

Original Article

The motivation and attitude of language learners in learning management systems and social networks and its effect on improving the personal health of learners

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Abstract

Background: The purpose of the present study was to examine how Moodle, a learning management system, influences students' motivation and attitudes toward online learning, both with and without the use of Eitaa as a learning platform, and how this influences the promotion of personal health.

Methods: This research was semi-experimental in nature. Four groups of totally 101 female students from the Shahid Bahonar University of Hamedan, affiliated with Farhangian University, were chosen at random. The first group was trained online for two months using Moodle, while the second group was trained through the Eitaa virtual network. The third group was trained in a combination of Moodle and Eitaa, and the fourth group was trained in the traditional way (lecture). Students' attitudes were assessed in the pre- and post-exam stages using Levin's attitude questionnaire, and their motivation was measured using Papi's questionnaire. The research instruments were examined and confirmed in terms of reliability and validity in a preliminary study.

Results: After 2 months of online training with Moodle as a Learning Management System (LMS), students' attitude and motivation to promote their personal health increased significantly compared to traditional education. Students in the Eitaa group scored greater on attitude and motivation than those in the conventional group. The attitudes and motivations of students in the combined LMS-Eitaa group and the conventional education group did not significantly differ from one another.

Conclusion: To improve students' attitude and motivation, online training by the Moodle should be used as an LMS. This successful educational approach will lead to the improvement of a healthy lifestyle by promotion of the level of personal health.

Keywords: Attitude; Education; Health Promotion; Social Media.

Cite this article as: Attar M. The motivation and attitude of language learners in learning management systems and social networks and its effect on improving the personal health of learners. *Soc Determinants Health*. 2024;10(1):1-10. DOI: <http://dx.doi.org/10.22037/sdh.v10i1.44733>

Introduction

Considering the rapid developments in the field of technology and their effects on various fields, especially education, the use of new techniques and tools to teach various subjects is inevitable (1). Globally, the use of information and communications technology (ICT) has altered education. Network technology is

being used and integrated into higher education on a growing scale. New learning possibilities are provided by using the World Wide Web and the internet. The methods for implementing these new approaches are likewise changing as teaching and learning styles change. Social

networks have therefore ingrained themselves into students' lives (2).

The researcher concerned about use of social networks to learn foreign languages and the studies have questioned the use of such networks (3). Nonformal learning occurs outside the settings of official education, and are replacements for the academic content, without wasting the time to provide a formal curriculum (4). In the studies by Dogoriti & Pange on the use of ICT to teach foreign languages in the higher education system in Greece and the teacher's view of the ICT, it was revealed that although there is sufficient infrastructure in the higher education institutions, the use of the ICT is limited (5). Studying the role of e-learning in the learning improvement, Shirbagi & Azizi concluded that e-learning is useful for improvement of the pronunciation skills, the creation of motivation for learning, and a positive attitude to learning (6).

In an academic community in which the users have similar interests, the social networks are the potentials that can be used "in language classes in various types of constructive methods" (7). The Social Network Service (SNS) is a nonformal and mobile replacement for flexible teaching and learning which has no time limits (8-11).

In terms of the use of social networks and learning management systems, the results indicated that despite the high prevalence of virtual learning, and inclination of language learners towards this medium, especially during the COVID-19 pandemic, no formulated studies have been conducted on this field to evaluate the students' attitude and motivation for learning. The current research sought to answer the question of whether the Learning Management System (LMS) and social networks such as Eitaa are effective in improving of university students' attitudes and motivation. Since the potential of the ITA network as an educational medium in a scientific environment that may support the LMS in a

learning community is mainly focused in the present study, the effectiveness of the simultaneous use of these to improve attitudes and motivation towards education and health promotion is also investigated.

Methods

In the present study, the statistical population included the female undergraduate students of the educational sciences in Shahid Bahonar University, Hamedan, in the second semester of the 2020-21 educational year. The participants were aged between 19 and 27 years old. The number of participants was 101 students who were selected and divided into four groups using the convenient sampling method. The training courses were randomly allocated to the classes. However, because the students were not randomly allocated to different case groups, a pretest was used to solve the problem of students' differences in terms of previous knowledge of the subject. It was controlled using the statistical analysis methods.

