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The Impact of Integrating Critical Thinking into English Instruction on Pupil's Academic Achievement

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Abstract

Critical thinking does not mean challenging thinking that does not accept coexistence with others and starts from the "ego" and aims to obliterate the other thought, eliminate it, and replace it. Rather, critical thinking is constructive and calm thinking that recognizes and respects other thoughts and calls for research into different ideas to clarify and benefit them, to improve the existing situation and to increase their effectiveness to achieve the good for all. This paper reports impact of Critical Thinking in English Teaching on Students' Achievement, the investigator selected an experimental design with two groups one experimental and the other control in order to verify. The researcher intentionally chose the Saqur Qurash school, a group of fifth-grade students in the city of Kut. It was three groups, as the total number of students reached (100) students. The research sample was chosen after they were distributed Randomly among three groups, two groups of (66) students were selected. The investigator prepared teaching plans for those topics, and teaches the two groups and then tested the pupils of the two groups at the end of the experiment. The paper concludes with a summary of the implications of the findings for the future of

learning and teaching and recommendations relevant to advancing teaching for critical thinking with children.

Introduction and background

The English subject faces many problems resulting from the teaching methods. The reliance on memorization and rote learning in the teaching of the English subject by its teachers prevailed in most of our schools, which led students to many problems, including that they became captive to the principle of memorizing the subject during exams only, and became The main goal in the process of teaching English is to master facts and information without the slightest concern for the students' needs and the relationship of education to their inclinations and abilities, Or benefit from it in their lives. Although teachers follow teaching methods and methods in the process of preparing students, which have a clear impact on their attitudes and inclinations towards the academic subject, these methods depend, to a large extent, on the success or failure of the teacher in achieving his educational mission.

One of the most significant aspects of education is the teaching process, which calls for careful consideration in the formulation of its elements and operational procedures. The effectiveness and impact of teaching can occasionally be observed to be lacking, despite the fact that the majority of the teaching process is dependent on selecting methods and strategies that are appropriate for the given teaching situations. In these situations, it is necessary for the teacher to have a thorough understanding of both the key components of education psychology and the learning environments in order to select the most effective teaching strategies.

The researcher noted that much of the educational research and studies were directed towards identifying appropriate teaching methods and methods for developing critical thinking among students in the field of social and human studies. Among the studies that dealt with the subject of critical thinking and developing it through research and investigation was the study (Singh et al., 2022) used two inquiry methods in teaching social subjects and their impact on developing critical thinking skills and achievement, which used the discussion method to identify the factors hindering thinking. The Critic.

Objectives

- Refer to find out Impact of Critical Thinking in English Teaching on Students' Achievement.
- Which aspects of critical thinking are currently being investigated with students in experimental studies?

Hypothesis of Research

There are no statistically significant differences at the level of (0.05%) between the average grades of the first experimental group, which is taught the English subject using critical thinking, and the average grades of the control group, which is studying the same subject using the traditional method of achievement.

Overview of the Impact of Integrating, Achievement and critical thinking

1. **Impact of Integrating**

   Integrating, in the context of education or any other field, refers to the process of combining or incorporating different elements, concepts, or approaches into a unified whole or system. When we talk about integrating in education, it often involves bringing together various instructional methods, resources, or subject areas to create a more comprehensive and interconnected learning experience for students

   The impact of integrating is crucial in education for several reasons:

- **Enhanced Learning Experience**: Integration enables teachers to design more comprehensive and linked learning opportunities for pupils. Students can establish links between concepts through the integration of diverse subjects, teaching methods, or resources. This facilitates a more profound comprehension and retention of the material.
- **Enhanced Engagement**: Students' learning can be made more relevant and engaging by incorporating a variety of instructional styles and tools. Students tend to remain engaged and motivated to study when classes include a range of activities, such as practical projects, group discussions, and multimedia presentations.
- **Real-World Application:** Students are better able to understand the relevance of their learning outside of the classroom when real-world examples, case studies, or practical experiences are incorporated into the curriculum. Students are better prepared for success in both their personal and professional life by applying their information in a way that fosters critical thinking and problem-solving abilities.

