Designing An Adaptive E-Learning Environment And Its Effectiveness In Developing Critical Reading Skills Of Literary Texts

Abdulrahman Saleh AlKhames[1] , Ahmed Mohammed Abdelmotaleb Mohammed[2]

[1]*Professor of Literature and Criticism, Department of Arabic Language and Literature, College of Science and Arts in Arrass Qassim University , Arrass , Saudi Arabia*
[2]*Department of Basic Education College of Science and Arts Qassim University, Arrass, Saudi Arabia*

Study summary

The study aimed to identify the effectiveness of using the adaptive e-learning environment in teaching the Arabic language course to develop critical reading skills for the literary text. From the academic year 1441/1442 AH - and a random sample in two groups: the experimental group, and the educational unit was studied in an adaptive e-learning environment, and its number was (30) students. And the control group, and studied the educational unit in the usual way, and its number was (30) students. In order to achieve the purposes of the study, the scale of critical reading of the literary text was built after its codification, as it had indicators of validity and reliability. The results of the study showed that there were statistically significant differences between the mean scores of the experimental group that studied using the adaptive e-learning environment and the scores of the control group that studied in the usual way on the scale of critical reading of the literary text in favor of the experimental group. The study recommended the necessity of training Arabic language teachers to use the adaptive e-learning environment as one of the modern teaching methods, and to integrate critical reading skills of the literary text into the Arabic language curriculum.

Keywords: adaptive e-learning environment, literary and critical studies, critical reading of the literary text, language competencies.

Introduction

Modern teaching strategies in the current digital age have shifted from an approach focused on knowledge and transferring it to the learner around whom teaching and learning activities revolve, in light of the individual differences that prevail among learners, which require modern learning techniques to be taken into account, and thus adaptive learning environments have become one of the most important learning environments that It seeks to improve progress in the learning process according to the growth of each learner, its goals and its

distinct characteristics (Abdel Moneim, 2012).

The adaptive e-learning environment is a learning environment available via the web, to deliver educational content to students, based on taking into account individual differences and personal characteristics to develop students' skills in a flexible manner that achieves learner satisfaction and increases their skill performance in all areas and topics (Adeel, 2021).

Literary criticism has great importance in developing the literary creativity of young

people, and helping them to taste the literary work and distinguish its aspects of its beauty. Perception of the general meaning of the literary text (Al-Azzawi, 2017).

Literary criticism occupies an important place in the secondary stage, during which the skills of analyzing, evaluating and evaluating literary work begin to develop in a deeper way than in the previous stages. For this purpose, the school works to achieve the knowledge and skills in secondary school students that help them analyze, interpret, criticize and taste literary works, express their opinion towards preferring a style over style or balancing literary works, issuing critical evaluation judgments, accepting some and rejecting others (Ibrahim, 2019).

The educational reality indicates that there is a stumble in the development of critical reading skills of literary texts, as it is based on indoctrination, highlighting the role of the teacher and ignoring the role of the learner, relying on traditional methods, and devoid of employing modern digital techniques that develop thinking and criticism among students and raise motivation to learn in the field of text reading Literary Criticism (Sharf, 2019).

Hence, it was necessary to employ adaptive learning environments in order to enable students to read literary texts in a critical manner based on analysis, taste and critical judgment, which the study seeks to achieve by designing an adaptive e-learning environment that aims to develop critical reading skills of literary text among students. High school.

Definition of Adaptive Learning

Adaptive learning is defined as a learning environment that adapts learning to meet the needs of each individual student, enables

students to access learning resources, ask questions, share content and receive assistance while studying at home, and is based on the idea of interaction between students (Al-Askari, 2020)

Ali (2020) extracted a set of definitions of the adaptive e-learning environment, namely:

A learning environment that takes into account the needs of each learner individually, and the learning topic is determined by answering a number of questions and tasks.

A learning environment that manages the learning process and leads the student according to their learning style.

A learning environment whose design takes into account - in terms of content and its presentation - the characteristics of the learner and his learning methods and methods.

An educational system that uses technological innovations as interactive tools, its content is built in light of the individual characteristics of each learner, and the content presentation is modified according to the response of each learner.

From the above, adaptive e-learning can be defined as an interactive learning environment via the web that is designed in light of the characteristics of learners and according to their preferences and learning methods.

Objectives of Adaptive Electronic Content

Adaptive electronic content aims to: (Thursday, 2016)

Provide personalized learning, taking into account learners' goals, backgrounds, learning styles, presentation preferences, and performance requirements.

