Asian Review of Social Sciences
ISSN: 2249-6319 (P) Vol.8 No.2, 2019, pp.117-119

DOI: https://doi.org/10.51983/arss-2019.8.2.1573

Development of E-Learning Modules and to Study its Influences among National Eligibility Test Aspirants in Physical Education Subject

K. Tharmar[1] and R. Kalidasan[2]
[1]Research Scholar, [2]Associate Professor
[1&2]Department of Physical Education, Bharathidasan University, Trichy, Tamil Nadu, India
E-Mail: tharmasurya87@gmail.com, kalidasanbdu@gmail.com

(Received 21 April 2019; Revised 9 May 2019; Accepted 16 May 2019; Available online 23 May 2019)

Abstract - **The purpose of the study was to develop e-learning modules and to study its influences among national eligibility test aspirants in physical education subject. To achieve this purpose initially thirty six male national eligibility test aspirants who had completed postgraduate in physical education in the last three years have been randomly selected from Tiruchirappalli and Pudukkottai Districts, Tamil Nadu state, India and their age ranged from 24 to 27 years. A multiple choice test (pre-test) based on the NET physical education syllabi was conducted for all the subjects and top twenty scorers were taken as the subjects for this study. Using matching procedure on the basis of their pre-test scores, subject were assigned to two equal groups of ten subjects each and named as group 'A' and group 'B'. Group 'A' underwent teaching along with e-learning modules sessions and group 'B' undergone teaching sessions alone. To prepare the e-learning modules based on UGC–NET exam syllabus in physical education subject, the investigators had chosen unit seventh and prepare the ten modules with help of the mentor. The teaching of the syllabus was administered for both groups for a period of ten working days with each session lasting for an hour each day in the morning session. The e-learning modules developed by the investigators were shown to group 'A' for 15 to 20 minutes per day after the teaching session. For displaying e-learning modules, the computer laboratory was used. The post test was conducted to the both groups with a different set of multiple choice questions. To find out the difference between the two groups analysis of co-variance (ANCOVA) was used, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance. It was found that the teaching along with e-learning modules showed significant improvement on national eligibility test aspirants in physical education subject.**
Keywords: **E-learning, Modules and Technology**

I. INTRODUCTION

Today teacher in higher education institution uses technology for effective learning. Teaching through the help of electronic resources is known as e-learning or electronic learning. Sloman, (2001) defined "e-learning is the acquisition of knowledge and skill using electronic technologies such as computer and Internet-based courseware at local and wide area networks. Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning and teaching in the organization". Computer and Internet were major components of e-learning. The e-learning facilitates everybody to learn anytime and anywhere without the presence of the lecturer. The most important purpose of e-learning is to increase accessibility of education and reducing costs and time as well as improving students' academic performance. E-learning has a huge presence in almost every field. Teaching with e-learning module is one such field where technology has taken over and improved the ways of learning. For example, Teachers today use different techniques like movie-clippings, video clippings, commentaries, advertisements, dramatics and more. Not only it makes the session much more interesting than the old book style of teaching but also keeps the learner attentive during the class. E-learning has also changed the perspective of distance learning.In this approach of learning facilitates different students on different continents to attend the same classes almost at the same time. In the past, Vieira *et al.*, (2017), Holland *et al.*, (2016), and Leong, (2015) in their studies found that e-learning was effective among students community. Morgulis, *et al.*, (2012) stated that the e-learning module on leukaemia had a significant effect on learning in this cohort, compared with existing online resources. Mishra *et al.*, (2017) found that the e-learning module was in effective enhancing the knowledge among student nurses. Mukherjee & Donnelly (2018) found that initial assessments of e-learning modules in cytotechnology education.

Nowadays technology is rapidly evolving; education has also taken the support of ICT and now offers convenient ways to help increase the knowledge, education and literacy status of people. E-learning platform provides anywhere, anytime easy access for up-gradation of knowledge and skills. E-learning provides a platform wherein the individual gets a customized package related to key thematic areas, through a self-guided process.