2. **Achievement**

Academic achievement in daily life is important in the learner's adaptation to life and confronting its problems, which is represented in his use of his knowledge in thinking. Making current and future decisions, as well as competing in life to obtain jobs and other professional work available in the labor market, the concept of academic achievement is used to show the degree of success achieved by the learner in his field of study and his level. It represents the acquisition of knowledge, skills, and ability to... It can be used in current or future situations, and academic achievement is the final outcome of learning. (Allam: 2006)**,** The level of knowledge, success, or competence in both school and work that a student reaches during the educational process is known as achievement. Teachers evaluate students either orally or via the use of various examinations that are specifically designed for that purpose. (Nasrallah: 2004), Academic achievement represents an important factor for learners in comparison with other areas, and this is due to the most important reasons:

1. Weaknesses in academic achievement may lead to failure and have psychological and economic effects on the learners, their families, and society.
2. If achievement is important to the learners, it is also important to society, as the progress of society depends primarily on the quality of the learners according to their upbringing, the type of learning they receive, and what they have achieved goals. (Dar et al., 2022)

2. Critical Thinking

It refers to the ability to objectively and deliberately evaluate information, arguments, or situations. Weighing the available facts, identifying trends, identifying biases, and drawing well-reasoned conclusions are all necessary. A critical thinker is skilled at challenging presumptions, looking for different viewpoints, and drawing well-informed, independent judgements. (Martin et al., 2022)

Critical thinking is a set of abilities and ways of thinking that help people solve issues, evaluate data, and come to well-informed conclusions. The following are some essential forms or elements of critical thinking:

1. **Analysis**: dissecting intricate data into its component elements and looking at how they relate to one another. Analysing involves dissecting complicated data into constituent pieces and figuring out how they relate to one another.(Ennis, 2018)
2. **Interpretation**: Determining assumptions and consequences as well as comprehending and elucidating the meaning of data**.** (Al-Douri et al., 2022)
3. **Inference**: Making logical judgements based on the data and proof at hand.
4. **Explanation**: is a succinct and clear statement of the logic supporting a specific choice or conclusion.

5. **Problem solving**: is the process of using critical thinking to identify solutions to issues while taking into account different possibilities and possible results.
6. **Evaluation**: Determining the accuracy, reliability, and applicability of data and arguments. (Hamad et al., 2022)

These kinds of critical thinking abilities can be used in a variety of settings, such as the workplace, the classroom, and personal relationships. They are frequently related to one another. Decision-making, problem-solving, and general cognitive ability can all be improved by developing and refining these talents. It's crucial to remember that developing critical thinking skills takes practice and constant improvement. (Kadhim et al., 2023)

Methodology

The researcher adhered to a number of protocols mandated by the study in order to meet its goals and validate its hypotheses. These included selecting the experimental design, defining the research population, selecting the sample, and ensuring that all groups were equal. Additionally, the researcher prepared the necessary materials and the research instrument and employed suitable statistical techniques to analyse the research data. The investigator chose an experimental design with partial control and posttest only Table (1). This is based on two groups, one of which is experimental, exposed to the independent variable (Critical thinking), and the other is the control group that is taught in the (traditional method). When the experiment ends, the final achievement test is applied, and after two weeks it is repeated. Applying the same test to the two research groups to measure retention of information.

Table 1: Experimental design

Groups	Independent variable	Dependent variable	Post-test
Experimental group	Critical thinking	achievement	achievement
Control group	traditional method	achievement	achievement

Research Sample

The researcher chose Saqr Quraish School in the center of Wasit Governorate. He visited the school and found that it contained three classrooms in the fifth grade of primary school, and He selected classrooms A and B at random to stand in for the two research groups, with classroom A selected at random to represent the experimental group and classroom B selected at random to represent the control group. This is because 33 students in classroom A will study using critical thinking, while 34 students in Section B will study as usual. The total number of students in both sections was 67. The researcher then removed information about the failing students because of their prior knowledge of the subjects being studied during the experiment period, preventing the dependent variable from influencing the results and their accuracy. After exclusion, the total number of sample members became 64 students, with 32 students from Section (A) the experimental group and 32 students from Section (B) the control group. The exclusion was statistical when analyzing the results, as they were allowed to work during the duration of the experiment in order to maintain the regular functioning of the school, Table 2.

Table 2: Students in the two research groups before and after exclusion

Groups	Students before exclusion	Failed students	Students after exclusion
Experimental	33	1	32
Control	34	2	32
Total	67	3	64

Research tool

The researcher developed the research tool based on Bloom's six levels of the cognitive field (remembering, comprehending, applying, analyzing, synthesizing, evaluating). The researcher used the first three levels to suit the age level of the students, The researcher prepared 70 paragraphs (objective and essay) that were determined in light of critical thinking. The objective paragraphs amounted to (50) items, and the test included (multiple choice) with three alternatives for each paragraph, which amounted to (17) paragraphs (and true and false) and amounted to (18) paragraphs (and fill in The blanks amounted to (15) paragraphs, while the essay paragraphs amounted to (20) paragraphs and included (5) paragraphs for short essay answers and (15) paragraphs for long answers.