Identify gaps in knowledge and skills, and describe appropriate learning materials for individual learners.

Enabling individual learners to direct their learning progress and carry out the required educational tasks efficiently and effectively.

Characteristics of the adaptive e-learning environment

Adaptive e-learning has several distinctive characteristics. Mentioned by (Yassin, 2018) they are:

Effectively : It means the ability of the system to achieve the goals and produce the required educational results.

Efficiency: It means the ability of the system to achieve the goals with the required speed, and with the least errors.

Trainer Properties: It means that the system is designed to suit the characteristics of the learner, and to achieve his comfort and satisfaction.

Easy of Learning: That is, the system is easy to learn, and helps the learner to accomplish the tasks required of learning.

Satisfaction: The learner feels comfortable, satisfied, and enjoyable when using the system.

Memorability: It refers to how easy it is for the learner to recall information after a period of time, and to remember how to complete the required tasks while using the

system after a period of use.

Clarity & Simplicity: It means that the system is designed to be clear and simple, by focusing on the unity of the subject in order to make good use of it.

Learnability: It refers to the ease with which the learner can accomplish the tasks required of him by dealing with the system. The learnability is measured by the time taken to complete and achieve the required tasks, and the number of errors during the completion of the task.Therefore, the ability to learn is related to the design of the interface of the system.

Flexibility: in developing educational programs, and modifying their content by deleting or adding, with ease and ease.

Interactive: adaptive e-learning supports the process of bilateral communication and dialogue through these means, and allows information flow in at least two directions.

Universality: Adaptive e-learning provides a new vision for the learning process that is consistent with what is currently called global learning, as it provides the learner with new horizons in the learning process, with the abolition of time and place restrictions, the opportunity to communicate with various sources of information, and the dissemination of educational offers in places different from the world easily and easily, which gives learning a global character, and helps it to break out of the local framework.

Need for a small number of teachers: e-learning needs as few teachers as possible to provide learning to the largest possible number of learners, there may be one trainer to train a number of learners in a particular field and spread all over the country at one time

Centering on the learner: Since e-learning has an effective role in developing the concept of individual learning, it has provided new means for the learner to obtain information without the help of others, and then the learner can obtain information that is not available to the learners in the learning halls in the event of learning

Diversity: adaptive e-learning systems provide a variety of learning methods (visual - audio printed) in which each learner finds what suits him, in terms of alternatives, options, educational materials, and multiple levels of content, while working to stimulate the learner's mental abilities through a set of stimuli that Addressing the different senses.

Types of adaptive e-learning systems

The types of adaptation in hypermedia systems are classified into two types: (Delgado, & Clark, 2019)

Adaptive Presentation: It means adapting the presentation of the content of a page by adapting the way texts are presented, or adapting the presentation of multimedia when presented to the learner.

Adaptive Navigation: It means adapting and changing the form of links that appear to the learner within the educational content according to his goals, learning style and level of knowledge.

Intelligent Adaptive Content Features:

The following characteristics of smart electronic content can be identified: (Hidaya, 2019), (Friday, 2019)

The richness of the structure: meaning that it is content based on the meaning, that is, the logic of science and the structure of

the subject, and not on the basis of specific needs, such as the educational needs of specific educational situations. If we look at this structure, we can tell what kind of content this is. This content is easy to discover and identify, through the metadata of the assets, or learning entities, and to choose what suits the educational situation, so the structure of the content, which includes lessons, and the lessons are the decision.

Meaning-knowledge: It means that this content is tagged with meaning-based metadata, which determines the type of content. This metadata describes the meaning of the assets and learning entities, so it is easy for the search engine to discover and access them, and determine the relationships between them. As soon as the meaning is mentioned, the engine shows you all the assets and entities associated with it. Thus, it is easy for the designer to choose the appropriate assets for building the lesson and the course, quickly.

Ease of discovery: It is easy for search engines to discover and access content, because it is tagged with metadata.

Reusability and interoperability: where electronic content and learning entities can be reused repeatedly in courses, lessons and other learning situations, and can be exchanged and interoperable between different systems and technologies, on the basis of semantic interoperability. This requires that the content be designed on the basis of standardized standards, so that it can be reused.

Adaptability: It enables it to achieve multiple educational needs.

