

The Effectiveness of the WebQuest Strategy in Acquiring Critical Concepts among Students of Colleges of Basic Education

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Abstract: This study aims to investigate the effectiveness of the WebQuest strategy in enhancing the acquisition of critical concepts among students in colleges of basic education. To achieve the research objective, the experimental method was employed using a post-test control group design, which is a form of quasi-experimental design. The research population included students enrolled in colleges of basic education across Iraq, from which a sample of 91 male and female students was selected.

A research tool a critical concept acquisition test — was developed and applied. Statistical analysis of the collected data revealed a statistically significant difference at the 0.05 level between the mean scores of the experimental and control groups, favoring the experimental group. These findings indicate the positive impact of the WebQuest strategy in promoting the acquisition of critical concepts.

Based on the results, the researcher recommends the integration of modern technologies, particularly the Internet, into the teaching process through strategies such as WebQuests or similar inquiry-based approaches.

Keywords: WebQuest strategy, acquisition, critical concepts.

1. Introduction

The current research aims to identify the effectiveness of the WebQuest strategy in acquiring critical concepts among students of colleges of basic education. To achieve the research goal, the researcher adopted the experimental method and used the post-test control group design, which is a quasi-experimental design. The researcher set the following objective: to identify the effectiveness of the WebQuest strategy in acquiring critical concepts among students of colleges of basic education. The researcher identified the research population as colleges of basic education in Iraq, and the research sample size was (91) male and female students. The researcher prepared her research tool, a critical concept acquisition test. After application, the researcher statistically analyzed the data, and the research results showed a statistically significant difference at the (0.05) level between the mean scores of the students in the two research groups in the critical concept acquisition test in favor of the experimental group. The researcher presented a set of recommendations: including the necessity of employing modern technology, especially the Internet, through the WebQuest strategy or similar strategies in education.

First: The Research Problem:

The development that has occurred in the field of education, which emphasizes focusing on the learner to learn by himself through activities, experimentation, research, and inquiry, has directed attention to the necessity of providing new methods in education that enable the learner to self-learn and work within a team to achieve the desired goals under the guidance of the teacher. Thus, the problem of the current study lies in



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searching for an effective and pioneering teaching strategy that keeps pace with the tremendous technological progress and exploits the capabilities of the Internet as a renewed and inexhaustible source of knowledge that enriches the teaching-learning process in the best possible way without wasting time or effort, and transforms the learning process into an enjoyable learning process for students. WebQuests may be one of the important models that combine sound educational planning and regulated use of computers (Samara, 2013:17) Therefore, the researcher decided to distribute a questionnaire that contributes to solving the aforementioned problem, which can be summarized in answering the following question: **What is the effectiveness of the WebQuest strategy in acquiring critical concepts among students of colleges of basic education?**

Second: The Importance of the Research:

Our contemporary world has witnessed rapid leaps and tremendous technological developments that have permeated all fields of knowledge and science. This technology, in its various forms and manifestations and numerous practical applications, has become an integral part of the lives of modern societies through its many names; These include information technology, the satellite communications revolution, information networks, and the internet. The enormous surge of knowledge and information that followed these developments has placed upon educators the responsibility of searching for the best methods and means to provide an interactive learning environment that attracts students' attention and encourages them to exchange opinions and experiences. Information technology, represented by computers, the internet, and their associated multimedia, is considered one of the most successful technological tools that has provided a rich learning environment (Al-Kubaisi, 2012: 88). This has led to a change in the role of the teacher in the age of technology, with the focus now on providing students with opportunities to participate in the teaching and learning process, fostering self-reliance in identifying technical and technological tools in education and learning, equipping individuals with structured self-research skills, and enabling them to extract necessary information using computers and the internet with efficiency and effectiveness in facing the challenges of the age (Darwaza, 2000: 45). Education is a crucial and important factor in establishing sound education. Education strengthens the individual's character, liberates them from subservience, and leads them to moral freedom. It is well known that freedom only grows and flourishes within the framework of education and culture, and its scientific goal is achieved through this. The focus should be on transferring knowledge and skills to the learner and preparing them to utilize and apply this information. Education no longer focuses on simply filling learners' minds with information, but rather on equipping them for life and enabling them to apply the learned knowledge (Al-Titi et al., 2009: 24-27).