In the present study, all four groups received some pieces of training (various levels of independent variable). Twenty-two students in Class A expressed interest in taking part in the study. They participated in a two-month online training program, with Moodle serving as the LMS. Twenty-five students from Class B who had received training via the Eitaa network took part in the study. Twenty-three students in Class C took part and received instruction using Moodle and Eitaa materials and activities. Finally, 31 students in Class D learned language using the traditional method. After the training sessions were finished, all four groups were given post-tests for motivation and attitude toward education and personal health.

Data Collection Procedure

A quasi-experimental design was used in the present study to evaluate the motivation and attitude towards online training using Moodle as an LMS (with/without Eitaa as a supplementary learning platform). Quasi-

experimental studies are conducted in various forms. In the present study, the non-equivalent group design has been used. The schematic of the design is as follows:

$E_A : T_1 \dots X_1 \dots T_2$

$E_B : T_1 \dots X_2 \dots T_2$

$E_C : T_1 \dots X_3 \dots T_2$

$E_D : T_1 \dots X_4 \dots T_2$

Where:

T₁: Pretest (motivation and attitude)

T₂: Posttest (motivation and attitude)

X₁: Online training using the Moodle as an LMS

X₂: Training through Eitaa

X₃: Training through both LMS and Eitaa

X₄: Traditional training

To implement this design, after selecting the four classes, the groups were randomly named A, B, C, and D. Then, each group was given a pretest for motivation and attitude to personal health promotion. After the pretest, the educational intervention was made.

Research Instrument

Attitude Questionnaire: This questionnaire was designed by Levine (12) at the University of California, United States, and it has been translated into Persian by the researcher for the purpose of the study. A 5-item Likert scale with 27 items (completely agree, agree, neither agree nor disagree, disagree, definitely disagree) is used. The answers to this quiz are as follows: 5 for "totally agree," 4 for "agree," 3 for "neither agree nor disagree," 2 for "disagree," and 1 for "totally disagree." Inverse scores apply to questions Nos. 2, 4, 6, 7, 8, 9, 10, and 18. 'completely agree' receives a score of 1, 'agree' receives a score of 2, 'neither agree nor disagree' receives a score of 3, 'disagree' receives a score of 4, and 'completely disagree' receives a score of 5. Lastly, the total of the students' responses to these 27

questions reflects their perspective on the promotion of personal health. The higher a student's score, the more positive his/her attitude, and the lower his/her score, the less positive his/her attitude.

The researcher used the opinions of several experts and consultants to prepare the questionnaire, which is indicative of its content validity. Also, the questionnaire's validity has been measured by its correlation with Berstall, Jameson, Cohen, and Hargley's attitude questionnaire, and a correlation coefficient of 0.86 was obtained (13). In addition, the questionnaire's reliability was tested using the split-half method. Using Spearman's formula, the reliability was obtained to be 0.87 by researcher. The opinions of English language teachers were used to evaluate the face and content validity. Additionally, a pilot study was carried out for 30 students who were left out of the final research in order to examine dependability. The results showed a Cronbach's alpha of 0.79, which is a good indicator of internal consistency.

Motivation Questionnaire: This questionnaire was developed by Dörnyei, Taguchi, Magid & Papi and translated into Persian by Papi (14). It contains 76 questions in two sections. A 6-item Likert scale with the following 52 questions: entirely agree, agree, slightly agree, somewhat disagree, disagree, and totally disagree is used in the first portion. Six points were awarded for "totally agree," five for "agree," four for "somewhat agree," three for "somewhat disagree," two for "disagree," and one for "totally disagree."

The second section contains 13 questionnaires on a 6-item Likert scale (not at all, not much, no idea, somewhat yes, definitely yes, and truly yes). In this questionnaire, 'not at all' was scored 0, 'not much' was scored 1, 'no idea' was scored 2, 'somewhat yes' was scored 3, 'definitely yes' was scored 4, and 'truly yes' was scored 5. Questions Nos. 6, 14, 38, 49, 7, 15, 23, 31, 39, 46, 52, 55, 60, 64, 68, 72, and 76 were scored inversely ('totally

agree' was scored 1, 'agree' was scored 2, 'somewhat agree' was scored 3, 'somewhat disagree' was scored 4, 'disagree' was scored 5, and 'totally disagree' was scored 6. Finally, the sum of the scores for 76 questions is indicative of the student's motivation. The higher the student's score, the higher his/her motivation, and the lower his/her score, the lower his/her motivation. The researcher has used the opinions of experts to prepare the questionnaire, which is indicative of its content validity. The reliability of the questionnaire was also assessed using the Cronbach's alpha technique. The Cronbach's alpha rating of 0.98 for this survey indicates that the questionnaire has an adequate level of reliability. Additionally, in order to test the reliability, a pilot study with 30 students who were left out of the final research was carried out. The results showed a Cronbach's alpha of 0.90, which is a good indicator of internal consistency. The ANOVA was used to analyze the data after evaluation of the basic presumptions of the research including the independence, normality, homogeneity of variances, homogeneity of interaction effects, and interval, and homogeneity of regression slopes.