Empirical Evidence for Effectiveness of Adaptive E-Learning Environments:

Several Arab studies have pointed to the effectiveness of adaptive e-learning environments, including AI-AdeeI study (2021), which pointed to the effectiveness of an adaptive e-learning environment in developing e-lesson design skills for the student teacher, and Saeed's study (2021), which indicated the success of designing an adaptive learning environment in developing The skills of designing electronic courses among graduate students, and the study of Abdul Qawi (2020), which developed an adaptive personal learning environment based on learning analytics technology and learning style, and found the effectiveness of this environment in developing the skills of designing and producing electronic comics books for

students of the College of Early Childhood Education And the AI-SaImi study (2019), which revealed the design of an adaptive e-learning environment according to learning methods, and its positive impact on the development of practical skills for the biology course among secondary school students, and the Friday study (2019), which indicated a positive impact of an adaptive e-learning environment on the development of biology skills. Mathematical thinking among middle school students, and a study (Hidaya, 2019), which indicated the effectiveness of an adaptive e-learning environment according to multiple intelligences in developing their skills. The strategies of producing electronic tests for students of the College of Education, and Azmi's study (2017), which indicated the effectiveness of an adaptive e-learning environment according to learning methods and its impact on developing programming skills for preparatory stage students.

Several foreign studies have also indicated the effectiveness of adaptive e-learning environments, including: the study of

Anindyaputri and others, (Anindyaputri, et al., 2020), which found the effectiveness of using adaptive learning systems in enhancing students' ability in the process of learning a programming language, and a study of Delgado, & Clark, 2019), which found the effectiveness of using adaptive learning in the flipped classroom, and Harati study (Harati, 2021), which found the effectiveness of adaptive learning on students' academic performance and awareness of self-regulating learning skills, And the Wilks study (2020), which found the effectiveness of adaptive learning software in exams and course results in pre-calculus courses online, and the study (Wu, et al., 2018), which found the effectiveness of the e-learning system. adaptive learning to improve learning performance; It is based on dynamic scaffolding theory.

The study Problem:

The problem of the study stems from the poor level of critical reading skills of the literary text, which was indicated by many studies such as Ibrahim (2021), Ibrahim (2019), Saleh (2019), Zahran (2018), and Hashem (2016). These studies confirmed two things:

Concentrating strategies for teaching rhetoric and literary criticism on indoctrination without activating criticism skills while studying literary texts, and then separating criticism skills from teaching literature.

The multiplicity of literary criticism topics in the secondary stage and its teaching as rules of preservation or cultural topics in isolation from the study of literary texts and the application of their literary criticism skills.

At the same time, e-learning technologies

offer many solutions to address the various weaknesses in the skill performance of students, and what many studies have indicated about the effectiveness of e-learning environments, especially in this field. Thus, the study problem was identified in the following main question:

What is the effectiveness of using the adaptive e-learning environment in teaching Arabic to develop critical reading of the literary text? A number of sub-questions emerge from this question:

Are there statistically significant differences at the level of significance (a< 0.05) between the mean scores of the two groups of the experimental and control study on the scale of critical reading of the tribal literary text?

Are there statistically significant differences at the level of significance (a< 0.05) between the mean scores of the two groups of the experimental and control study on the scale of critical reading of the post-literary text?

Are there statistically significant differences at the level of significance (a< 0.05) between the mean scores of the members of the pre-experimental group and the mean scores of the members of the post-experimental group on the literary text critical reading scale?

Study Approach

The two researchers used the quasi-experimental approach, for its suitability, to reveal the effectiveness of using the adaptive e-learning environment in teaching Arabic to develop critical reading of the literary text. While the control group was isolated from the variable.

Study population and sample

The study population consists of all third-grade secondary school students at Al-Rass Secondary School for Boys affiliated to the Department of Education in Al-Rass Governorate in the academic year 1441/1442 AH, and their number was (60) students during the first semester. Then the researchers applied the study to (60) students who studied the second unit of the course (Linguistic Competencies 6), the course system of the human sciences track, which deals with the following topics (introduction to criticism, history of criticism, poetry criticism, examples of applied criticism, and criticism of prose (the story).), and models of applied criticism of the story). The students were divided into two groups (experimental and control), the experimental group was taught using the adaptive e-learning environment, while the control group was taught by the traditional method, and the number of members of each group was (30) students.