Therefore, the researcher believes that education should not be viewed as a static process, but rather as a continuous, evolving, and dynamic process influenced by social, economic, cultural, and political changes. Consequently, it is essential for all members of society. For education to fulfill its purpose, it must adopt a method that allows for the application of scientific educational systems.

Education remains one of the fields that enhances the learner's competence, which contributes to increased productivity. It is defined as the organized process practiced by the teacher to transfer their knowledge and information to students, as students need this knowledge and the teacher desires to impart it because they recognize this need. The teacher conducts this process systematically, and the outcome of this process is education (Al-Afoun and Al-Fatlawi, 2011: 20). The researcher believes that education cannot achieve its goals in society without a means of communication that allows for the application of scientific educational systems, namely language. Language is the fundamental tool that humankind has used since ancient times to understand one another, enabling the transmission of ideas and life experiences. It serves as a means to build both personal lives

and communities. Therefore, humans need language in all aspects of life, a need that will only cease with the cessation of life itself. Language evolves alongside the environment in which people grow up, through dialogues, conversations, radio, television, cinema, books, newspapers, and other modern means of communication that connect peoples, enrich their cultures, and develop their language.

Language is the bridge between life and thought; it is inseparable from thought, and thought cannot be expressed without it. Thus, humanity is distinguished by its unique characteristics of conceptualization, innovation, analysis, and synthesis (Al-Mubarak, 2005: 14). Arabic derives its value—in addition to being the language of the Quran—from being the vessel that encompasses our intellectual and cultural heritage. Thanks to the Holy Quran, Islamic civilization, and the efforts of Muslim scholars throughout the ages, it has become one of the world's leading living languages, possessing a rich and distinct culture that has ensured its survival and transmission from generation to generation, thereby acquiring its unique features (Ata, 2006: 50).

There has been an urgent need to adopt non-traditional teaching methods, raise students' critical thinking skills, and follow modern teaching approaches to keep pace with modernity and development in all areas of society, including education. This need arises from the impact of technological and knowledge revolutions on the educational process in the last decades of the previous century and the early years of the current century (Ayadat, 2014: 277)..

From this emerged new educational trends advocating for the importance of schools emphasizing the understanding and grasp of the fundamentals of science, namely concepts and principles. Understanding the basics of science and its general structure relies primarily on concepts, which are one or more words that define and describe a set of things or ideas (Labib, 1982: 8). The mind processes concepts more easily than large amounts of information. Students quickly forget large amounts of information, while information based on relationships between facts and concepts within a conceptual framework is more effective and allows for the connection and classification of this information (Ashour & Muhammad, 2003: 288). The process of forming concepts is a mental process that individuals construct themselves. When these concepts are formed through personal experiences, they contribute to the development of their thinking. There is a strong correlation between the process of building concepts and the ability to think. In other words, the process of building and learning concepts significantly contributes to the acquisition of mental processes such as classification, prediction, and interpretation (Al-Khalili & Yousef, 1995: 99). Concepts become deeper and broader as learners acquire new experiences related to them. Since concepts are the foundation of education due to their clear impact on building generalizations, facts, and laws, the teacher must define them in every subject matter. This helps the teacher to choose the necessary educational activities to help learners reach many diverse and varied facts that require constant knowledge (Al-Saadi, 2004: 57). This makes the material organized and easy to learn. There is a connection between concepts, so learning one concept leads to learning another new concept. Through this, the learner realizes the unity and integration of knowledge in different scientific subjects (Nashwan, 1992: 131). Concepts are closely linked to thinking through understanding or perceiving them, then distinguishing them, and subsequently generalizing them to other similar concepts. This requires analyzing new concepts into their constituent elements and placing them in the category of similar concepts. Therefore, concepts are linked to two aspects: thinking and the learner's life, as they help the learner apply scientific functions to explain phenomena that attract attention, thus aiding in guiding and predicting any activity that may lead to the discovery of new things (Al-Afoun & Al-Fatlawi, 2011: 6). A concept is a group or category of things, events, or specific symbols that are grouped together based on their shared characteristics that distinguish them from other groups and categories (Attia, 2009: 44).