Procedure

The training course included teaching the English language to 101 students of educational sciences. The first group was trained online through the Moodle as an LMS. The second group was trained using the Eitaa application. The third group was trained using the educational resources and activities in both Moodle and Eitaa. Finally, the fourth group (control group) was trained using the traditional method (lecture). The Moodle software has various features for virtual and distance education. It is an open-source software and one of the most complete for virtual and distance education.

The second group received the educational resources and activities through the Eitaa. This application was added as an online

medium to support communications and interactions between people. It was introduced in the mid-2017. It was developed by "Andisheh Yavaran Tamaddon Emrooz". Eitaa, which is one of several Iranian messengers, is highly similar to Telegram. Among its features, smart bots and various platforms can be named. According to the descriptions on the official website of the developers, there are no limits to using its cloud space, and the users can upload their files up to any volume. In this group, the students created an Eitaa account and joined a training community with the course's instructor and students included. This group had the following functions:

- Instructor-student communication through Q&A
- Student-student communication
- Course-relevant content (such as the tests, videos, posts, ...)

For the second and third groups, using the Eitaa as an online platform to facilitate communication and exchanges among group members was required, and certain points were taken into account for participation. During the semester, the teacher played an active role in supporting the activities by providing the essential content in the roles of administrator and facilitator. The students could check the updates and follow the flow of activities so that they could know about the activities of other members in Eitaa.

The third group was provided with educational resources and activities through a combination of Moodle and Eitaa.

The fourth group, which was the control group, was trained for two months using the traditional method.

Results

In this study, there were 101 undergraduate female students, whose average age was 23.7 ± 1.8 , and 34% of them were married, and 67% lived in urban areas, and they had a moderate socioeconomic status index.

Table 1. Mean and standard deviation of the pre/posttest scores for attitude and motivation variables divided by groups

Row	Group	Pretest			Posttest		
		n	M	SD	n	M	SD
Attitude	Training through LMS	22	85.27	9.67	22	92.27	11.94
	Training through Eitaa	25	84.40	8.37	25	87.48	7.65
	Mixed training through LMS and Eitaa	23	86.52	9.89	23	87.27	8.99
	Traditional method	31	88.37	11.12	31	88.87	12.14
Motivation	Training through LMS	23	83.43	20.43	23	94.56	24.16
	Training through Eitaa	25	91.00	13.29	25	98.52	11.64
	Mixed training through LMS and Eitaa	23	89.56	15.68	23	90.52	14.51
	Traditional method	31	86.12	18.36	31	87.58	18.91

The scores of students' attitudes in the pretest and posttest stage for the first, second, and third case groups and control group were shown in table 1.

Also, the motivation scores in the pretest stage for the first, second, and third case groups were 83.43, 91.00, and 89.56, respectively. The score for the control group was 86.12. Also, in the posttest, the scores were 94.56, 98.52, 90.52, and 87.58 for the four groups, respectively. The details are shown in Table 1.

The results of the Kolmogorov-Smirnov test for normality of the data indicate that the distribution of the attitude and motivation variables is normal because the z-value calculated by the Kolmogorov-Smirnov test is not significant at $P < 0.05$. Also, the values of skewness and kurtosis

for both variables range between -1.50 and +1.50. Therefore, the assumption of normality of the dependent variables is approved.

Results of Levene's test indicate that error variance is homogenous for all dependent variables in all eight groups since the f-value is not significant at $P < 0.05$. Thus, the assumption of error variance homogeneity of the dependent variables is approved.

The results in Table 2 indicated that the hypothesis of homogeneity of the interactional effects in each variable is accepted at least in one of the interactions, since the f-value in each variable is not significant at $P < 0.05$. Therefore, the hypothesis of homogeneity of the interactional effects is accepted.

