THE EFFICIENCY OF ONLINE LEARNING ENVIRONMENTS IN FOSTERING ACADEMIC MOTIVATION

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ABSTRACT

Student interaction in the educational process depends critically on academic motivation. This raised fresh concerns about how to investigate the impact of the online learning environment on students' academic motivation. The current study intends to determine how well online learning settings support the growth of academic motivation in groups of boys and girls pursuing professional master's degrees. The participants are students in the professional master's degree in educational technology's second academic level, and they were split into two experimental groups (one for males and one for girls). The "interactive multimedia" course was studied by the two groups in online learning settings. The academic motivation scale was utilized as a study tool to accomplish the study's objective. The findings indicated that there were no statistically significant differences between groups of boys and girls in the utilization of online learning environments on the growth of academic motivation.

Keywords: Academic motivation; online learning environments; Interactive multimedia; gender groups

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INTRODUCTION

How to attain learning objectives in higher education in the midst of the COVID-19 pandemic is a difficulty. To increase learning route flexibility, it is crucial to look beyond the limitations of time and geography [1-3]. More specifically, switching from traditional to online learning is an option if pupils are not allowed to enroll in educational institutions [4-6]. The most common type of online learning environment was used to distribute instructional materials in many universities due to the lockdown that followed the start of the pandemic [7-9]. The term "online learning environment" can also refer to an electronic classroom that provides a flexible educational course with regard to time, space, and material [10, 11].

Both students and teachers can benefit from the many features that online learning environments provide, including desktop sharing, simultaneous chat, file and video sharing for instructional purposes, and more [12, 13]. As a result, this pandemic has compelled both instructors and students to get ready to carry out their duties in a virtual learning environment [14-16]. The study of Hussain Al-Qahtani [17], which looked into how both faculty members and students in the English Language Department felt about online learning environments, is one of several earlier studies that dealt with research and experimenting with online learning environments. The results showed that the majority of students and faculty members had favorable opinions of the online learning environment, and the results showed that using the online learning environment had improved communication abilities. Along with the Elfeky, Alharbi [18] study, which evaluated the impact of traditional instruction and online learning settings on community college students' English language proficiency.

One of the numerous benefits of a learning management system is the digitization and automation of many traditional campus teaching methods and pedagogical tasks [19-21]. As a result, students can use an LMS to access a variety of resources given by their teacher and communicate with peers in real-time [22-24]. By giving students access to online instructions and information, an LMS like Blackboard has emerged as a crucial component of delivering contemporary university curricula and improving the teaching and learning processes in higher education [25-27].

The Blackboard system encourages the incorporation of efficient and cutting-edge educational technologies through the use of online learning environments [28, 29]. Additionally, the Collaborate Ultra Experience LTI online learning environment, which is used by integrating it into the Blackboard system, is a special bonus for students who profit from the use of virtual environments. With the use of IT infrastructure and cutting-edge

technology, this application seeks to promote seamless, real-time interaction between students and faculty members. [30, 31].

The student's academic motivation and the accomplishment of educational objectives, on the other hand, are related [32, 33]. To engage in the learning process, students must be motivated and engaged in the subject [34, 35], and academic motivation is the mechanism that encourages goal-oriented participation in the learning process. [36, 37]. Teachers frequently name students' lack of academic enthusiasm as the biggest issue in their classes.[38-41]. Additionally, academic motivation among undergraduate students is diminishing, according to studies, highlighting the need for a deeper understanding of the variables that may affect students' academic drive [42, 43]. However, little is known about how well using online learning environments might improve students' (boys and girls') academic motivation.

The issue with this study became apparent to the researchers after they noticed that both male and female professional master's degree students repeatedly failed to meet the stated objectives of the "Interactive Multimedia" course. There is a connection between student academic motivation and the accomplishment of educational goals, as stated in the research's introduction [32, 44, 45], i.e., in order to complete the course objectives, students must be driven to learn about the material and interested in doing so [34, 46]. Additionally, as was previously indicated, numerous studies have proven that academic desire tends to drop during the undergraduate years, highlighting the need for a deeper understanding of the variables that may influence students' academic motivation [42, 47]. The usefulness of online learning environments in boosting students' academic motivation across the boy and girl's groups isn't well understood, yet. Given the foregoing, a challenge that explores the efficiency of online learning environments in fostering academic motivation among groups of boys and girls can be constructed.