Helping students learn concepts is a fundamental goal of learning and a cornerstone of the thinking process (Abdul-Sahib & Jassim, 2012: 68). The university stage is considered the most important educational stage, representing the pinnacle of the educational pyramid. Its aim is to prepare individuals for life and provide a qualified workforce capable of leading society in the future. This is achieved through focusing on the human element and preparing individuals psychologically and socially. These are among the objectives of the university institution and are also fundamental educational goals sought to be achieved in higher education institutions (Abdul-Hadi et al., 2005: 259).

Third: Research Objective: To determine the effectiveness of the web-based learning journey strategy in acquiring critical thinking skills among students in basic education colleges.

Fourth: Research Hypothesis:

- There is no statistically significant difference at the (0.05) significance level between the mean scores of the experimental group students studying literary criticism using the web-based learning journey strategy and the mean scores of the control group students studying the same material using the traditional method on the test of acquiring critical concepts.

Fifth: Research Limitations:

1-Spatial Limitation: Students of the Arabic Language Department, College of Basic Education, University of Wasit.

2-Cognitive Limitation: The vocabulary to be taught in the Modern Literary Criticism course to fourth-year students in the Arabic Language Department at the College of Basic Education, which consists of (6) vocabulary items.

3-Temporal Limitation: The first semester of the 2024-2025 academic year.

Sixth: Definition of Terms

First: Effectiveness

- Nabhan defines it as: "Good work that has a positive impact" (Nabhan, 2012: 39). - Shehata and Zeinab defined it as: "The extent of the impact that experimental treatment, as an independent variable, can have on one of the dependent variables" (Shehata & Al-Najjar, 2003: 230).

- Operational definition: The adequacy of the web-based cognitive journey strategy in producing a positive impact and improving the performance of the research sample students in modern literary criticism and their acquisition of critical concepts. This is measured through tests designed for this purpose.

Second: The cognitive journey strategy

- Jacqueline defined it as: Educational activities that primarily rely on web searches to access information correctly and directly with minimal effort. Cognitive journeys also aim to develop various mental abilities (comprehension, analysis, synthesis, etc.) in learners (Jacqueline, 2007: 42).

- Al-Otaibi defined it as: Educational activities that rely on internet searches to access information correctly as quickly and effortlessly as possible (Al-Otaibi, 2021: 6).

Third: Acquiring Concepts

- Mahmoud: "It is a mental process that relates to acquiring, producing, and applying knowledge in the form of decision-making and seeking out problematic situations" (Mahmoud, 2006: 102).

- Al-Zubaidi et al.: "It is a deliberate process of attention that means the learner's ability to name, distinguish, and apply the concept in new situations" (Al-Zubaidi et al., 1993: 220).

Fourth: The Subject of Criticism

- Hilal: "It is the art of judging different literary styles and diverse literary genres by identifying their strengths and weaknesses, their points of beauty and ugliness, and their correctness and error" (Hilal, 2005: 18).

- Salloum: "It is the evaluation of a literary text in an attempt to reveal the most perfect model that it should be" (Salloum, 1981: 7). Fifth: Colleges of Basic Education

Educational institutions that undertake the task of preparing and qualifying university teachers according to modern strategies and programs that are consistent with the requirements of the teaching profession, to enable them to perform their educational tasks in the future in a sound manner that is consistent with contemporary trends in education (Ministry of Higher Education and Scientific Research, 1993: Chapter Two: Theoretical Aspects (Ramesh et al., 2022).

The Concept and Development of Web-Based Learning Journeys:

This teaching strategy is based on the principles and assumptions of constructivist learning philosophy. The core of this philosophy is that the learner's acquisition of knowledge is an active and continuous constructive process that occurs within a framework of social negotiation between the learner and their peers. This process involves modifying cognitive systems or structures through self-regulation mechanisms, aiming to adapt the individual to the cognitive environment (Amin, 2015: 56).

This strategy allows learners to engage in higher-order thinking skills by collecting, summarizing, synthesizing, and evaluating information, and presenting it in new formats. This is achieved through specific tasks set by the teacher. Furthermore, it helps learners construct meaningful learning experiences and integrates modern technology into the educational process (Yang and others, 2011: 26).

This strategy primarily relies on web searches to quickly and accurately access information with minimal effort, aiming to develop critical thinking. This method transforms learning from a routine process into an enjoyable one, increasing student motivation and participation in the classroom (Kadhim et al., 20223), (Sen & Neufeld, 2006: 13).

