Educational Quest: An Int. J. of Education and Applied Social Sciences: Vol. 13, No. 01, pp. 67-71, April 2022
DOI: 10.30954/2230-7311.1.2022.12
Peer Reviewed Journal

Study of Educational Effectiveness of Face-to-Face Mode and MOOCs in Blended Mode for Post-graduate students Belonging to Different Socio-economic Status of Teacher Education Program

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Received: 06-01-2022 **Revised:** 29-03-2022 **Accepted:** 10-04-2022

ABSTRACT

Massive Open Online Courses emerged as a very popular mode of learning in 2012 and aims at providing unlimited participation by learners and their open access to educational material with the help of internet. For a developing and very diverse country like India, it is very difficult to provide equal access and equity based higher education to all the learners. Government of India has started its indigenously developed MOOC delivery platform known as SWAYAM for the MOOCs and other digital initiatives in this regard. The present research work was an effort to study the educational effectiveness of Face-to-Face mode of teaching and MOOCs in blended mode for the post graduate students of teacher education program belonging to different Socio-economic Status. Experimental method was used to study and compare educational effectiveness of the MOOCs in blended mode and face to face teaching on the post graduate students of Teacher Education program belonging to different SES. 3×2 Factorial design was used as a research design. Two-way ANOVA was used as a statistical technique. The findings revealed that MOOCs in blended mode are proved to be more effective from educational effectiveness in terms of educational achievement in comparison to face to face mode of teaching. Further the post graduate students from different SES achieved significantly different scores on the post test after the experimental treatment of teaching methods. The students taught with MOOCs in Blended mode belonging to High and moderate SES achieved significantly high scores on post test than the students taught with Face-to-Face mode of teaching from respective SES. The students belonging to low SES taught with Face-to-Face mode of teaching scored significantly higher than the students taught with Blended mode of teaching from respective SES.

Keywords: MOOCs, Blended Mode, SWAYAM

Recently the projection of MOOCs as a very strong and credible option to boost the Indian Education system by the way of ensuring easy and swift access to the study material and for equalization of educational opportunities are also hoped to bring quality improvement in educational process. Being novel, recent and full of potential MOOCs are yet to be proved as beneficial for the stakeholders of education. Massive Open Online Courses are interactive and individualistic. They are interesting as they use videos and fun based quizzes and activities. MOOCs are designed to use internal motivation of the learners and their regular feed back as the driving force to learn. Not only for learners, for teachers also MOOCs are being

How to cite this article: Hooda, M. (2022). Study of Educational Effectiveness of Face-to-Face Mode and MOOCs in Blended Mode for Post-graduate students Belonging to Different Socio-economic Status of Teacher Education Program. *Educational Quest: An Int. J. Edu. Appl. Soc. Sci.,* **13**(01): 67-71.

Source of Support: None; **Conflict of Interest:** None

proved as highly beneficial. As teachers can design and develop their own content as per the needs of the learners and prepares this content on the four quadrants of the online course. As per the third component the assessment is continuously done by the teachers with the use of regular assignments and quiz questions. The fourth quadrant i.e., Discussion forum help in facilitation for making the online course interactive and participatory. On this platform the doubts and queries raised by the participants are taken up. After creating best quality content on all the four quadrants, the teacher provides these learning experiences with the help of some Learning Management System like moodle, canvas or blackboard etc. After course designing, the teacher can enroll the students in the online course and facilitate the learning process. Recorded lectures of the teachers and videos along with the e- content uploaded by the teachers can be accessed by the students as per their pace and time convenience. So MOOCs developed by the teachers may help in facilitation of easy, smooth and individualistic learning.

Not only the teacher made MOOCs by using some LMS software, students can join MOOCs of other teachers also. Aspirant learners may join MOOCs from the various portals like SWAYAM which is Indian and other portals from out of India like Course era, Udacity, Udemy etc. Use of MOOCs in schools and higher education levels may help the students to learn beyond fixed curricular content also and with global perspective. This type of learning enriches his classroom learning experiences. Accessing and enrolling in the MOOCs designed and developed by faculty from other countries will also facilitate in gaining exposure of global curriculum.