METHODOLOGY

In the current study, which explores the effectiveness of online learning environments in academic motivation, the semi-experimental approach was utilized. As a result, the following semi-experimental design was adopted:

Table (1): The research's quasi-experimental methodology

	Pre-test	Treatment	Post-test
Group 1 (girls)	Academic Motivation Scale	Online learning environments	Academic Motivation Scale
Group 2 (boys)			

Research Tool

In order to create a scale of academic motivation, the researchers looked at earlier research and educational literature on the topic, including Najmi, Alhalafawy [15], Ghiasvand, Naderi [48], Yu [49], Alshammary and Alhalafawy [50], Alzahrani, Alshammary [51]. The 25 statements that made up the academic motivation scale were rated on a five-point Likert scale, with 5 being the strongest agreement and 1 being the strongest disagreement for each positive and negative statement, respectively.

It was necessary to show the scale to a group of experts in the fields of educational technology, home economics, curriculum, and teaching methods in order to determine its validity in its initial version. When it came to the suitability of the phrases, their clarity and linguistic soundness, what can be removed or added from those phrases, and any other comments or observations, the arbitrators were asked to express their judgments on the academic motivation scale. The judges' views were taken into consideration when creating the final measure of academic motivation and the consensus of (80%) of the arbitrators' opinions was sufficient to accept each statement of the scale.

By applying the scale to a survey sample of (23) male and female students who were not involved in the actual research, Cronbach's Alpha was used to test the stability of the academic motivation scale and found that the reliability coefficient for the scale was (0.93). It can be seen that the time needed to apply the scale is (25) minutes by keeping track of the average amount of time each male and female student from the survey sample took to complete the test. As a result, the scale is prepared to be used with students, both male and female, as a research sample.

Research Sample

In the second semester of the academic year 2023, there were (58) male and female students enrolled in the Master of Vocational Education Technologies program at the College of Education at Najran University. They were split into two equal groups for the experiment. 29 students made up the first experimental group, while 29 female students made up the second experimental group. Over the course of two semesters, both experimental groups studied the "Interactive Multimedia" course. Additionally, applying the two research instruments (a

gauge of academic motivation) to the two experimental groups beforehand was necessary in order to confirm the equivalence of the two groups before application.

Make Sure the Two Groups have Comparable Levels of Academic Motivation
Applying the academic motivation measure to a research sample of all male and female students. Additionally, the significance of the differences between the mean scores of the two research groups were determined by using the T test for independent samples to analyze the extracted data in order to confirm their equivalence before the experiment began. The disparities between the pre-application Academic Motivation Scale scores of male and female students are shown in Table 2.

Table 2: The importance of the variations between the two study groups in the academic motivation scale's preliminary measurement

Group	N	M	SD	Mean Difference	T. Ratio	Sig.
First group (girls)	29	55.6	5.316	1.7	5.427	0.617
Second group (boys)	29	53.9	6.628			

The above table makes obvious the variations in the mean scores between the two research groups prior to applying the academic motivation scale, even if they were not statistically significant at the level (0.05). In other words, before participating in the experiment, the male and female students in the research sample had similar levels of academic enthusiasm.

Experimental Processing Material
Ten lectures were created for the "Interactive Multimedia" course using online learning platforms. These lectures were delivered using a number of procedural phases that were based on several instructional design approaches. This is to guarantee that the course's goals can be met. When creating the educational activities, the qualities of the learners were taken into account together with the content that meets these goals. Considering the advantages of online learning environments when delivering lectures, including the chat room, live video and audio broadcasting, the white board, desktop or application sharing, in addition to concurrent web browsing.

RESULTS
In order to find out the answer to the research question, the arithmetic means of the academic motivation scale scores for both research groups were extracted. This was done to see if there were any statistically significant differences between the two experimental groups because of the learner's gender. The findings of the T test used to compare the average academic motivation scores for the two experimental research groups are shown in Table 3.

Table.3: Finding of the T test comparing the two experimental research groups' average academic motivation scores

Group	M	SD	Mean Difference	T. Ratio	Sig.
Group 1 (girls)	127.3	4.421	1.8	5.614	0.318
Group 2 (boys)	129.1	3.937			

The previous table demonstrates that the averages of the two experimental groups are high, which suggests that the usage of online learning environments inside learning management systems has improved the academic motivation of the two groups of boys and girls. (Boys and girls group) scored (5.614) on the academic motivation scale, (127.3) on average for students in the first experimental group, and (129.1) on average for students in the second experimental group. In other words, there are no statistically significant variations in academic motivation between the two groups of boys and girls ($p = 0.318 > 0.05$). In other words, this study shows that using online learning environments has no statistically significant impact on the development of academic motivation in the boy and girl groups. The research question was addressed by us.