Study tools
Critical reading skills scale: prepared by the two researchers
In its initial form, the scale consisted of (41) items distributed over five dimensions: the aesthetics of thinking, the aesthetics of expression, the aesthetics of emotion, the aesthetics of the artistic image, the aesthetics of poetic music.
The validity of the scale was verified by means of apparent validity by presenting it to (10) arbitrators from specialists in the fields of educational psychology - measurement and evaluation - curricula and teaching - literature and criticism - and rhetoric in some universities. paragraph as shown in the following table:

Table (1): The distribution of the paragraphs of the critical reading scale of the literary text on its

dimensions the number:

	The field	Paragraphs	Number
1	Aesthetics of thinking	1-8	8
2	Aesthetics of expression	9-15	7
3	Aesthetics of passion	16-21	6
4	Aesthetics of artistic image	22-28	7
5	The aesthetics of poetic music	29-33	5
	Total	1-33	33

The answer to the scale's paragraphs consisted of three degrees, where the student assesses his level in critical reading of the literary text in each paragraph as follows: Degree (3) means that the student's level of critical reading of the literary text is always achieved, and degree (2) means that the level of critical reading of the text Literary reading is sometimes achieved by the student, and grade (1) means that the student's level of critical reading of the literary text is not achieved. Accordingly, the minimum score that a student can obtain on the scale is (33) and the maximum score is (99).

The level of critical reading of the literary text for students of the human sciences course system was divided into three levels: (high, medium and low) by dividing the number range from (99) into three categories to obtain the extent of each level as follows:

- Low: 33-50 degrees.
- Average above 50 to 74 degrees.
- High: from 75 degrees to 99 degrees.

The stability of the critical reading scale of the literary text:

Standardization of the scale in the current study:

Structural honesty

To verify the structural validity of the scale, the researchers calculated the correlation coefficients between each item of each domain with the total score of the domain. It was found that the values of the correlation coefficients between each item of each domain and the total score are as follows:

Table (2): Structural validity of the paragraphs of the six domains in the critical reading scale of the literary text in terms of correlation coefficients the field

The field	Paragraph	correlation coefficient	The field	Paragraph	correlation coefficient
Aesthetics of thinking	1	0.67	Aesthetics of artistic image	22	0.77
	2	0.75		23	0.77
	3	0.88		24	0.87
	4	0.59		25	0.85
	5	0.78		26	0.79
	6	0.87		27	0.81

	7	**0.67**			
				28	**0.83**
	8	**0.73**			
Aesthetics of expression	**9**	**0.81**	**The aesthetics of poetic music**	**29**	**0.81**
	10	**0.87**		**30**	**0.78**
	11	**0.76**			
				31	**0.84**
	12	**0.79**		**32**	**0.79**
	13	**0.81**			
	14	**0.92**		**33**	**0.78**
	15	**0.76**			
Aesthetics of passion	**16**	**0.78**			
	17	**0.75**			
	18	**0.86**			
	19	**0.89**			
	20	**0.69**			
	21	**0.89**			

It is clear from the table that all the values of the correlation coefficients are positive, high and significant at the (0.05) level, and indicate the internal consistency between each paragraph and the degree of the domain to which it belongs.

The stability of the critical reading scale of the literary text

The researchers extracted the stability of the critical reading scale of the literary text in two ways:

The method of testing and re-testing: (Test-Retest) by applying it to a sample from outside the study sample and from its community, which amounted to (25) students, with a time difference of two weeks, and then they calculated the reliability coefficient using the Pearson correlation coefficient.

Internal consistency method using Cronbach's alpha equation: The researchers calculated the reliability through a random sample of (20) students from outside the study sample and from its community, using the Cronbach alpha method.

Table (3): The stability coefficient by the internal consistency method Cronbach's alpha to calculate the stability of the paragraphs of the critical reading scale for the literary text

	The field	Cronbach Alpha	correlation coefficient
6	**Aesthetics of thinking**	**0.90**	**.081**

7	Aesthetics of expression	.092	.079
8	Aesthetics of passion	.091	.082
9	Aesthetics of artistic image	.088	.083
10	The aesthetics of poetic music	.097	.089
	Total	-	0.83

It is clear from the table that the reliability coefficient using the Pearson correlation coefficient as a whole was (0.83), and the values of Cronbach's alpha coefficients ranged between (0.79- 0.92), and these values are high, which indicates that the reliability of the measurement fields is high.