Review of Related Literature

Bast (2018) in his article entitled as "Learning on the go", explained the government generated Massive Open Online Courses are very accessible and provide learning material free of any charge and these can be accessed by the use of mobile or laptop with connectivity. The course content provided in these courses is based on flexibility and can be accessed at any time and from any place. One of these significant digital initiatives is 'SWAYAM', which is a digital platform for uploading and accessing MOOCs offered from different top class institutions and faculty of our country. Rosolina and Rodolfo (2017) mentioned in their research paper entitled "Analyzing student's online learning behavior in blended courses using moodle" with the objective to study whether there is a correlation between students learning behavior and the actions logs recorded with the help of moodle and to further determine if there any relationship exists between student's level of activities participation in online mode and achievement in final examination. Analysis took into account log data received from a number of courses offered with moodle platform. The results reflected that there is a great variability in relationship between two variables. The findings of the research may help the teachers to observe the progress of learners and identify those learners who are not performing up to the mark and their level of participation in activities. Chea (2016) wrote an article entitled "Benefits and challenges of massive open online courses" and stated MOOCs as highly novel, innovative and recent pedagogies with respect to education. In his critical analysis of various benefits of adopting MOOCs in our education system, he also discussed issues and challenges related to MOOCs pedagogies. Massiveness of MOOCs was explained in terms of its ability to cater huge number of participants without any constraint of time and place. He further raised the concern for dropout rate and the cost of production of MOOCs being very high. Liu, Barnes, Brown, Baker, Namara, Lynch, Bergner (2016), conducted the study entitled" MOOCs Learners behavior by Country and Culture; An Exploratory Analysis" and worked on studying the national and cultural influence of learners on their achievement in those MOOCs which has huge number of enrollment. The results of the study reflected that cultural differences have contributed towards the three aspects of learners behavior and further emphasized on the need of acquaintance for MOOC designers regarding cultures. Meneses, cano and Roman (2015), wrote a research paper on "Analysis and Implications of the impact of MOOC movement in the scientific community". This paper reflected that MOOCs have set a turning milestone in designing and developing the course content in higher education. In the disciplines of Science and Research, MOOCs has a great impact and set the future framework of research. Jain, Bakshi,

Gopalkrishan, Mehram Upadhyay and Kannegal (2014) designed a vision paper for FCCI on MOOCs and the future of Indian higher education. The paper discussed the potential of MOOCs in various sectors of education; formal, informal and non formal and further reflected that India is facing resistance on the part of teachers as they do not want to change their pedagogies. Devgan and Puja (2013) conducted research to study prospects of success of MOOC in Indian Higher Education and stated that the appropriate implementation of MOOCs may solve the problems of higher education. Current higher education sector is being revolutionized with MOOCs. He also suggested a linear model for implementation of MOOCs.

Significance of the Study

Presently Indian higher education is going through a phase of unpredicted explosion in the number of institutions and the number of students. But it is a very big challenge for a developing country to materialize the vision of making available higher education to all the aspirants and to provide equal opportunities of quality education. In India access to higher education is less than the minimum threshold required as per the international benchmarks and moreover the distribution of institutions is also skewed. This access is also not based on equity and the higher education has also not been admired for quality.

With the rise of MOOCs in India, they are being projected as to have huge potential to cater the issues related to access, equity and quality. The present ecosystem in the country is also very positive for MOOCs because of some significant reasons like; a large number of internet users, availability of access devices and the changing philosophy about learning. Earlier people used to learn, earn and retire. But now the philosophy is to learn, unlearn and relearn. The learners are becoming life long learners. This positive ecosystem has paved the way for ICT based Pedagogies and MOOCs in India. Since 2017 India has developed its own MOOC delivery platform; SWAYAM and it is high time for the country to work for overcoming the challenges in its way to success. Despite of this great intiative the need of a large number of learners is still unmet. Moreover the learning in MOOCs depends on many factors as with the Face to face mode of Learning. These related factors need to be studied for successful implementation of MOOCs and to utilize the resources of the country in an effective way. This recent and innovative pedagogy in the form of MOOCs requires research validation, so it was felt to study the educational effectiveness of MOOCs with respect to Socio-economic Status of the learners.

Objectives

1. To compare the main effects of mode of teaching for developed MOOC in blended mode, and face to face mode on the educational effectiveness of Post-graduate students in the paper Introduction to Educational Research.
2. To compare the main effects of Socio-economic Status for the developed MOOC for Post-graduate students on the educational effectiveness in the paper Introduction to Educational Research.
3. To study the interaction effect of mode of teaching and socio Economic Status for the developed MOOC on the educational effectiveness of Post-graduate students in the paper Introduction to Educational Research.

Hypotheses

1. There is no significant difference in the main effects of mode of teaching for developed MOOC in blended mode and face to face mode on the educational effectiveness of Post-graduate students in the paper Introduction to Educational Research.
2. There is no significant difference in the main effects of the Socio-economic Status for the developed MOOC on the educational effectiveness of Post-graduate students in the paper Introduction to Educational Research.
3. There is no significant interaction effect of mode of teaching and Socio-economic Status for the developed MOOC on the educational effectiveness in the paper Introduction to Educational Research.

Research Design

A 3×2 Factorial Design was used to study the main and Interaction effect of mode of teaching and Socio-

economic Status on the educational effectiveness of Post-graduate students from Teacher Education Program. Mode of Teaching was categorized in two levels; Blended mode, Face to face mode of teaching. Socio-economic Status was categorized as High, Moderate and Low.

Tools Used:- Researcher made achievement test was used to assess the achievement in post test scores after experimental treatment. Socio-economic Status test by Kalia and Sahu was used to obtain data related to Socio-economic Status.

Statistical Techniques: Two way Analysis of Variance was used to study the differences.