The cognitive journey strategy is primarily centered around the model of the learner as a traveler and explorer. It is a flexible strategy that can be effectively used across all educational levels and subjects. It encourages both individual and group work, as well as the exchange of opinions and ideas among students and between students and teachers, while also emphasizing individualized learning. Furthermore, it equips students with creative and productive online research skills (Dodge, 1995: 12).

Cognitive journeys are a highly effective and productive educational tool when properly directed towards achieving educational goals that contribute to modifying or reinforcing certain behaviors. They also foster the development of students' intellectual, psychological, and social aspects, helping them keep pace with progress and adapt to their surroundings. Moreover, cognitive journeys provide fertile ground for stimulating thinking, as they activate students' mental processes, encouraging them to research, explore, and investigate until they reach their desired conclusions, which in turn contributes to their intellectual growth (Al-Far, 2011: 17). Justifications and Foundations for Using Web-Based Learning Journeys in Education:

Using web-based learning journeys plays a significant role in developing educational performance in schools and moving away from the stagnation of rote learning and memorization, towards a dynamic education based on research, inquiry, exploration, and analysis, ultimately leading to problem-solving. This, in turn, improves the teaching and learning process. Furthermore, there are several justifications for using them in education, including:

Encouraging self-directed learning:

1-Web-based learning journeys are quests to find answers to specific questions, which motivates students and increases their drive.

2-The danger of relying solely on teachers and textbooks as sources of information in the rapidly expanding knowledge age. This necessitates providing students with diverse resources to seek knowledge for themselves, rather than simply receiving it.

3-Allowing students to interact with original documents, thus building their knowledge through their personal engagement with these

4-documents, rather than relying on secondary sources like textbooks. It contributes to making the student (the traveler or explorer) the focus of the educational process and an active, positive element in its progress.

5-It removes the educational activity from the realm of presentation limited to the teacher. The student presents the results of their web journey so that others can benefit from them or evaluate them, which increases the student's motivation to master their work (others, 2011: 27, Yang and)

Characteristics of Web Expeditions:

This educational activity is characterized by several features, most notably:

Web research is often a group activity.1-

2-The basic structure of web explorations is surrounded by motivational elements by giving the learner a role to play (e.g., scientist, researcher, journalist, etc)..

3-It can be used with all age groups, according to the levels of participation in the original task.

Web explorations can be single-disciplinary or multi-disciplinary.4-

5-The practice is evidence-based and has contributed to promoting the Universal Design for Inquiry-Based Learning.

6. WebQuests (WQs) can accommodate students with diverse learning needs.

7-They encourage teachers to integrate information and communication technologies (ICTs) into teaching and learning (Al-Far, 2011: 26).

Types of WebQue

Web-based learning journeys are divided into two types, distinguished by their duration, the students' cognitive abilities and computer skills, the learning objectives, and the tasks assigned to them. These types are:

Type 1: Short-Term Learning Journeys:

These journeys typically last between one and four class periods. Their educational objective is often to access, understand, and retrieve information sources. They are usually limited to a single subject. Completing the tasks of a short-term learning journey requires simple mental processes, such as identifying information sources. This type of journey is used with beginner learners who are not yet proficient in using search engines. It can also be used as a preliminary stage to prepare for longer-term journeys. The results of a short-term learning journey are presented in a simple format, such as a short presentation, discussion, or answering a few specific questions (Tayyeh et al.,2025).

The second type: Long-term cognitive journeys:

These journeys range in duration from one week to a full month, as Chatel and Nodel indicated. Long-term cognitive journeys revolve around questions that require advanced cognitive processes such as analysis, synthesis, and evaluation, etc. The results of these journeys are presented in the form of oral presentations or in written form for online presentation. These presentations may require, in addition to answering the task's core questions, proficiency in advanced computer tools such as presentation software like PowerPoint or image editing programs (Watson, 1999: 5).

The researcher adopted the short-term cognitive journey approach in teaching the topics for which this strategy was designed.

Advantages of the Web-Based Cognitive Journey Strategy:

Good web-based cognitive journeys transform the learning process into an enjoyable one, as they possess many advantages, the most important of which are:

1-They are a constructivist educational approach, centered around the model of the exploratory traveler.

2-They encourage both individual and group work, and the exchange of opinions and ideas among learners.

3. It develops learners' research skills using various learning resources efficiently and effectively.

4-It develops learners' various cognitive abilities: (comprehension, analysis, synthesis, etc)..

