table No. 3 Showing the Results of Descriptive Statistics for Awareness about MOOCs among Secondary School Female Teachers

Gender	N	Mean	Standard Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Female Secondary School Teacher	67	39.90	4.632	-0.357	0.293	-0.005	0.578

The above table No. 3 shown that secondary school female teachers (N=67) have mean scores on awareness about MOOCs is 39.90 and standard deviation is 4.632. It is also revealed that the descriptive statistics for skewness and kurtosis for the awareness about MOOCs for secondary school female teachers are -0.357 and -0.005 respectively.

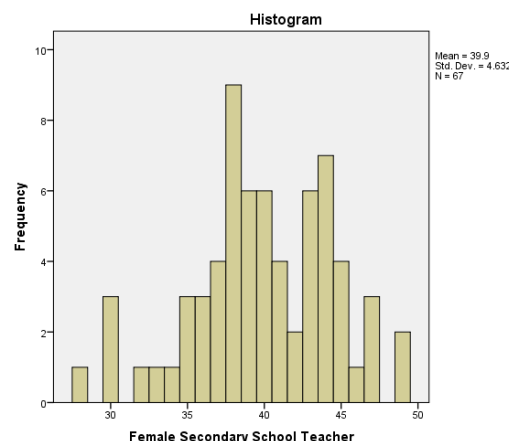


Figure – 5 Frequency of Scores of Awareness about MOOCs of Secondary School Female Teacher

The figure – 5 depicted the frequency in form of histogram of the scores of awareness about MOOCs of secondary school female teachers which is normally distributed.

Table No. 4 Showing the Result of Normality Test

Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Secondary School Female Teacher	0.092	67	0.200	0.976	67	0.220

Table No. 4 revealed that for the scores of awareness about MOOCs of male secondary school teachers the Kolmogorov-Smirnov test and Shapiro-Wilk test of normality both are not significant. Therefore, it is referred that scores on awareness about MOOCs among secondary school female teachers is normal.

- In the present study for the objective three, it was hypothesized that there will be no significant difference between the awareness about MOOCs of male and female secondary school teachers. To test this hypothesis data was collected and independent sample t-test was calculated to analyze the data and findings are presented in the table No. 5.

Table No. 5 Indicating the Results of t-test for Awareness about MOOCs between Secondary School Male and Female Teachers

Group	Number	Mean	Standard Deviation	σ_D	t-ratio p-value
Secondary School Male Teacher	91	39.00	6.172	0.647	0.803
Secondary School Female Teacher	67	39.75	5.183	0.633	

The above table No. 5 shown that the t-ratio of awareness about MOOCs for male and female secondary school teachers is 0.803 which is not significant at 0.05 level at 157 degree of freedom. Therefore, null hypothesis is not rejected. Thus, gender have not any significant influence on the awareness about MOOCs among secondary school teachers.

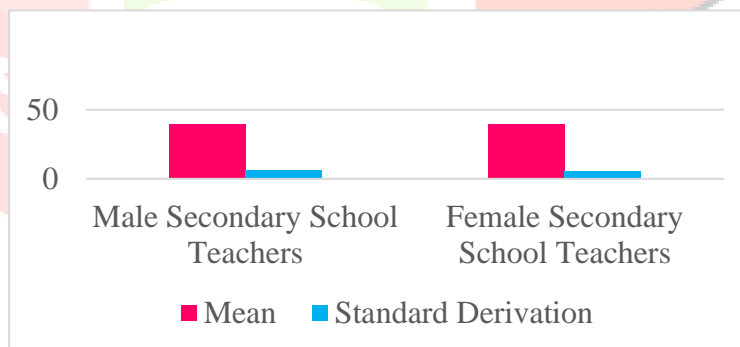


Figure – 6 Mean and Standard Deviation of Scores of Awareness about MOOCs among Secondary School Male and Female Teachers

- For the present study the fourth objective was to study the awareness about MOOCs among UP board secondary school teachers. It was hypothesized that the scores of awareness about MOOCs among UP board secondary school teachers will be normal. To test this hypothesis the data was analyzed and descriptive statistics was calculated and findings are depicted in the table No. 4.

Table No. 6 Showing the Results of Descriptive Statistics for Awareness about MOOCs among UP Board Secondary School Teachers

Board	N	Mean	Standard Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
UP Board Secondary School Teacher	90	40.48	4.734	-0.173	0.254	-0.311	0.503

The above table No. 6 shown that UP board secondary school teachers (N=90) have mean scores on awareness about MOOCs is 40.48 and standard deviation is 4.734. It is also revealed that the descriptive statistics for skewness and kurtosis for the awareness about MOOCs for UP board secondary school teachers are -0.173 and -0.311 respectively.