DISCUSSION
In the "Interactive Multimedia" course, the academic motivation of male and female Faculty of Education students enrolled in the professional master's degree was examined. The use of online learning environments appeared to have an effect on the growth of academic motivation in both experimental research groups (boys and girls), according to the results. Due to the utilization of online learning settings, there were no statistically significant variations in academic motivation between the boys' and girls' groups. Asadi, Khodabandeh [52] conclusion that students who participated in the online learning environment performed better than their peers who studied in the traditional classroom was supported by the findings of other earlier studies that examined the impact of using online learning environments on various learning outcomes. Differences between boys and

girls in learning outcomes owing to the usage of online learning environments, which did not exist in other studies, were validated by the findings of the current study.

RECOMMENDATIONS
- Developing faculty members' abilities to use online learning settings.

- Utilizing additional technical techniques and approaches to increase students' satisfaction.

- Increasing the degree of learner satisfaction at other educational levels.

SUGGESTED RESEARCH
- Conducting additional research at various educational levels to support the effectiveness of utilizing these classrooms in various settings.

- Utilizing augmented reality to increase students' motivation for their academic work.

- Using the project technique to gauge how well both male and female students are motivated academically.

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REFERENCES
1. Lakhal, S., D. Bateman, and J. Bédard, Blended Synchronous Delivery Mode in Graduate Programs: A Literature Review and Its Implementation in the Master Teacher Program. Collected Essays on Learning and Teaching, 2017. **10**: p. 47-60.

2. Ahmed, E.S.A.H., S.M. Alharbi, and A.I. Elfeky, Effectiveness Of A Proposed Training Program In Developing Twenty-First Century Skills And Creative Teaching Skills Among Female Student Teachers, Specializing In Early Childhood. Journal of Positive School Psychology, 2022: p. 4316-4330.

3. Raes, A., et al., Learning and instruction in the hybrid virtual classroom: An investigation of students' engagement and the effect of quizzes. Computers & Education, 2020. **143**: p. 103682.

4. Basilaia, G. and D. Kvavadze, Transition to online education in schools during a SARS-CoV-2 coronavirus (COVID-19) pandemic in Georgia. Pedagogical Research, 2020. **5**(4): p. 1-9.

5. Elfeky, A.I.M. and M.Y.H. Elbyaly, Multimedia: Different Processes. Interactive Multimedia-Multimedia Production and Digital Storytelling, 2019.

6. Sintema, E.J., E-Learning and Smart Revision Portal for Zambian primary and secondary school learners: A digitalized virtual classroom in the COVID-19 era and beyond. Aquademia, 2020. **4**(2): p. ep20017.

7. Chowdhury, F., Virtual Classroom: To Create a Digital Education System in Bangladesh. International Journal of Higher Education, 2020. **9**(3): p. 129-138.

8. Poongodi, A. and J. Periasamy, Enhancing English Speaking Skills of Engineering Students in Virtual Classroom. International Journal, 2020. **8**(10).

9. Masada, T.S.Y., Immediate versus delayed feedback in promoting student teachers skills for lesson plan implementation. Thouqan Saleem Yakoub Masadeh and Abdellah Ibrahim Mohammed Elfeky (2017) Immediate Versus Delayed Feedback in Promoting Student Teachers Skills for Lesson Plan Implementation, British Journal of Education, 2017. **5**(8): p. 43-58.

10. Elbyaly, M.Y.H. and A.I.M. Elfeky, The role of metacognition in promoting deep learning in MOOCs during COVID-19 pandemic. PeerJ Computer Science, 2022. **8**: p. e945.

11. Elbourhamy, D.M., A.H. Najmi, and A.I.M. Elfeky, Students' performance in interactive environments: an intelligent model. PeerJ Computer Science, 2023. **9**: p. e1348.

12. Sultana, M., F.A. Jibon, and M.A. Kashem, An Improved Model of Virtual Classroom using Information Fusion and NS-DBSCAN. Global Journal of Computer Science and Technology, 2020. **20**(5).

13. Elfeky, A.I.M. and M.Y.H. Elbyaly, The use of data analytics technique in learning management system to develop fashion design skills and technology acceptance. Interactive Learning Environments, 2021: p. 1-18.