5-It cultivates the character of student researchers who are capable of evaluating their own performance and exploring information independently, rather than simply receiving it from the teacher.

6- It enhances communication skills among learners-

7- It motivates students to learn and stimulates their interest by guiding them towards reading, research, and exploration.

8- It provides students with continuous learning opportunities.

9-It encourages learners to take responsibility and participate actively in educational activities. (Al-Khalifa & Mutawa, 2015: 26)

Previous Studies:

Samara's Study (2013)

This study aimed to determine the effect of using the WebQuest strategy (cognitive journeys) on the immediate and delayed achievement of eleventh-grade female students in English. The researcher adopted the experimental method, applying the study to a purposive sample of (40) students. The results showed:

- Statistically significant differences at the (0.05) level in the immediate achievement of eleventh-grade female students in English, attributable to the teaching strategy used (WebQuest vs. traditional teaching), in favor of the WebQuest strategy.

- Statistically significant differences at the (0.05) level in the delayed achievement of eleventh-grade female students in English, attributable to the teaching strategy used (WebQuest vs. traditional teaching), in favor of the WebQuest strategy.

(Mohammed's study: 2016)

This study aimed to determine the effectiveness of the online learning strategy in improving the grammatical skills of third-grade intermediate school students. The researcher employed an experimental approach, applying the study to a purposive sample of 68 students. The results showed (Kadhim et al., 2024).

1- A statistically significant difference at the 0.01 level was found between the mean scores of the experimental group and the control group on the post-test of the grammatical rules for adjectives, conjunctions, and apposition, favoring the students in the experimental group.

2-A statistically significant difference at the 0.01 level was found between the mean scores of the experimental group on the pre-test and post-test of the grammatical rules for adjectives, conjunctions, and apposition, favoring the post-test.

Materials and Methods

The researcher adopted the experimental method to achieve her research objective. She relied on a quasi-experimental design suitable for the research conditions. This type of experimental design assumes the existence of two groups: one (experimental) that studies the independent variable according to the "cognitive journeys" strategy, while the other group (control) studies the dependent variable according to the traditional method.

Table 1: Materials and Methods

Research Instrument	Dependent Variable	Independent Variable	Group
Test the Acquiring Critical Concepts	Acquiring Critical Concepts	Cognitive Journeys Strategy	Experimental
			controlled

Research Population:

The research population consisted of students in the Arabic language departments of the Colleges of Basic Education. The researcher intentionally selected the College of Basic Education at Wasit University as the field for implementing her experiment for the following reasons:

- a. Its proximity to the researcher's residence.
- b. The cooperation of the college dean and the head of the Arabic language department with the researcher.

Research Sample:

The research sample consisted of (91) male and female students, with (47) male and female students in the experimental group and (44) male and female students in the control group.

Equivalence of the two research groups:

Before commencing the experiment, the researcher ensured the statistical equivalence of the students in the two research groups in certain variables that she believed might affect the validity of the experiment. This was done despite the fact that the students in the sample were from the same residential area, attended the same school, and were of the same gender. These variables included: chronological age (calculated in months), the educational attainment of the parents of both research groups, their Arabic language grades for the first year of middle school in the previous academic year (2024-2025), and their intelligence test scores.

Research instrument: The Critical Concepts Acquisition Test:

The Critical Concepts Acquisition Test included critical topics from the fourth-grade educational content. The test items were determined according to the relative weight (percentage) of both the educational content and the level of behavioral objectives. The process of preparing and administering the test involved the following steps and procedures

Defining the Test's Objective:

This research aims to determine the effectiveness of the web-based cognitive journey strategy in acquiring critical thinking skills among students in basic education colleges.

Defining the Concept Levels Measured by the Test

Based on the opinions of specialists in Arabic language curricula, teaching methods, and measurement and evaluation, the researcher emphasized that the concept acquisition test should measure the three processes involved in acquiring a critical concept: (definition, differentiation, and generalization). This is because it aligns with the cognitive development of fourth-year students, as follows:

A. Defining the Concept: This refers to the meaning of the statements that define all the distinctive characteristics of the concept, both in writing and speech, thus giving it its name. The student is then asked to state it based on what has been previously presented.

B. Differentiating the Concept: This is the student's ability to gather multiple observations about certain things and differentiate between them, i.e., distinguishing between similar and different elements and things.