Adaptive e-learning environment

The objective of using the adaptive e-learning environment is to develop critical reading skills of the literary text among third year secondary students; To achieve this goal, the researchers followed the following steps in preparing a learning environment based on the adaptive e- learning environment:

1- **Analysis stage:** where the second unit was analyzed critical studies in language competencies 6 course system, humanities course, literary and critical studies, and the characteristics of students were determined, as their ages ranged between (15-16) years, then the objectives and objectives of the unit were analyzed:

- **The first topic:** Introduction to criticism.
- **The second topic:** the history of criticism.
- **The third topic:** criticism of poetry.
- **Fourth topic:** Examples of applied criticism (analyzed texts).
- **The fifth topic** is prose criticism (the story).
- **The sixth topic:** Examples of applied criticism of the story (analyzed texts).

2- **Preparation stage:** In this stage, the cost and time required for preparing electronic adaptive environment tools, preparing texts using Word 2010, preparing videos using Camtasia Studio 8.0, designing images using Adobe Photoshop CS6, and choosing an application. The Articulate Storyline is an application that supports the electronic adaptive environment tools, and is characterized by ease of use. The procedural objectives of each lesson and the type of interaction in the adaptive learning environment are also defined, which is the collective type, so that each student can deal with the application personally using the tablet.

3- **Design and production phase:** The researchers prepared the unit's content supported by electronic adaptive environment tools, linked the videos with the designed image, and downloaded the Articulate Storyline application on the students' tablets.

4- **Application stage:** In this stage, the researchers applied the teaching steps to the two groups as follows:

- **Experimental group:** in which the group studied the prescribed unit through the use of the adaptive e-learning environment.

- **The control group:** in which the group studied the same prescribed unit in the usual way.

5- Evaluation stage: The researchers codified the critical reading scale for the literary text, and applied it to a survey sample to ensure honesty and reliability. After that, they applied the two tools to the study sample, before and after, and then conducted a statistical analysis of the study data, and produced and discussed the results.

Results

The first question states: Are there statistically significant differences at the level of significance (a<0.05) between the mean scores of the two groups of the experimental and control study on the tribal (critical reading of the literary text) scale?

In order to answer this question, the arithmetic averages and standard deviations of the performance of the two study groups were calculated on the tribal (critical reading of the literary text) scale, and Table (4) shows this.

Table (4) Arithmetic averages and standard deviations of the performance of the two study groups on the tribal (critical reading of the literary text)

Scale the group	Number	Tribal app	
		SMA	Standard deviation
Experimental	30	2.99	1.21
the officer	30	2.72	0.86

It is clear from the table that there are apparent differences between the arithmetic means and standard deviations of the scores of the third grade secondary students on the tribal (critical reading of the literary text) scale between the experimental and control groups. On the other hand, the tribal arithmetic mean of the scores of the control group on the tribal scale was (2.72), and the standard deviation was (0.86).

To determine whether the differences between the means of the two study groups are statistically significant at the significance level (0.05), the T-Test was applied as shown in Table (5):

Table (5) (T-Test) to calculate the significance of the differences between the averages of the two study groups in the pre-application

Scale the group	SMA	Standard deviation	Calculated (T) value	Indication level

Experimental	**2.99**	**1.21**	**11.76**	**0.311**
the officer	**2.72**	**0.86**		

It is clear from the table that the calculated value of (T) reached (11.76) with a level of significance (0.311), and this indicates that the differences between the scores of the experimental group and the degrees of the control group before experimentation are not significant, and then on the equivalence of the experimental and control groups.

The second question states: Are there statistically significant differences at the level of significance (a<0.05) between the **mean scores of the two groups of the experimental and control study on the post-scale (critical reading of the literary text)?**

In order to answer this question, the arithmetic averages and standard deviations of the performance of the two study groups were calculated on the dimensional scale (critical reading of the literary text), and Table (6) shows this.

Table (6) Arithmetic averages and standard deviations of the performance of the two study groups on the post scale (critical reading of the literary text) the group the number dimensional application

Scale the group	Number	Dimensional app	
		SMA	**Standard deviation**
Experimental	**30**	**9.45**	**1.77**
the officer	**30**	**2.66**	**0.65**

It is clear from Table (6) that there are apparent differences between the arithmetic averages and standard deviations of the scores of the third year secondary students on the dimensional scale (critical reading of the literary text) between the experimental and control groups. The dimensionality (9.45), the standard deviation (1.77), and on the other hand, the pre-arithmetic mean of the scores of the control group that was studied in the usual way on the dimensional scale was (2.66), and the standard deviation was (0.65).