14. Purwanto, A., Flipped Virtual Classroom Learning Model for the Course Study Discourse Analysis in Translation. Scope: Journal of English Language Teaching, 2020. **5**(1): p. 01-07.

15. Najmi, A.H., W.S. Alhalafawy, and M.Z.T. Zaki, Developing a Sustainable Environment based on Augmented Reality to Educate Adolescents about the Dangers of Electronic Gaming Addiction. Sustainability, 2023. **15**(4): p. 3185.

16. Alzahrani, F.K. and W.S. Alhalafawy, Gamification for Learning Sustainability in the Blackboard System: Motivators and Obstacles from Faculty Members' Perspectives. Sustainability, 2023. **15**(5): p. 4613.

17. Hussain Al-Qahtani, M., Teachers' and students' perceptions of virtual classes and the effectiveness of virtual classes in enhancing communication skills. Arab World English Journal (AWEJ) Special Issue: The Dynamics of EFL in Saudi Arabia, 2019.

18. Elfeky, A.I.M., S.M. Alharbi, and E.S.A.H. Ahmed, The Effect Of Project-Based Learning In Enhancing Creativity And Skills Of Arts Among Kindergarten Student Teachers. Journal of Positive School Psychology, 2022. **6**(8): p. 2182-2191.

19. Anderson, T. and J. Dron, Integrating learning management and social networking systems. Italian Journal of Educational Technology, 2017. **25**(3): p. 5-19.

20. Elfeky, A.I.M. and M.Y.H. Elbyaly, The Impact Of Virtual Classrooms On The Development Of Digital Application Skills Among Teachers Of Digital Skills In Najran Region. Ann. For. Res, 2023. **66**(1): p. 2044-2056.

21. Elbyaly, M.Y.H. and A.I.M. Elfeky, The Impact Of Blended Learning In Enhancing The Skill Performance Of Producing Digital Content Among Students Of Optimal Investment. Ann. For. Res, 2023. **66**(1): p. 2031-2043.

22. Homavazir, M. and R. Gopal, A research study on the digitalisation of higher education and its impact on teaching and students assessment in commerce, management and science colleges in Mumbai. AADYA-Journal of Management and Technology (JMT), 2018. **8**(1): p. 93-100.

23. Almalki, A.D.A. and A.I.M. Elfeky, The Effect of Immediate and Delayed Feedback in Virtual Classes on Mathematics Students' Higher Order Thinking Skills. Journal of Positive School Psychology, 2022: p. 432–440-432–440.

24. Elbyaly, M.Y.H. and A.I.M. Elfeky, The effectiveness of a program based on augmented reality on enhancing the skills of solving complex problems among students of the Optimal Investment Diploma. Ann. For. Res, 2023. **66**(1): p. 1569-1583.

25. Napitupulu, D., et al. Analysis of student satisfaction toward quality of service facility. in Journal of Physics: Conference Series. 2018. IOP Publishing.

26. Elbyaly, M.Y.H. and A.I.M. Elfeky, Investigating the effect of vodcast to enhance the skills of the Canadian smocking and complex problem solving. Current Psychology, 2022. **41**(11): p. 8010-8020.

27. Elfeky, A.I.M. and M.Y.H. Elbyaly, The effectiveness of virtual classrooms in developing academic motivation across gender groups. Ann. For. Res, 2023. **66**(1): p. 2005-2020.

28. Taylor, J.C., et al. Virtual Reality Classroom Practice: Examining Outcomes And Opinions Across Preservice Teachers'experiences. in TED 2019 Conference. 2019.

29. Elfeky, A.I.M. and M.Y.H. Elbyaly, Examining The Effects Of Virtual Classroom Use Inside Learning Management Systems On Enhancing Student Satisfaction. Ann. For. Res, 2023. **66**(1): p. 1980-1990.

30. Suwais, K. and A. Alshahrani, The Impact of Virtual Classes on Students' Performance in Open Learning Environments: The Case of Arab Open University, Saudi Arabia. J. Comput. Sci., 2018. **14**(1): p. 14-22.

31. Alharbi, S.M., A.I. Elfeky, and E.S. Ahmed, The effect of e-collaborative learning environment on development of critical thinking and higher order thinking skills. Journal of Positive School Psychology, 2022: p. 6848-6854.