C. Concept Application: This refers to the student's ability to use concepts to solve a problem or deal with new situations they have not previously encountered (Al-Salti, 2004: 141).

After the researcher identified the subject matter, consisting of six modules from the Modern Literary Criticism course, the main and sub-concepts were determined through material analysis. This resulted in the extraction of (21) main concepts and (30) sub-concepts. These concepts, along with a copy of the student textbook, were presented to a number of experts and specialists in curriculum and teaching methods, educational psychology, and subject teachers to assess their consistency with the course content. Based on their feedback, an 80% agreement rate was adopted as the acceptance level for each concept

Test Validity:

The researcher presented the test items, along with the content to be measured (concept acquisition objectives) and the course material, to a group of expert reviewers specializing in teaching methods, measurement, and evaluation (5). She asked them to examine the items and assess their suitability for measuring the intended content.

Based on their opinions and observations regarding the test items, the reviewers approved the validity of the (63) test items, with an agreement rate of (80%). Some reviewers suggested modifications to certain answer choices and the wording of the items. After the researcher made the appropriate adjustments based on the experts' and reviewers' feedback, the test was finalized.

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4- Test Reliability: Reliability is a psychometric property that must be present in a good test. It refers to the consistency of scores for a specific group of individuals, the consistency of different versions of the same test, or the consistency of the test items themselves (Al-lam, 2006: 89). Reliability means that the results shown by the instrument are consistent, meaning that if it were reapplied to the same sample under the same conditions after a suitable period, it would give the same results (Attia, 2008: 296). However, the researcher should calculate reliability because no test is 100% valid. The researcher verified the reliability of the test using the Kuder-Richardson (20) equation. This equation is the second type of internal consistency for calculating the reliability coefficient. This equation is also used in achievement tests, especially with objective tests in which the items are corrected either true or false (1, or zero). Also, one of the important ways of using the Kuder-Richardson (20) equation is to avoid problems of how to divide the test. The reliability coefficient for the test of acquiring critical concepts reached (0.92), which is a high reliability coefficient, as the reliability coefficient is considered good if it reaches (0.75).

Test Administration:

The researcher administered the test at the College of Basic Education, University of Wasit, in the Department of Arabic Language, during the academic year (2024/2025) on February 14, 2024.

Statistical Methods:

(T-test for two independent samples, chi-square test, difficulty index, discrimination index, effectiveness of incorrect alternatives, and the Kewdor-Richardson equation 20)

Results and Interpretation

To determine the significance of the difference between the mean scores of the two groups of students on the Critical Concepts Acquisition Test, the researcher used the t-test equation for two independent samples. The results are shown in the table:

Table 2: T-Test Results for Students in the Two Research Groups on the Critical Concepts Acquisition Test

Research groups	Sampl size	arithmetic mean	Contrast	Degree of freedom	Value		Statistical significance level (0.05) Statistically significant
					Calculated	The schedule	
empiricism	47	44.468	71.245	89	3.079	1.984	
The officer	44	39.159	63.904				

The table above shows that the mean score of the experimental group was 44.468, with a variance of 71.254, while the mean score of the control group was 39.159, with a variance of 63.904. The calculated t-value (3.079) is greater than the critical value of 1.984 at a significance level of 0.05 and 89 degrees of freedom.

This indicates a statistically significant difference at the 0.05 level between the mean scores of the two research groups on the critical concepts acquisition test, favoring the experimental group. Therefore, the null hypothesis, which stated that "there is no statistically significant difference at the 0.05 level between the mean scores of the experimental group students studying criticism using the Web-based learning journey strategy and the mean scores of the control group students studying the same material using the traditional method on the critical concepts acquisition test," is rejected

Conclusions:

1. Students' growing awareness of their need for web applications in preparing their lessons later on.
2. The familiar atmosphere in which students worked, along with the freedom and enjoyment of learning.

3. The use of discussion groups contributed to the exchange of information and ideas and the construction of knowledge.

Recommendations:

1. The necessity of employing modern technology, especially the internet, through the web-based learning journey strategy or similar strategies in education.
2. Part of the learning process can occur outside the learner through some non-human tools and applications (such as computers, phones, communities, or networks); this contradicts the assumption that the learning process occurs entirely within the learner.