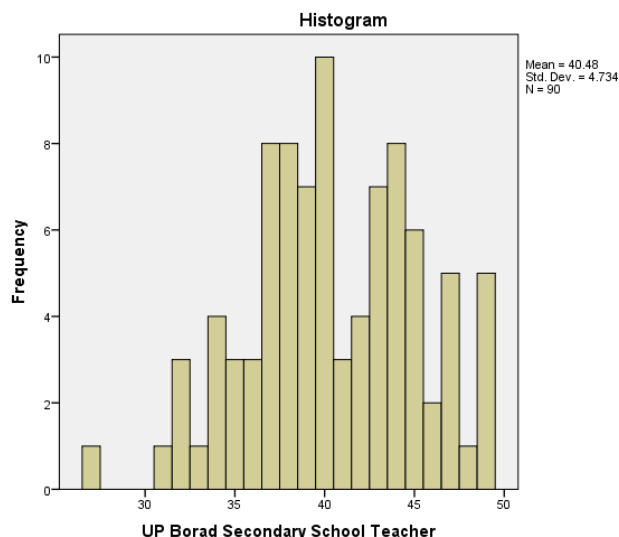


Figure – 7 Frequency of Scores of Awareness about MOOCs of UP Board Secondary School Teacher

The figure – 5 depicted the frequency in form of histogram of the scores of awareness about MOOCs of UP board secondary school teachers which is normally distributed.

Table No. 7 Showing the Result of Normality Test

Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
UP Board Secondary School Teacher	0.085	90	0.134	0.981	90	0.215

Table No. 7 revealed that for the scores of awareness about MOOCs of UP board secondary school teachers the Kolmogorov-Smirnov test and Shapiro-Wilk test of normality both are not significant. Therefore, it is referred that scores on awareness about MOOCs among UP board secondary school teachers is normal.

- For the present study the fifth objective was to study the awareness about MOOCs among CBSE board secondary school teachers. It was hypothesized that the scores of awareness about MOOCs among CBSE board secondary school teachers will be normal. To test this hypothesis the data was analyzed and descriptive statistics was calculated and findings are depicted in the table No. 5.

Table No. 8 Showing the Results of Descriptive Statistics for Awareness about MOOCs among CBSE Board Secondary School Teachers

Board	N	Mean	Standard Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CBSE Board Secondary School Teacher	68	38.37	5.408	-0.335	0.291	-0.218	0.574

The above table No. 8 shown that CBSE board secondary school teachers (N=68) have mean scores on awareness about MOOCs is 38.37 and standard deviation is 5.408. It is also revealed that the descriptive statistics for skewness and kurtosis for awareness about MOOCs for CBSE board secondary school teachers are -0.335 and -0.218 respectively.

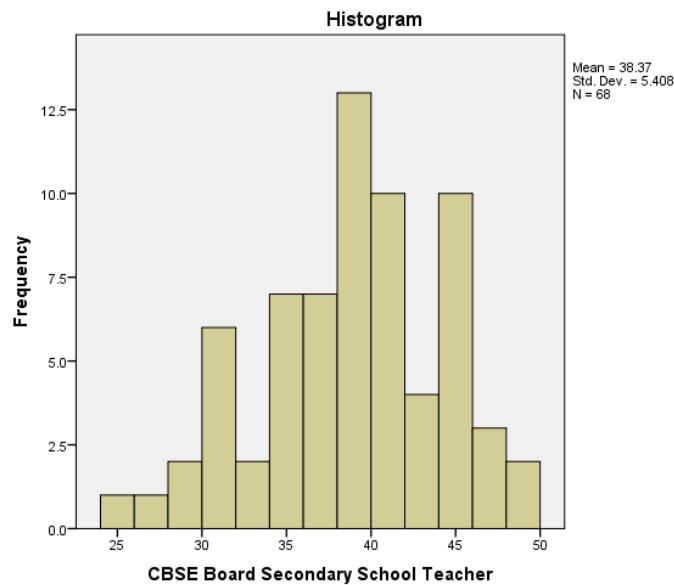


Figure – 8 Frequency of Scores of Awareness about MOOCs of CBSE Board Secondary School Teacher

The figure – 8 depicted the frequency in form of histogram of the scores of awareness about MOOCs of CBSE board secondary school teachers which is normally distributed.

Table No. 9 Showing the Result of Normality Test

Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CBSE Board Secondary School Teacher	0.091	68	0.200	0.978	68	0.280

Table No. 9 revealed that for the scores of awareness about MOOCs of CBSE board secondary school teachers the Kolmogorov-Smirnov test and Shapiro-Wilk test of normality both are not significant. Therefore, it is referred that scores on awareness about MOOCs among CBSE board secondary school teachers is normal.

- In the present study the sixth objective was to study the awareness about MOOCs between UP board and CBSE board secondary school teachers. It was hypothesized that there will be no significant difference towards the awareness about MOOCs between UP board and CBSE board secondary school teachers. To test this hypothesis data was collected and independent sample t-test was calculated to analyze the data and findings are presented in the table No. 10.