To determine whether the differences between the averages of the two study groups were statistically significant at the significance level (0.05), the T-Test was applied as shown in Table (7):

Table (7) (T-Test) to calculate the significance of the differences between the means of the two study groups in the post application

Scale the group	SMA	Standard deviation	Calculated (T) value	Indication level	Effect size
Experimental	9.45	1.56	28.77	0.02	0.91
the officer	2.66	0.76			

It is clear from Table (7) that the calculated value of (T) reached (28.77) with a significance level of (0.03), and an effect size of (0.91), and this indicates the significance of the differences between the degrees of the experimental group and the degrees of the control group in the post-application in favor of the experimental It is attributed to the use of the adaptive e-learning environment in teaching the experimental group.

The third secondary question states: Are there statistically significant differences at the level of significance (a ñ 0.05) between the mean scores of the experimental group in the pre- application and the mean scores of the experimental group in the post-application on the literary text critical reading scale?

In order to answer this question, the arithmetic averages and standard deviations of the performance of the two study groups were calculated on the tribal (critical reading of the literary text) scale, and Table (8) shows this.

Table (8) Arithmetic averages and standard deviations of the experimental group's pre and post performance on the literary text critical reading

Scale the group	Number	experimental group	
		SMA	Standard deviation
tribal app	30	2.99	1.33
dimensional app	30	9.45	1.56

It is evident from Table (8) that there are apparent differences between the arithmetic averages and standard deviations of the scores of the experimental group, tribal and dimensional on the scale of critical reading of the literary text. 1.33), and in contrast, the arithmetic mean of th e scores of the experimental group that was studied using the adaptive e-learning environment on the dimensional scale was (9.45), and the standard deviation was (1.56).

To determine whether the differences between the means of the experimental group, pre and post, on the literary text critical reading scale are statistically significant at the significance level (0.01), the researchers applied the (T-Test) test as shown in Table (9):

Table (9) T-test to calculate the significance of the differences between the averages of the pre and post application for the experimental group

Application	SMA	standard deviation	Calculated (t) value	Indication level	Effect size
tribal app	2.99	1.33	26.57	0.01	0.92
dimensional app	9.45	1.56			

It is clear from Table (9) that the calculated (T) value amounted to (26.57), with a significance level of (0.01), and an effect size of (0.92). experimental group.

Discuss the results

The results of the statistical analysis showed the superiority of the experimental group that was taught in the adaptive e-learning environment over the control group that was taught in the traditional way. And that in critical reading skills of the literary text.

The researchers attribute this superiority to the adaptive e-learning environment and in light of the social learning theory, which sees that effective learning occurs through observation, learning by simulation and group learning, and that the most important factors that help the student progress towards learning is watching, because students progress in critical reading skills of the text. The literary work with interactive videos and images within an adaptive e-learning environment had a great impact in motivating them to acquire those skills in an atmosphere of excitement and fun.

In addition, the adaptive e-learning environment is a technical innovation that increases students' learning motivation, because of its fun and excitement, which helps students to progress in learning without getting bored until they reach the stage of mastery and achieve the goal of acquiring critical reading skills of the literary text.

Moreover, the adaptive e-learning environment takes into account individual differences between students and encourages self-learning and self-regulation,

and uses visual culture from videos and images to integrate knowledge and address all senses of hearing, sight and others.

The results of the current study agree with many of the results of previous Arab studies, such as the AI-AdeeI study (2021), which indicated the effectiveness of the adaptive e-learning environment in developing the e-lesson design skills of the student teacher, and the Saeed study (2021), which indicated the success of designing an adaptive learning environment in developing The skills of designing electronic courses among graduate students, and the study of Abdul Qawi (2020), which developed an adaptive personal learning environment based on learning analytics technology and learning style, and found the effectiveness of this environment in developing the skills of designing and producing electronic comics books for students of the College of Early Childhood Education And the AI-SaImi study (2019), which revealed the design of an adaptive e-learning environment according to learning methods, and its positive impact on the development of practical skills for the biology course among secondary school students, and Friday's study (2019), which indicated that there is a positive

impact of an adaptive e-learning environment on the development of Mathematical thinking skills among middle school students, and a study (Hidaya, 2019), which indicated the effectiveness of an adaptive e-learning environment according to multiple intelligences in To develop the skills of producing electronic tests for students of the College of Education, and

Azmi's study (2017), which indicated the effectiveness of an adaptive e-learning environment according to learning methods and its impact on developing programming skills for preparatory stage students.