Suggestions:

To assess the impact of the web-based learning journey strategy on developing students' higher-order thinking skills.

To study the most significant administrative and technical obstacle that limit the use of the web-based learning journey strategy as a teaching method in different educational stages.

Reference:

- Abdul-Hadi, Nabil and others. *Skills in Language and Thinking*, Dar Al-Masirah for Printing and Publishing, Amman, 2005.
- Abdul-Sahib, Iqbal Mutashar and Ashwaq Nasif Jassim. *The Nature of Concepts and Methods of Correcting Misconceptions*, Dar Safaa for Publishing and Distribution, Amman, Jordan, 2012.
- Al-Afoun, Nadia Hussein, and Fatima Abdul-Amir Al-Fatlawi. *Curricula and Methods of Teaching Science*, Basic Education Library, Baghdad, 2011.
- Al-Azzawi, Hassan Ali Farhan, and Makki Farhan Karim. *Analysis of the Modern Literary Criticism Textbook in Light of Educational Objectives*, *Journal of the College of Education for Girls for Human Sciences*, Issue (10), University of Kufa, Pages: 35-48, 2012.
- Al-Far, Ziad Yousef Omar. *The Effectiveness of Using Web-Based Learning Journeys in Teaching Geography on the Level of Reflective Thinking and Achievement among Eighth-Grade Students (Unpublished Master's Thesis)*, Al-Azhar University - Faculty of Education, Gaza, Palestine, 2011.
- Al-Khalifa, Hassan Jaafar and Mutawa, Daa El-Din Muhammad. *Effective Teaching Strategies*, Al-Mutanabbi Library for Printing, Distribution and Publishing, Saudi Arabia – Dammam, 1015 (presumably 2015).
- Al-Khalili, Khalil Yousef, et al. *General Science and Health Concepts for the First Four Grades*, Ministry of Education Press, Yemen, 1995.
- Al-Kubaisi, Abdul Wahid. *Employing E-Learning Technologies in University Education and Instructors' Attitudes Towards It*, Iraq, 2012.
- Allam, Salah Al-Din Mahmoud. *Educational Tests and Measures*, Dar Al-Fikr for Publishing and Distribution, Amman, Jordan, 2006.

- Al-Mubarak, Muhammad. *Linguistics and the Characteristics of Arabic*, Dar Al-Fikr for Printing and Publishing, Beirut, Lebanon, 2005.
- Al-Otaibi, Nadia Bint Saleh. *The Effectiveness of Teaching Mathematics Using the Web-Based Cognitive Learning Journeys Strategy to Develop Systems Thinking Skills among Fifth-Grade Primary School Students*, Research published in the *Arab Journal for Publishing and Distribution*, Issue 31, 2021.
- Al-Rubaie, Dirgham Sami. *Evaluating the Level of Students in Colleges of Arts in Iraq in the Subject of Modern Literary Criticism*, College of Basic Education, University of Babylon (Unpublished Master's Thesis), 2005.
- Al-Saadi, Sahira Abbas Qanbar. *Teaching Skills and Training Therein (Training Models for Skills)*, Al-Warraaq Foundation for Publishing and Distribution, Amman, Jordan, 2004.
- Al-Salti, Nadia Sami. *Brain-Based Learning*, Dar Al-Masirah for Publishing and Distribution, Amman, Jordan, 2004.
- Al-Titi, Muhammad, et al. *Introduction to Education*, 2nd ed., Al-Masirah Publishing and Distribution House, Amman, Jordan, 2009.
- Al-Zubaidi, Abdul Qawi, et al.. *Educational Psychology*, School Textbook Press, Sana'a, 1993.
- Amin, Zainab Muhammad. *Technological Innovations (Visions and Applications)*, Arab Foundation for Science and Culture, Cairo, Egypt, 2015.
- Ashour, Rateb Qasim and Muhammad Fouad Al-Hawamdeh. *Methods of Teaching Arabic*, Dar Al-Masirah for Publishing and Distribution, 2003.
- Atta, Ibrahim Muhammad. *Reference in Teaching Arabic*, 2nd ed., The Book Center for Publishing, Medina, 2006.
- Attia, Mohsen Ali. *Modern Strategies in Effective Teaching*, Safaa Publishing House, Amman, 2008.
- Attia, Mohsen Ali. *Total Quality and Innovation in Teaching*, Safaa Publishing and Distribution House, Amman, Jordan, 2009.
- Ayadat, Yousef Ahmed. *Educational Computing and its Educational Applications*, 2nd ed., Al-Masirah Printing, Publishing and Distribution House, Amman, Jordan, 2014.
- Darwazah, Afnan. *Theory in Teaching and its Scientific Translation*, 2nd ed., Dar Al-Sharq, Jordan, 2000.
- Dodge, B. : *Web Quests A technique for Intern-based Learning*, *Distance Educator*, 1, (2), 1995
- Hilal, Muhammad Ghunaimi. *Modern Literary Criticism*, 6th ed., Nahdet Misr Printing, Publishing and Distribution House, Egypt, 2005.
- Jacqueline L: "Confronting Challenges in Online Teaching: The Web Quest Solution", *MERLOT Journal of Online Learning and Teaching*, Vol. 3, No. 1, March, 2007.