The researchers had an interest in using technology to teach on Physical Education subject. Technology has a more influencing role in teaching and learning process. Nowadays many organizations and educational institutions are using e-learning because it can be as effective as traditional training at a lower cost. The investigators were physical education professional was motivated to develop e-learning modules for teaching on Physical Education subject and to see its impact among National Eligibility Test aspirants.The purpose of the study was to develop e-learning modules and to study its influences among national eligibility test aspirants in physical education subject.

II. METHODOLOGY

To achieve this purpose initially thirty six male national eligibility test aspirants who had completed postgraduate in physical education in the last three years have been randomly selected from Tiruchirappalli and Pudukkottai Districts, Tamil Nadu state, India and their age ranged from 24 to 27 years.A multiple choice test (pre-test) based on the NET physical education syllabi was conducted for all the subjects and top twenty scorers were taken as the subjects for this study. Using matching procedure on the basis of their test scores, subject were assigned to two equal groups of ten subjects each and named as group 'A' and group 'B'. Group 'A' underwent teaching along with e-learning modules sessions and group 'B' undergone teaching sessions alone. To prepare the e-learning modules based on UGC–NET exam syllabus in physical education subject, the investigators had chosen unit seventh and prepare the ten modules with help of the mentor. The teaching of the syllabus was administered for both groups for a period of ten working days with each session lasting for an hour each day in the morning session. The e-learning modules developed by the investigators were shown to group 'A' for 15 to 20 minutes per day after the teaching session. For displaying e-learning modules, the computer laboratory was used. The post test was conducted to the both groups with a different set of multiple choice questions. The pre and post tests were based unit seven syllabi of UGC-NET and conducted on two different set of 50 multiple choice questions which carry 1 mark for each correct answer.

III. STATISTICAL TECHNIQUES

The statistical analysis involves mean and standard deviation was used at first stage. In the second stage, analysis involves analysis of co-variance. To find out the difference between the two groups analysis of co-variance (ANCOVA) was used, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance.

TABLE I COMPUTATION OF ANALYSIS OF COVARIANCE ON TEACHING WITH AND WITHOUT E-LEARNING MODULES GROUPS AMONG NATIONAL ELIGIBILITY TEST ASPIRANTS IN PHYSICAL EDUCATION SUBJECT

Test	Group 'A'	Group 'B'	SOV	SS	df	MS	'F' ratio
Pre test							
Mean	23.10	20.50	B.G.	33.80	1	33.80	3.92
SD (±)	2.85	3.02	W.G.	155.40	18	8.63	
Post test							
Mean	37.20	25.00	B.G.	744.20	1	744.20	78.98*
SD (±)	3.26	2.87	W.G.	169.60	18	9.42	
Adjusted post test							
Mean	36.29	25.91	B.S.	442.45	1	442.45	80.51*
			W.S.	93.43	17	5.50	

B.G. – Between Groups B.S. – Between Sets df – degrees of freedom
W.G. – Within Groups W.S. – Within Sets

Table I values required for significance at 0.05 level with df (1, 18) and (1, 17) are 4.41 and 4.45 respectively.

IV. DISCUSSION ON FINDINGS

Table I indicates that the pre-test mean values of teaching along with and without e-learning groups are 23.10 and 20.50 respectively. The obtained 'F' ratio 3.92 for pre-test scores was less than the table value 4.41 for degrees of freedom 1 and 18 required for significance at 0.05 level of confidence. The post-test mean values on teaching along with and without e-learning groups are 37.20 and 25.00 respectively.

The obtained 'F' value 78.98 for post-test scores was greater than the table value 4.41 for degrees of freedom 1 and 18 required for significance at 0.05 level of confidence. The adjusted post-test mean values of teaching along with and without e-learning groups are 36.29 and 25.91 respectively. The obtained 'F' value of 80.51 for adjusted post-test means was greater than the table value of 4.45 for degrees of freedom 1 and 17 required for significance at 0.05 level confidences. The result of the study indicated that there was a significant level difference among the adjusted post-test means of teaching along with and without e-learning groups.

The present study evolves a new approach to teaching with e-learning modules among national eligibility test aspirants in physical education subject. Similar effort was carried out by Jabakumar *et al.,* (2011) e-content on Hockey skills, Leong *et al.,* (2015) an online module for teaching physical assessment skills for dentistry, Mishra *et al.,* (2017) used e-learning module on first aid. Mukherjee & Donnelly, (2018) done assessments of e-learning modules in cytotechnology education.