Test Validity

The validity of a test means its ability to measure what it was designed for or the characteristic to be measured, The researcher achieved this type of honesty by presenting the test to arbitrators and experts. The experts' opinions were subjected to a Chi-square test to identify the statistical significance of the apparent differences in their opinions about the honesty of the test items. A number of them indicated that some paragraphs had been reformulated to achieve clarity. The percentage was (100%) and (90%).

Data extraction and analysis

The pupils' scores on the achievement test administered after were computed, yielding the arithmetic mean and variance for both the experimental and control groups. According to Table (3), the experimental group's test scores had an arithmetic mean of (58) and a variance of (22.624), whereas the control group's scores had an arithmetic mean of (54). Using the T-test for two independent samples and a variance of (20.027), it was discovered that the computed T-value is (3.329), which is higher than the tabulated value of (2.000), at a significance level of (0.05) and with a degree of freedom (62). Accordingly, the null hypothesis is rejected. That is, The average achievement test scores of the experimental group, which studied using critical thinking, differ statistically significantly from those of the control group, which studied the same material in the conventional manner, at the significance level (0.05). The experimental group's average scores are higher than those of the control group.

Table 3: results of the achievement test for the two research groups using t-test

Group	Sample size	Arithmetic mean	variance	T-Value		freedom	0.05
				Calculated Value	Tabular Value		
Experimental	32	58	22.62	3.329	2.000	62	Statistically significant
Control	32	54	20.03				

Results

The findings show that teaching fifth-grade primary pupils at Saqr Quraish School to think critically improves their performance in the English language arts.

The role of critical thinking in organizing the subject, selecting teaching strategies, educational methods for teaching it, and various evaluation methods that contributed to making students more prepared to receive information and more motivated to learn, and that critical thinking helps the student organize the concepts he wants to learn and integrate them into his existing mental structure in a logical, sequential way that connects them. With previous learning, not only that, but critical thinking shows the student how the sub-concepts are interconnected with each other and with the main concept, which

enhances the cohesion of the network of scientific concepts within the student's mental structure. The student's visual vision of how the concepts are sequenced and interconnected makes it an effective educational tool in acquiring meaningful learning. It can be said in brief that the positive impact of critical thinking that emerged from this study is due to the ability of critical thinking to link new concepts to previous concepts, and that is an active mental process through which the student reshapes his existing mental structure to accommodate new concepts.

Discussion

The students of the first experimental group outperformed the students of the control group in the achievement test.

Conclusions and recommendations

- The researcher used critical thinking in teaching the English subject in the fifth grade of primary school, increasing achievement.
- Training teachers to use critical thinking in teaching and urging and encouraging them to practice it in the educational and pedagogical field through seminars, training courses and scientific conferences.

The researcher recommends using critical thinking in teaching English at the secondary level for the purpose of increasing students' achievement and developing their critical thinking.

References

Al-Douri, A. T., Mohammed Kadhim, N., Mohamad, A. A. H., & Abeyie, M. (2022). Simulation of Vehicular Network Use in Emergency Situations and Security Applications on a Pakistan Highway. *Security and Communication Networks*, *2022*. https://doi.org/10.1155/2022/2902263

Dar, A., Rehman, R., Mohyuddin, A., Aziz, M., Anwar, J., Tadele, G., Kadhim, N. M., Alamri, A. H., Alzhrani, R. M., & Tadele, G. (2022). Efficacy of Various Types of Berries Extract for the Synthesis of ZnO Nanocomposites and Exploring Their Antimicrobial Potential for Use in Herbal Medicines. In *BioMed Research International* (Vol. 2022). https://doi.org/10.1155/2022/9914173

Ennis, R. H. (2018). Critical Thinking Across the Curriculum: A Vision. *Topoi*, *37*(1). https://doi.org/10.1007/s11245-016-9401-4

Hamad, A. A., Abdulridha, M. M., Kadhim, N. M., Pushparaj, S., Meenakshi, R., & Ibrahim, A. M. (2022). Learning Methods of Business Intelligence and Group Related Diagnostics on Patient Management by Using Artificial Dynamic System. *Journal of Nanomaterials*, *2022*. https://doi.org/10.1155/2022/4891601

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). https://doi.org/10.59785/tjhest.v1i2.23

Martin, R. J., Sharma, U., Kaur, K., Kadhim, N. M., Lamin, M., & Ayipeh, C. S. (2022). Multidimensional CNN-Based Deep Segmentation Method for Tumor Identification. In *BioMed Research International* (Vol. 2022). https://doi.org/10.1155/2022/5061112

Singh, R., Mishra, R., Richa, Rao, P. V., Gopinathan, R., & Kadhim, N. M. (2022). Design of FIR Filter under Frequency Domain responses. *Proceedings of the 2022 International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems, ICSES 2022*. https://doi.org/10.1109/ICSES55317.2022.9914010