Table 2: Evaluation of homogeneity of interactional effects

Variable	Sources of change	SS	df	MS	F	P
Attitude	gender×pretest	79.49	1	79.49	0.94	0.33
	pretest×method	444.65	3	148.22	1.76	0.16
	pretest×gender×method	28.69	3	9.56	0.11	0.95
Motivation	gender×pretest	42.48	1	42.48	0.02	0.88
	pretest×method	10246.47	3	3415.49	1.77	0.16
	pretest×gender×method	6139.91	3	2046.64	1.06	0.37

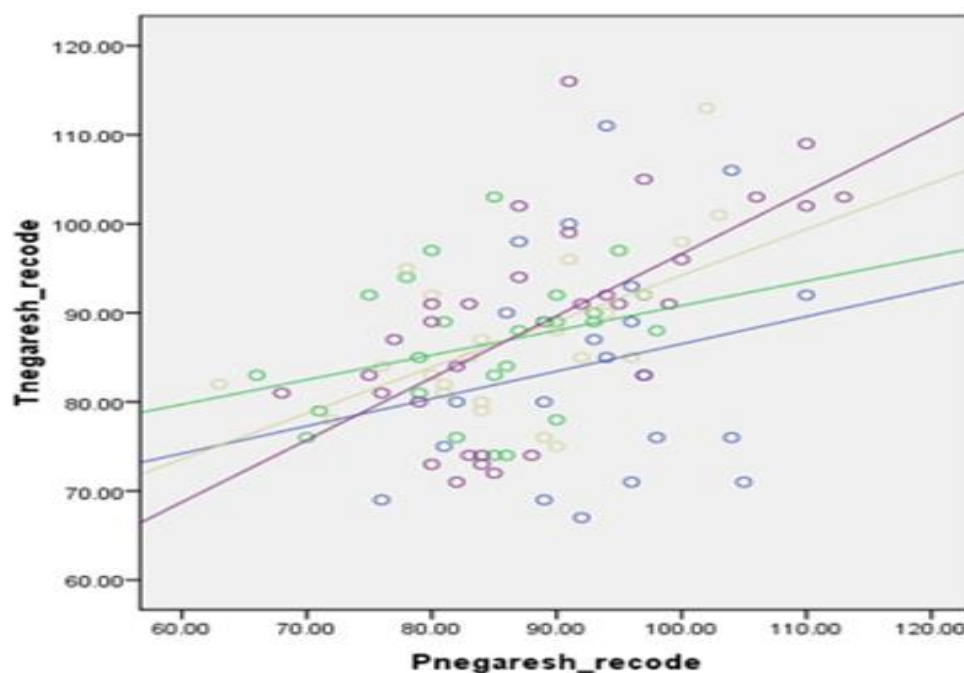


Figure 1. Evaluation of the homogeneity of regression slopes for attitude variable based on the medium of instruction

Table 3. Results of ANCOVA for effects of various training methods on the attitude

Control source	Total sum of squares	Degree of freedom	Mean squares	F	Significance level	Eta	Power
Inter-group	22521.522	3	7507.18				
Intragroup	139531.61	96	1453.45	5.165	0.005	0.205	0.96
Total	8749.05	101					