Mean difference of teaching along with and without e-learning modules among national eligibility test aspirants in physical education subject are presented in Fig.1.

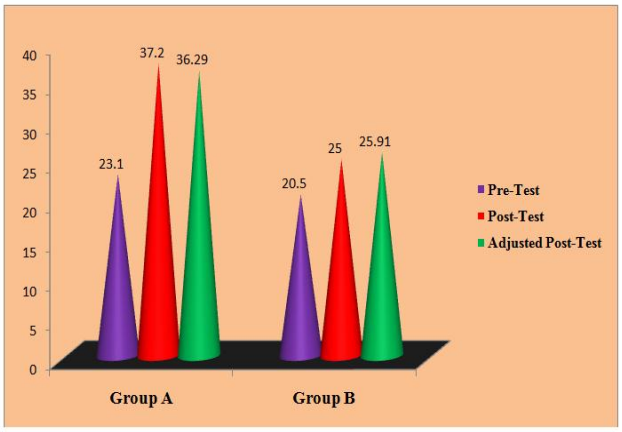

Fig. 1 Pre, Post and adjusted Post-tests mean values of teaching along with and without E-Learning modules groups among National Eligibility Test Aspirants in Physical Education Subject

From the discussion, teaching along with e-learning modules approach has good efficiency in learning and improve the knowledge among the national eligibility test aspirants in physical education subject and the researchers suggest that teachers and trainers should give due importance to e-learning modules while preparing physical education students for national eligibility test at all levels.

V. CONCLUSION

From the analysis of data, the following conclusions were drawn.

1. It was found that there was a significant difference between the adjusted post-tests scores of teaching along with and without e-learning groups among the national eligibility test aspirants in physical education subject.
2. It was found that subjects of teaching along with the e-learning group showed significant improvement than the other group.
3. It was also found that e-learning modules developed in this study were effective among national eligibility test aspirants in physical education subject.

REFERENCES

[1] Averns, H., Maraschiello, M., Van Melle, E., & Andrew, D. (2009).Evaluation of a web-based teaching module on examination of the hand. *Journal of Rheumatology*, *36*(3), 623–627. Retrieved from https://doi.org/10.3899/jrheum.080761

[2] Da Costa Vieira, R. A., Lopes, A. H., Sarri, A. J., Benedetti, Z. C., & de Oliveira, C. Z. (2017). Oncology E-Learning for Undergraduate. A Prospective Randomized Controlled Trial. *Journal of Cancer Education*, *32*(2), 344–351. Retrieved from https://doi.org/10.1007 /s13187-015-097 99

[3] De Jong, O., Van Driel, J. H., & Verloop, N. (2005). Preservice teachers' pedagogical content knowledge of using particle models in teaching chemistry. *Journal of Research in Science Teaching*, *42*(8), 947–964. Retrieved from https://doi.org/10.1002/tea.20078

[4] Detroyer, E., Dobbels, F., Debonnaire, D., Irving, K., Teodorczuk, A., Fick, D. M., Milisen, K. (2016). The effect of an interactive delirium e-learning tool on healthcare workers' delirium recognition, knowledge and strain in caring for delirious patients: a pilot pre-test/post-test study. *BMC Medical Education*, 16, 17. Retrieved from https://doi.org/10.1186/s12909-016-0537-0

[5] Fontaine, G., Cossette, S., Heppell, S., Boyer, L., Mailhot, T., Simard, M.J., & Tanguay, J.F. (2016). Evaluation of a Web-Based E-Learning Platform for Brief Motivational Interviewing by Nurses in Cardiovascular Care: A Pilot Study. *Journal of Medical Internet Research*, *18*(8), e224. Retrieved from https://doi.org/10.2196/ jmir.6298

[6] Frith, J., Hubbard, I., James, C., & Warren-Forward, H. (2017). In the Driver's Seat: Development and Implementation of an e-Learning Module on Return-to-Driving After Stroke.*Occupational therapy in health care*, *31*(2), 150-161.