- Kadhim, N. M., & Hamad, A. A. (2024). Mathematical Foundations and Principles Behind These Methods. Coding Dimensions and the Power of Finite Element, Volume, and Difference Methods, 116–133. <https://doi.org/10.4018/979-8-3693-3964-0.ch005>
- Kadhim, N. M., Mohammed, H. A., Radhawi, S. N., Jabur, A. M., Gottraan, R. B., Abdulridha, M. M., Kadhim, W. M., & Mohammed, Z. Q. (2023). Investigation of the next generation science standards including in the science book according to E-learn : analytical study. *Tamjeed Journal of Healthcare Engineering and Science Technology*, 1(2), 30–35. <https://doi.org/10.59785/tjhest.v1i2.23>
- Labib, Muhammad Rushdi. *The Development of Scientific Concepts*, Anglo-Egyptian Library, Cairo, 1982.
- Mahmoud, Salah El-Din Arafa. *Thinking Without Limits*, Ola for Books, Publishing and Distribution, 2006.
- Muhammad, Buthaina Mahmoud. The Effectiveness of Using the Knowledge Journeys Strategy via the Internet in the Achievement of Third Intermediate Grade Students in Grammar, *Published Research, Journal of Educational Sciences*, Issue 4, 2016.
- Nabhan, Yahya Muhammad. *Teaching Skills*, Al-Yazouri Scientific Publishing and Distribution House, Amman, Jordan, 2012.
- Nashwan, Yaqoub Hussein. *New Approaches to Science Education*, Al-Furqan Publishing and Distribution House, Amman, 1992.
- Ramesh, V., Hamad, A. A., Jwaid, M. F., Sathyabama, M., Abdulridha, M. M., Kadhim, N. M., & Belay, A. (2022). Early Recognition of Skin Malignancy in Images Based on Convolutional Networks by Using Dynamic System Model. *Journal of Nanomaterials*, 2022(1). Portico. <https://doi.org/10.1155/2022/1754658>
- Salloum, Daoud. *Articles on the History of Arabic Criticism*, Dar Al-Rashid, 1981.
- Samara, Nasreen Bassam Fayez. *The Impact of the Web Strategy (Cognitive Journeys) on the Immediate and Delayed Achievement of Eleventh-Grade Female Students in English*, Published Master's Thesis, 2013.
- Shehata, Hassan and Zainab Al-Najjar. *Dictionary of Educational and Psychological Terms*, Egyptian-Lebanese House, Cairo, 2003.
- Tayyeh, A. M., Hamad, A. A., Yaseen, R. B., Al-Badri, K. S. L., Jasim, F. T., Kadhim, N. M., Aldoori, S. K. S., Hussein, H. A., Turki, A. I., & Abbas, O. A. (2025). Adaptive Trans-fer Learning for Robust Phishing Attack Detection Using Recurrent Layers. *Integrating Intelligent Control Systems With Sensor Technologies*, 311–328. <https://doi.org/10.4018/979-8-3373-0330-7.ch011>
- Yang, C, and others, Using Web quest As A Universal Desing for Learning Tool To Enhance Teaching And Learning in Teacher Preparation programs, *Journal of college Teaching & Learning* 8, (3),2011 -Sen, Ayfer & Neufeld, steve: In pursuit of Alternatives in ELT Methodology: web Quests, *Turkish Online Journal of Educational Technology – Tojet Journal*, Vol.5, NO, 1, 2006.