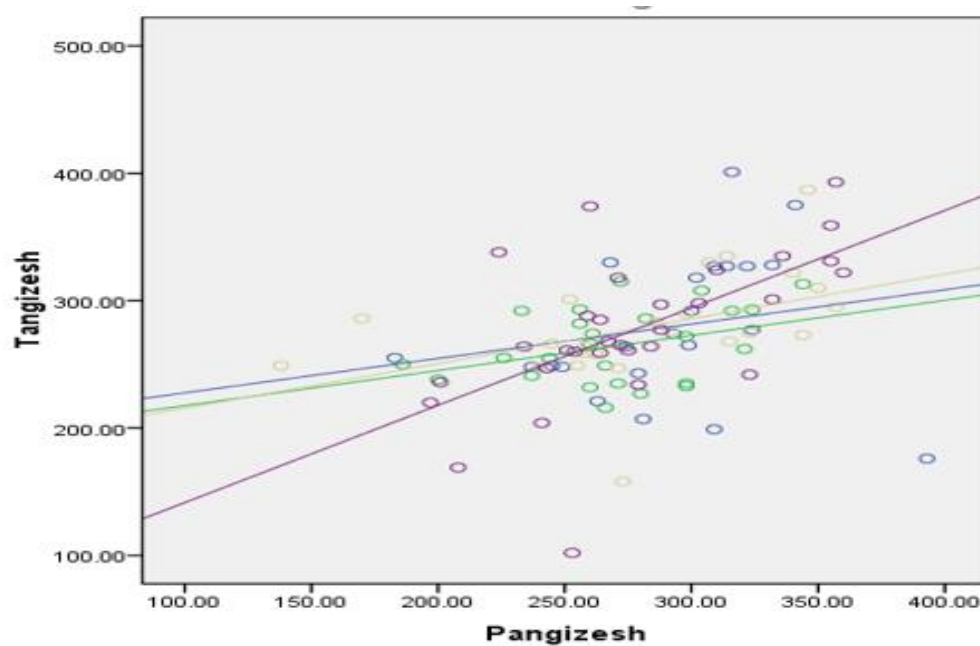


Figure 2. Evaluation of the homogeneity of regression slopes for motivation variable based on the medium of instruction

As seen in Figures 1 and 2, the slopes (homogeneity of pretest and posttest) are not the same in all four groups, and the lines have crossed each other. However, since the communication direction of both lines is the same, this hypothesis is approved.

Due to the approval of the primary hypotheses of covariance analysis such as the homogeneity of regression slopes and homogeneity of the interactional effects, the ANCOVA is used.

The attitudes of the students in different training groups, who were trained using the LMS, Eitaa, or traditional methods, differed significantly. Considering the mean values The results in Table 3 indicate that various methods of training significantly affect the student's attitude toward the language course since the f -value=5.16 is significant at $P<0.05$. Regarding the mean values of the four groups, it can be inferred that the attitude of students in the LMS group was higher than other groups with a mean value of 92.27. The traditional group is ranked second with a mean value of 88.87, followed by the Eitaa group with a mean value of 87.48. Finally, the mixed LMS/Eitaa group is ranked fourth with a mean value of 87.27. For pair comparison of the groups' scores, the Bonferroni post-hoc test was used whose results are presented in Table 4.

The results presented in Table 4 indicate that scores of students' attitudes in the LMS

of the four groups, it can be inferred that the attitude of students in the LMS group was higher than other groups with a mean value of 92.27, followed by the traditional group with a mean value of 88.87, and the Eitaa group with a mean value of 87.48. Finally, the mixed LMS/Eitaa group is ranked fourth with a mean value of 87.27. Now, the ANCOVA is used to evaluate whether the observed attitude differences between the groups are derived from sampling error or they are actual. The results obtained from the ANCOVA are presented in Table 3 to investigate the effects of various training methods on the students' attitudes.

group significantly differ from those of the traditional group with a score difference of 22.01 ($P<0.05$). Also, there is a score difference of 5.68 between the Eitaa and traditional groups ($P<0.05$). However, the score difference between the LMS/Eitaa and the traditional groups was not significant ($P>0.05$), i.e., the LMS method has been the most effective on students' attitudes with the Eitaa being the second most effective.

Students' motivations significantly differed in various training groups through the LMS, Eitaa, and traditional methods.

The ANCOVA was used to test this research hypothesis. The results for the evaluation of the effects of training methods on the language students' motivation are presented in Table 5.

Table 4. Results of Bonferroni post-hoc test for pair comparison of groups in terms of attitude toward personal health promotion

Group I	Group J	Mean	Standard error	Significance level
LMS	Traditional	22.01	2.19	0.0001
Eitaa	Traditional	5.68	2.11	0.048
LMS/Eitaa	Traditional	0.02	2.20	1.000

Table 5. Results of ANCOVA for effects of various training methods on the motivation

Control source	Total sum of squares	Degree of freedom	Mean squares	F	Significance level	Eta	Power
Inter-group	21542.532	3	7047.51				
Intragroup	148411.73	96	1545.96	4.559	0.005	0.125	0.87
Total	874905	101					

The results in Table 5 indicate that various methods of training affect motivation since $F=4.56$ is significant at $P<0.05$. Considering the mean values of the four groups, it can be inferred that students' motivation in the LMS group is higher than other groups with a mean value of 94.56. the Eitaa group is ranked second with a mean value of 98.52, followed by the mixed LMS/Eitaa group with a mean value of 90.52. The traditional group is the last group with a mean value of 87.58. The Bonferroni post-hoc test was used for pair comparison of the groups' scores. The results are presented in Table 6.