The results of the current study agree with previous foreign studies, such as the Harati study (Harati, 2021), which found the effectiveness of adaptive learning on students' academic performance and awareness of self-regulating learning skills, and Wilks' study (2020), which found the effectiveness of adaptive learning software. In exams and course results in pre- calculus online courses, and the study of Anindyaputri and others, (Anindyaputri, et al., 2020), which found the effectiveness of using adaptive learning systems in enhancing students' ability in the process of learning a programming language, and Delgado study, Clark, (Delgado,

& Clark, 2019), which found the effectiveness of using adaptive learning in the flipped classroom, and a study (Wu, et al., 2018), which found the effectiveness of an adaptive e- learning system to improve learning performance: It is based on theory dynamic scaffolding.

Study recommendations

In light of the results of the study, the researchers recommend the need for Arabic language teachers to use adaptive e-learning environments as one of the learning environments that support the acquisition of students with language skills in general, and literary criticism skills in particular, and the need to integrate critical reading skills of literary text into Arabic language curricula. The researchers also recommend employing teacher's guides in Arabic language books for modern digital learning environments, and the need to take advantage of adaptive e-learning environments in preparing Arabic language teachers before service.

The reviewer

Ibrahim, Fatima Abdel Fattah Ahmed. (2018). The effectiveness of a program based on social networks for teaching languages to develop political awareness and the values of critical reading of the literary text among primary school students. Journal of the Educational Society for Social Studies, (105), 115-172.

Bashir, Abeer Amer. (2021). A proposed training program to develop the teaching performance of art education teachers in the intermediate stage in light of the vision of the Kingdom of Saudi Arabia 2030. Journal of Reading and Knowledge, (234), 199 - 229.

Khalil, Hassan Muhammad Ali. (2021). A future vision for employing an educational media specialist for media activities in educating secondary school students about the requirements of critical reading of the literary text. The Egyptian Journal of Media Research, Cairo University Faculty of Mass Communication, (74), 349-401.

Raba'a, Amani Issa Sameh. (2019). The effectiveness of employing augmented reality in teaching national and civic education in developing critical reading of the literary text and metacognition skills for tenth grade students. PhD Thesis: International Islamic Sciences University.

Al-Rashidi, Abdul Rahman Shamikh. (2021). The role of social studies teachers in enhancing the values of critical reading of the literary text from their point of view. Journal of Specific Education Research, Mansoura University - Faculty of Specific Education, (61), 53-73.

Zahrani, admire bin Ahmed admire aggressive. (2019). The school's

contribution to achieving critical reading of the literary text among its students in light of contemporary challenges. Educational Journal, Sohag University - College of Education, Volume 68, 393-422.

Mr., Sahar Abdo Muhammad. (2018). Mathematics teaching methods based on learning outcomes in light of Saudi Arabia's 2030 vision. Sixteenth Annual Scientific Conference: Developing Mathematics Teaching and Learning to Achieving a Culture of Quality (Egyptian Association for Mathematics Education), pp. 204-222.

Syed, Nourhan Mahmoud Mohamed. (2019). A proposed strategy based on augmented reality technology in the blended learning environment. Journal of Scientific Research in Education, (20), vol. 11, 791-807.

Sharaf, Sobhi Shaaban, and Demerdash, Mohamed El-Sayed Ahmed. (2014). Education standards on critical reading of the literary text and its applications in school curricula. The Sixth International Conference on Quality Assurance of Education, Teaching Styles and Standards for Quality Control, Muscat, Sultanate of Oman, December 10-11, 2014, pp. 129- 147.
Al-Shehri, Maryam Muhammad. (2020). A proposed conception to activate the critical reading of the literary text in secondary schools in light of the vision of the Kingdom of Saudi Arabia 2030. The Virtual International Conference on the Future of Digital Education in the Arab World, 2, 1-17.

Abed Rabbo, Abeer El-Sayed Ahmed. (2021). Enhancing the values of critical reading of the literary text for the kindergarten child in light of some psychological variables from the mother's point of view. Journal of Young Researchers

in Educational Sciences, (7), Sohag University College of Education, 566-710.

Al-Omarji, Jamal Al-Din Ibrahim Mahmoud. (2017). The effectiveness of using the adaptive e- learning environment in teaching Arabic for the third grade of secondary school on developing students' achievement, historical thinking skills and motivation to learn using technolog ies.Specialized International Educational Journal, 6(4), 135-155.