Table No. 10 Mean and Standard Deviation of Scores of Awareness about MOOCs among UP Board and CBSE Board Secondary School Teachers Board

Group	Number	Mean	Standard Deviation	t-value
UP Board Secondary School Teacher	90	40.26	5.288	2.390*
CBSE Board Secondary School Teacher	68	38.07	6.168	

*Significant at .01 level

The above table No. 10 shown that the t-ratio for awareness about MOOCs for UP board and CBSE board secondary school teachers is 2.390 which is significant at 0.01 level on 156 degree of freedom. Therefore, null hypothesis is rejected. Thus, nature of affiliation of secondary schools have significant influence on the awareness about MOOCs among secondary school teachers.

To study the last objective of the study percentage responses were calculated and it was found that 88% secondary school teachers were found to had ever heard about MOOCs whereas 82% secondary school teachers were found to had known about MOOCs. Among the population of the study about 31.33% secondary school teachers were found to had registered at any MOOCs platform and 24.66% secondary school teachers were found to had enrolled in any MOOC course but only 22.66% secondary school teachers were found to

had completed MOOC course. It was also accepted by 100% secondary school teachers that MOOCs are useful for earning additional skills for teaching.

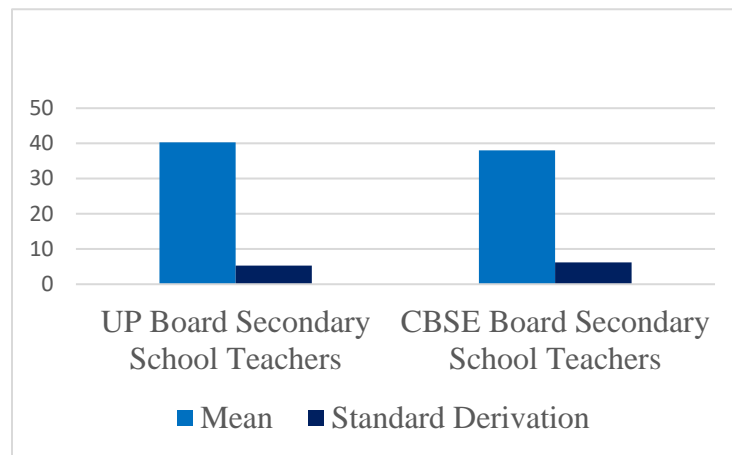


Figure – 9 Mean and Standard Deviation of Scores of Awareness about MOOCs among UP Board and CBSE Board Secondary School Teachers

Findings of the Study :

- The awareness about MOOCs among secondary school male teachers is not normal.
- The awareness about MOOCs among secondary school female teachers is not normal.
- On the basis of gender, secondary school male and female teachers have no significant difference regarding awareness about MOOCs.
- The awareness about MOOCs among UP board secondary school teachers is not normal.
- The awareness about MOOCs among CBSE board secondary school teachers is not normal.
- The awareness about MOOCs among secondary school teachers affiliated to UP board was significantly higher than secondary school teachers affiliated to CBSE board.
- The 88% secondary school teachers were found to had ever heard about MOOCs.
- The 82% secondary school teachers were found to had known about MOOCs.
- The 31.33% secondary school teachers were found to had registered at any MOOC platform.
- The 24.66% secondary school teachers were found to had enrolled in any MOOC course.
- The 22.66% secondary school teachers were found to had completed MOOC course.
- The 100% secondary school teachers were found to had MOOCs useful for earn additional skills for teaching.

Discussion : The present study has investigated the awareness about MOOCs among secondary school teachers. The findings of this study revealed that secondary school teachers had no influence on awareness about MOOCs on the basis of gender. The reason behind the similar level of awareness towards MOOCs between male and female teachers of secondary school may be their interest towards online learning and availability of smartphones and internet in every hand. The findings of this study revealed that secondary school teachers affiliated to UP board had high level of awareness towards MOOCs than secondary school teachers affiliated to CBSE board. The reason behind the high level of awareness towards MOOCs of secondary school teachers affiliated to UP board may be more focus on use of technology and induction programme by the UP government.

Conclusion : After the findings and discussion of the study it can be concluded that awareness about MOOCs among secondary school teachers is normal. The result shows that secondary school teachers have no influence of gender on awareness about MOOCs. Among secondary school teachers and it can be concluded that This shows that irrespective of the gender secondary school teachers are equally aware towards MOOCs. From the findings of the study it is clear that null hypothesis is rejected as there is difference between secondary school teachers affiliated to UP board and CBSE board. This shows that irrespective to the affiliation of institution secondary school teachers of UP board have higher awareness than secondary school teachers of CBSE board. From the study it was clear that 88% secondary school teachers were found to had ever heard about MOOCs whereas 82% secondary school teachers were found to had known about MOOCs which shows awareness about MOOCs among secondary school teachers. But among the population of the study only about 31.33% secondary school teachers were found to had registered at any MOOCs platform and further only 24.66% secondary school teachers were found to had enrolled in any MOOCs course but only 22.66% secondary school teachers were found to had completed MOOCs course which again a point of study.

It can be increased among the secondary school teachers and the school administration should facilitate them to get them enroll and provide the time and support to complete the course. It was also accepted by 100% secondary school teachers that MOOCs are useful for earning additional skills for teaching which again suggesting that secondary school teachers are accepting the MOOCs for their professional growth and development.

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