Table 6. Results of Bonferroni posthoc test for pair comparison of groups in terms of motivation

Group I	Group J	Mean	SE	P
LMS	Traditional	39.15	11.0	0.004
Eitaa	Traditional	26.45	10.9	0.045
LMS/Eitaa	Traditional	20.61	10.8	0.36

The results in Table 6 indicate that students' motivations in Eitaa, traditional, and LMS groups are different with a score difference of 39.15 ($P<0.05$). However, there is no significant difference between the LMS/Eitaa and traditional groups ($P>0.05$). In other words, the LMS training method has been the most effective on students' motivation with Eitaa being the second most effective ($P<0.05$).

Discussion

Using Moodle as an LMS and either Eitaa or another training platform, the current study sought to assess the students' attitudes and motivations toward online learning. The web-based training in the university has been evaluated in the present study. The findings provided some insights about how social networks can be adapted to other web tools such as the LMS to teach languages. The results indicated that the LMS was the most effective on the students' attitudes and motivations for education and personal health, and Eitaa was the second most effective tool. The LMS platform provided a controlled official training medium in

which the students were obliged to do their homework, while Eitaa is an unofficial and less binding interactional medium that allowed for self-adjustment interactions. Many social networks have been used by both learners and instructors in unofficial approaches to learning. Familiarity with social network technologies has increased their popularity. Rather than viewing them as a fresh set of tools, today's college students typically view them as an extension of their lifestyle (13–14). Put differently, the results of this study attest to the fact that the learning materials offered in the LMS are sufficiently engaging and dynamic. The electronic content in the present study has managed to solve a large part of common problems in the area of electronic content, having most of the merits and privileges of electronic content, such as light volume and weight, easy transportation, multimedia presentation capability, marking, content highlighting, zooming capability, appropriate appearance, multimedia capability (audio and image playback, educational video, and animation), being interactive, and evaluating the learner. The findings suggest that Eitaa can be used as an additional educational tool and an online tool to support interpersonal communication and interactions. It can also improve students' attitudes toward learning and motivation to acquire new languages, fortify their cognitive abilities, and support active learning environments. Based on the contact and engagement that the Eitaa social network offers, the learners are driven to complete the online activities and are at ease in an online learning environment, according to the findings. As an online resource, Eitaa offers educators and students significant chances to enhance teaching and learning.

To elaborate on the above findings, it can be said that motivation and needs are closely related. On the one hand, motivation is a basis for need, and on the other hand, our needs are considered the driving force that creates movement. In

Maslow's hierarchy of needs, the need for learning is basically the focal point of the psychological aspects of the second level needs in this hierarchy. If this need is met, then the third-, fourth-, and fifth-levels needs can be fulfilled. The lack of psychological security can provoke anxiety among the learners and if this happens, learners needs, motivation, and performance will be held back (15).

The learning motivation and attitude can predict the educational and behavioral performance of the students, which is in line with the findings of Gardner (15) and Agha Ahmadi & Mobshernia (16). Elaborating on the above findings, it can be said that students with internal motivation can have higher academic levels compared to students with lower internal motivation since internally motivated learning is associated with deeper interest, enthusiasm, and contemplation. Rather, students with external motivation would continue to work only as long as the external motivation is present and available.

Social networks are easy and available methods for connecting and interacting, sharing ideas, and collecting feedback in a flowing manner (17-18). The results of the present study indicate that students reacted positively to Eitaa during the era it was used. The students reported positively in terms of the benefits of the use of this social network in online learning, such as the facilitation of the communications between the students, facilitation of instructor-student communications, participation and collaboration of the students, and the increase in motivation, attitude, and interest for learning.

Although the addition of Eitaa to Moodle was useful, it is not an appropriate medium for official learning, which is in line with the findings of other scholars (19). Eitaa can be useful as a supplementary online tool to facilitate learning.

Conclusion

The Eitaa served as an interactive tool that allowed the students to share knowledge. Additionally, it improved student interaction and coursework. On the other hand, there were no appreciable variations in the attitudes and motivation of the students between the LMS/Eitaa and conventional training groups. The simultaneous use of LMS and Eitaa was not useful, which can be due to the fact that, when the students use both platforms at the same time, the educational quality is reduced because of the more time consumed, and only the quantity is increased, which itself can add to the learners' distress and reduce their attitude and motivation for learning.

Author's contribution

Mahan Attar developed the study concept and design. Mahan Attar acquired the data. Mahan Attar analyzed and interpreted the data, and wrote the first draft of the manuscript.

Informed consent

Questionnaires were filled with the participants' satisfaction and written consent was obtained from the participants in this study.

Funding/financial support

There is no funding.

Conflict of interest

The author declares that he has no conflict of interests.

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