32. Sanaie, N., et al., Comparing the effect of lecture and Jigsaw teaching strategies on the nursing students' self-regulated learning and academic motivation: A quasi-experimental study. Nurse education today, 2019. **79**: p. 35-40.

33. Masadeh, T.S.Y. and A.I.M. Elfeky, Efficacy of open-source learning management systems in developing the teaching skills of English language student teachers. American Journal of Educational Research, 2016. **4**(4): p. 329-337.

34. Lynch, A.D., R.M. Lerner, and T. Leventhal, Adolescent academic achievement and school engagement: An examination of the role of school-wide peer culture. Journal of youth and adolescence, 2013. **42**(1): p. 6-19.

35. Elfeky, Social Networks Impact factor on Students' Achievements and Attitudes towards the" Computer in Teaching" Course at the College of Education. International journal on E-learning, 2017. **16**(3): p. 231-244.

36. Koenka, A.C., Academic Motivation Theories Revisited: An Interactive Dialog between Motivation Scholars on Recent Contributions, Underexplored Issues, and Future Directions. Contemporary Educational Psychology, 2020: p. 101831.

37. Elbyaly, M. and E. El-Fawakhry, Online teaching course to develop Students'creativity in handmade embroidery. British Journal of Education, 2016. **4**(13): p. 30-51.

38. Scales, P.C., et al., Academic Year Changes in Student-Teacher Developmental Relationships and Their Linkage to Middle and High School Students' Motivation: A Mixed Methods Study. The Journal of Early Adolescence, 2020. **40**(4): p. 499-536.

39. Elfeky and Elbyaly, The use of CSCL environment to promote students' achievement and skills in handmade embroidery. European Journal of Training and Development Studies, 2017. **4**(2): p. 19-32.

40. Elbyaly and Elfeky, The effectiveness of project-based learning on enhancing the critical thinking skills of optimal investment students. Annals of Forest Research, 2023. **66**(1): p. 1569-1583.

41. Elbyaly and Elfeky, The effectiveness of a program based on augmented reality on enhancing the skills of solving complex problems among students of the Optimal Investment Diploma. Annals of Forest Research, 2023. **66**(1): p. 1595-1606.

42. Trolian, T.L. and E.A. Jach, Engagement in College and University Applied Learning Experiences and Students' Academic Motivation. Journal of Experiential Education, 2020: p. 1053825920925100.

43. Elfeky and Elbyaly, The impact of learning object repository (lor) in the development of pattern making skills of home economics students. British Journal of Education, 2016. **4**(2): p. 87-99.

44. Wibrowski, C.R., W.K. Matthews, and A. Kitsantas, The role of a skills learning support program on first-generation college students' self-regulation, motivation, and academic achievement: A longitudinal study. Journal of College Student Retention: Research, Theory & Practice, 2017. **19**(3): p. 317-332.

45. Elfeky and Elbyaly, The impact of augmented reality technology on developing hand embroidery skills among students of the College of Education. Annals of Forest Research, 2023. **66**(1): p. 1584-1594.

46. Elbyaly, M.Y.H., Heritage Revival by the Use of Saudi Bedouin Textiles in the Gulf Mantle. Journal of Home Economics, 2016. **26**(4).

47. Elfeky and Elbyaly, Developing skills of fashion design by augmented reality technology in higher education. Interactive Learning Environments, 2021. **29**(1): p. 17-32.

48. Ghiasvand, A.M., et al., Relationship between time management skills and anxiety and academic motivation of nursing students in Tehran. Electronic physician, 2017. **9**(1): p. 3678.

49. Yu, V.E., Possible Selves and Academic Motivation in Russian and American College Students. Психология. Журнал Высшей школы экономики, 2021. **18**(2): p. 352-365.

50. Alshammary, F.M. and W.S. Alhalafawy, Digital Platforms and the Improvement of Learning Outcomes: Evidence Extracted from Meta-Analysis. Sustainability, 2023. **15**(2): p. 1305.

51. Alzahrani, F.K.J., F. Alshammary, and W. Alhalafawy, Gamified Platforms: The Impact of Digital Incentives on Engagement in Learning During Covide-19 Pandemic. Cult. Manag. Sci. Educ, 2022. **7**: p. 75-87.

52. Asadi, N., F. Khodabandeh, and R.R. Yekta, Comparing and contrasting the interactional performance of teachers and students in traditional and virtual classrooms of advanced writing course in distance education university. Turkish Online Journal of Distance Education, 2019. **20**(4): p. 135-148.