[7] Gerhardt-Szép, S., Dreher, S., Rüttermann, S., &Weberschock, T. (2017). Konzeption und Implementierungeinesneu artigen E-Learning-ModulsmitEbM-Lerninhaltenim Fach Zahner haltungskunde. *ZeitschriftfürEvidenz, Fortbildung und Qualitätim Gesundheitswesen*, 127, 72-78.

[8] Huangl, C., Chitt, C., Chin, S., Hsin, L., &Yul, Y. (2010). A Sports E-learning Platform: Teaching and learning by using Multimedia Contents. *2010 3rd IEEE International Conference on Ubi-Media Computing (U-Media)*, 222–226. Retrieved from https://doi.org/10. 1109/UMEDIA.2010.5544460

[9] Jabakumar, K. I., Kumar, M. S., &Kalidasan, R. (2011).Influence of e-Content Based Coaching on Selected Fundamental Skills in Field Hockey.*Recent Research in Science and Technology*, 3(1).

[10] Kowitlawakul, Y., Chan, M. F., Tan, S. S. L., Soong, A. S. K., & Chan, S. W. C. (2017). Development of an e-Learning research module using multimedia instruction approach.*CIN - Computers Informatics Nursing*, *35*(3), 158–166. Retrieved from https://doi.org/ 10.1097/ CIN. 0306

[11] Leong, C., Louizos, C., Currie, C., Glassford, L., Davies, N. M., Brothwell, D., & Renaud, R. (2015a). Student perspectives of an online module for teaching physical assessment skills for dentistry, dental hygiene, and pharmacy students. *Journal of Interprofessional Care*, *29*(4), 383–385. Retrieved from https://doi.org/10. 3109/ 13561820.2014.977380

[12] Lindenmaier, T. J., Brown, J., Ranieri, L., Steary, D., Harrison, H., Flook, J., & Lorusso, E. (2018).The effect of an e-learning module on health sciences students' venipuncture skill development.*Canadian Journal of Respiratory Therapy*, *54*(1).

[13] McIntyre, T., Wegener, M., & McGrath, D. (2018). Dynamic e-learning modules for student lecture preparation. *Teaching & Learning Inquiry*, *6*(1), 126-145.

[14] Mishra, A., Rani, S., & Bhardwaj, U. (2017). Effectiveness of e-learning module on first aid: a study on student nurses. *International Journal of Nursing Education*, *9*(3), 6-10.

[15] Morgulis, Y., Kumar, R. K., Lindeman, R., & Velan, G. M. (2012). Impact on learning of an e-learning module on leukaemia: a randomised controlled trial. *BMC medical education*, 12(1), 36.

[16] Mukherjee, M. S., & Donnelly, A. D. (2018). Initial Assessments of E-learning modules in cytotechnology education. *Journal of Pathology Informatics*, 9.

[17] Rekha, N., & Muthuchamy, I. (2013).Development and Validation of E-Content on DNA Replication in Botany at Higher Secondary Level.*group*, *20*(13.5), 3-35.

[18] Rohleder, P., Bozalek, V., Carolissen, R., Leibowitz, B., & Swartz, L. (2008). Students' Evaluations of the Use of E-Learning in a Collaborative Project between Two South African Universities. *Higher Education*, *56*(1), 95–107. Retrieved from http://www.jstor. org/stable/29735227

[19] Sloman, M. (2001). *The e-learning revolution: From propositions to action*, London: Chartered Institute of Personnel and Development.

[20] Velan, G. M., Goergen, S. K., Grimm, J., & Shulruf, B. (2015). Impact of Interactive e-Learning Modules on Appropriateness of Imaging Referrals: A Multicenter, Randomized, Crossover Study. *Journal of the American College of Radiology*, *12*(11), 1207–1214. https://doi.org/10.1016/j.jacr.2015.06.026

[21] Weiner, D. K., Morone, N. E., Spallek, H., Karp, J. F., Schneider, M., Washburn, C., & Elnicki, D. M. (2014). University of Pittsburgh Center of Excellence in Pain Education. E-learning module on chronic low back pain in older adults: evidence of effect on medical student objective structured clinical examination performance. *J Am GeriatrSoc*, 62, 1161-1167.