Analysis and Interpretation

1. To compare the main effects of mode of teaching for developed MOOC in blended mode, and face to face mode on the educational effectiveness of Post-graduate students in the paper Introduction to Educational Research.

Groups	N	Mean	SD	T-value
Blended Learning	33	36.30	4.972	1.974*
Face-to-Face Learning	33	34.18	3.661	

Sig. at 0.01 level.

It can be inferred from above table that the mean scores of achievement for post test for the Post-graduate students taught by Bended mode of teaching and face to face mode of teaching differ significantly at .01 level of significance. Hence it can be stated that Blended mode of teaching significantly enhance the academic achievement of post graduate students of Teacher Education program.

2. To compare the main effects of Socio-economic Status for the developed MOOC for Post-graduate students on the educational effectiveness in the paper Introduction to Educational Research.

Groups	N		Mean		SD		t-value
HSES vs MSES	22	22	38.36	35.32	4.018	3.785	2.588**
HSES vs LSES	22	22	38.36	32.05	4.018	3.199	5.770**
MSES vs LSES	22	22	35.32	32.05	3.785	3.199	3.098**

Significant at 0.01 level.

(HSES 'High Social Economics Status', MSES 'Moderate Social Economics Status' LSES 'Low Social Economics Status)

It can be inferred from above table that the mean scores of achievement for post test for the Post-graduate students from different Socio-economic Status differ significantly at .01 level of significance. Hence it can be stated that Socio-economic Status significantly affects the academic achievement of post graduate students of Teacher Education program.

3. To study the interaction effect of mode of teaching and socio Economic Status for the developed MOOC on the educational effectiveness of Post-graduate students in the paper Introduction to Educational Research.

Mode of Learning	Social Economics Status		
	High (B_1)	Moderate (B_2)	Low (B_3)
Blended Learning (A_1)	Mean = 40.82 SD = 2.639 N = 11	Mean = 37.18 SD = 3.06 N = 11	Mean = 30.91 SD = 2.737 N = 11
Face-to-Face Learning (A_2)	Mean = 35.91 SD = 3.7 N = 11	Mean = 33.45 SD = 3.785 N = 11	Mean = 33.58 SD = 3.341 N = 11

It can be inferred from the above table that mean scores of post test for achievement for Blended mode of teaching differs significantly for post graduate students from different socioeconomic status.

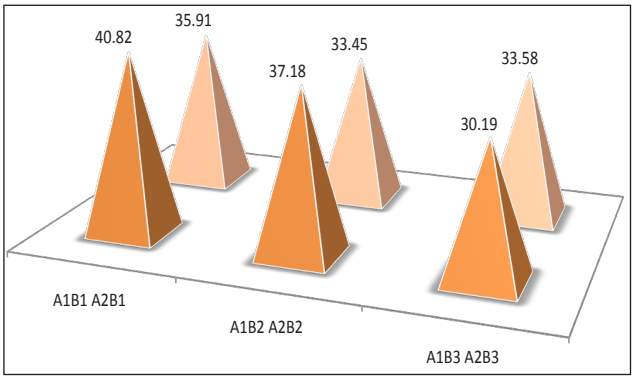

Fig. 1

Further the mean scores of post test for achievement for Face-to-Face mode of teaching differs significantly for post graduate students from different socioeconomic status. Students from high and moderate SES taught with Blended mode of teaching performed better on achievement test than with face to face mode of teaching And students from low SES performed better on achievement test taught with face to face mode of Teaching than with Blended mode of teaching.

Findings

1. Post-graduate Students taught with Blended mode of teaching from Teacher education Program performed better on achievement test when compared with face to face mode of teaching.
2. Levels of Socio-economic Status also affected academic achievement significantly.
3. Effect of Teaching method on Academic achievement is differential for different level of Socio-economic Status. Students with high SES and Moderate SES levels performed better on achievement test than the Face-to-Face mode of teaching. Students with low SES performed better on achievement test with face to face mode of teaching when compared with Blended mode of teaching.

CONCLUSION AND EDUCATIONAL IMPLICATIONS

The present research work advocates for considering the level of Socio-economic Status while planning teaching pedagogies specifically for post graduate students of teacher education program. As the findings have reflected that Students belonging to high SES and Moderate SES levels taught with Blended mode of teaching performed better on achievement test than the Face-to-Face mode of teaching. Students with low SES performed better on achievement test with face to face mode of teaching when compared with Blended mode of teaching. It was further stated that effect of MOOCs in Blended mode of teaching may have differential effect on academic achievement as per the socio economic status. May be the availability of access devices, issue of connectivity or the anxiety related to technology is more in students belonging to low Socio-economic Status. Careful planning of educational programs and subsequent decision about teaching methods need to be done as per the level of Socio-economic status. It may help in achieving the desirable goals of ICT based Pedagogies and Technology supported Teaching Methods in an more appropriate way.

ACKNOWLEDGEMENTS

The study used the MOOCs developed as a result of project work funded by Indian Council of Social Science Research, Delhi, India with the due acknowledgement.

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