Alyan, Ghosun Hussein Mohammed. (2017). The level of awareness of social studies teachers in the Kingdom of Saudi Arabia of the adaptive e-learning environment programs and their applications. Journal of Scientific Research in Education, (18), vol.10, 541-571.

Issa, Ahmed Nabawi Abdo. (2020). Effectiveness of the "Anatomy 4D" augmented reality program to improve academic achievement and increase independence for deaf students. Journal of Special Education and Rehabilitation, 10(38), 1 - 38

Mujahid, Faiza Ahmed Al-Husseini, and Abdel-Wahhab, Mohamed Abdel-Wahhab Mahmoud. (2021). Evaluative thinking: its concept - its skills - its teaching strategies (applications in the field of history teaching). Cairo: University Education House.

The warrior, Mohammed bin Juma bin Khalifa. (2019). The effectiveness of using the adaptive e-learning environment in academic achievement, learning retention, and cognitive load among tenth grade students in social studies in the Sultanate of Oman. Master's thesis: Sultan Qaboos University.

Abdel Moneim, Rania Abdullah. (2021). Digital environments based on adaptive learning and their effectiveness in developing deep understanding skills. The Scientific Journal of King Faisal University - Humanities and Administrative Sciences, Volume 22, Volume 1, 286-293.

AI-AdeeI, Abdullah bin Khalifa bin Abdul Latif. (2021). Designing an adaptive e-learning environment and its effectiveness in developing the e-lesson design skills of the student teacher. The Scientific Journal of King Faisal University - Humanities and Administrative Sciences, Volume 22, Volume 1, 118 - 128.

Yassin, Mai Ahmed Shamandi. (2018). A remote adaptive e-training environment based on the level of previous knowledge and its impact on the development of performance competencies.
Journal of Scientific Research in Education, Ain Shams University - Girls' College of Arts, Sciences and Education, Volume 19, Part 5, 407-458.

Askari, Solomon. (2020). Distance education: the response to the Corona pandemic. The Arab Center for Educational Research for the Gulf States - Kuwait.

Khamis, Mohamed Attia. (2016). Adaptive e-learning environments. Proceedings of the Conference: Educational Technology and Global Challenges for Education, Arab Association for Educational Technologies, 237-251.

Ibrahim, Syed Rajab Muhammad. (2019). A strategy based on the semiotic-signal approach to develop literary texts criticism skills. Reading and Knowledge Magazine, Ain Shams University Faculty of Education - Egyptian Association for Reading and Knowledge, vol. 211, 41

- 109.

Scharf, Nadia. (2019). The reality of the literary text within the educational curricula. Al-Atheh Journal for the Humanities, Q4, P5, 179-187.

Al-Azzawi, Nidal Muzahim Rashid (2017). Teaching compass in the Arabic language. Amman: Dar Ghaida Publishing and Distribution.

Anindyaputri, N., Yuana, R. & Hatta, P. (2020). Enhancing Students' Ability in Learning Process of Programming Language using Adaptive Learning Systems: A Literature Review. Open Engineering, 10(1), 820-829. https://doi.org/10.1515/eng-2020-0092

Delgado, E,. Clark, R. (2019). Analyzing the use of adaptive learning in a flipped classroom for pre-class learning, Department of Industrial Engineering, Engineering Education Research Center, Swanson School of Engineering, University of Pittsburgh, Pittsburgh, Pennsylvania, 27, 663—678

Harati, H. (2021). Examining adaptive learning impact on students' academic performance and perception of self-regulated learning skills (Order No. 28320902). Available from ProQuest Dissertations & Theses Global. (2538261594). Retrieved from https://www.proquest.com/dissertations-theses/examining-adaptive-learning-impact-on- students/ docview/2538261594/se-2?accountid=178282

Wilks, Ma. (2020). The Effectiveness of Adaptive Learning Software on Exam and Course Outcomes in Online Precalculus Courses. Online Journal of Distance Learning Administration, 23(4), 1-15

Wu, C.-H., Chen, Y.-S., & Chen, T.-G.
(2018). An Adaptive e-Learning System for
Enhancing Learning Performance: Based on
Dynamic Scaffolding Theory. Eurasia
Journal of Mathematics,
Science and Technology Education, 14(3),
903-913.
https://doi.org/10.12973/ejmste/81061