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## The Effectiveness of the Dual Situated Learning Model (DSLM) in Developing Conceptual Understanding Among Second Intermediate Grade Students in Social Studies

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#### **Abstract**

This study aimed to investigate the effectiveness of the Dual Situated Learning Model (DSLM) in enhancing conceptual understanding among second intermediate grade students in the subject of Social Studies. The study adopted an experimental approach, specifically a quasi-experimental design, and was conducted on a sample of 'vestudents from the second intermediate grade in the Directorate of Education of Baghdad / Al-Rusafa 3. The sample was randomly divided into two groups: an experimental group consisting of 'vestudents who were taught using the DSLM model, and a control group of 'vestudents who were taught using the traditional method. The results indicated statistically significant differences at the 'velevel between the mean scores of the two groups in the post-test of conceptual understanding, in favor of the experimental group. In light of these findings, the study recommends integrating the Dual Situated Learning Model into Social Studies teaching environments at the intermediate level, as well as organizing training programs and workshops to equip Social Studies teachers with the skills necessary to implement this model effectively in lesson planning and execution

## Keywords

Dual Situated Learning Model (DSLM) Conceptual Understanding Social Studies Second Intermediate Students Teaching Strategies Constructivist Learning

#### **Introduction of the Study**

The world is currently witnessing rapid scientific and technological advancements that have led to a massive explosion of knowledge and information, influencing various aspects of life and resulting in unprecedented technological leaps. In light of this changing reality, most countries have realized the need to review and develop educational curricula to align with contemporary requirements—particularly science curricula, which serve as the cornerstone for building scientific competencies and modern societies.

Curricula, in all their branches, are among the key educational areas that have paid great attention to keeping pace with these transformations, aiming to expand students' scientific awareness and knowledge while equipping them with the essential concepts needed to understand natural phenomena. This, in turn, enhances their ability to cope with the challenges of the 21st century.

Educators affirm that one of the most effective ways to respond to modern transformations lies in strengthening the foundations of knowledge, including scientific concepts and fundamental principles that constitute the nucleus of scientific understanding (Olayan, 2010). Scientific concepts are among the most important learning outcomes, as they organize and simplify knowledge in a meaningful way. They represent the structural framework for any scientific knowledge acquired within the classroom, laboratory, or other learning settings. Hence, achieving meaningful learning of these concepts has become a major goal in teaching Social Studies (Fayyad, 2015).

Conceptual understanding enables students to accurately describe scientific phenomena, make logical inferences, and draw conclusions that help explain the causes behind such phenomena. It also enhances their ability to apply what they have learned in new and diverse contexts (Hamzy, 2022). Cummings (2015) defined conceptual understanding as a process that renders learning meaningful, where knowledge and understanding are constructed based on learners' ability to connect new facts with their prior knowledge—provided that these ideas and activities are relevant to their real-life experiences.

According to Al-Saleem (2010, p.6), conceptual understanding refers to the ability to explain and interpret scientific material, apply learned knowledge in new life situations, possess self-awareness of one's learning methods, interact emotionally with others, and present critical viewpoints derived from one's comprehension of the content.

Conceptual understanding, therefore, is a mental process aimed at constructing interconnected scientific concepts as students' prior knowledge evolves—using inquiry and scientific discovery strategies to explain and comprehend subject matter.

Given the significance of conceptual understanding, numerous studies have recommended fostering it among learners, including those by Abdulsalam (2018), Al-Shahrani (2019), Murad (2019), Abdel-Fattah (2020), and Hamzy. (۲۰۲۲)

Accordingly, the idea for this study emerged to explore "the effectiveness of the Dual Situated Learning Model (DSLM) in developing conceptual understanding among students," based on the constructivist theory. This model focuses on facilitating conceptual change through reconstructing learners' pre-existing concepts, activating dialogue and negotiation between teachers and students, and stimulating motivation for learning (Hamzy, 2022). In this regard, the Dual Situated Learning Model (DSLM) is one of the approaches that emphasize understanding educational material and explaining its characteristics, making it an effective model for developing conceptual understanding and improving the quality of education.

The model seeks to identify students' prior conceptions and the nature of scientific concepts, revealing contradictions between their existing beliefs and scientifically accepted concepts by challenging misconceptions and providing the cognitive structures necessary to reconstruct scientifically accurate understandings (

She, 2004).

The Dual Situated Learning Model (DSLM) is defined as "an instructional model based on understanding the nature of scientific concepts and learners' beliefs about them. It aims to induce a state of cognitive conflict or disequilibrium within learners, creating an internal struggle with their prior knowledge, thereby paving the way for conceptual change" (She, 2004, p.146).

From another perspective, Al-Asimi (2021) indicated that the DSLM involves a sequence of carefully designed stages intended to develop scientific concepts by provoking cognitive imbalance, which encourages learners to abandon misconceptions in favor of accurate scientific concepts. Similarly, Hafizy (2022) described the model as a constructivist framework that creates a cognitive gap in learners' beliefs, leading to conceptual restructuring. The model proceeds through several stages aimed at refining and deepening conceptual understanding.

Based on the foregoing, the Dual Situated Learning Model (DSLM) can be defined as a constructivist model designed to deepen scientific comprehension and develop students' thinking skills through the design of two contrasting learning situations. These situations enable learners to analyze their prior concepts, identify shortcomings, and attain cognitive equilibrium by internalizing new scientific concepts. Several studies have focused on this model, including those by She & Liao (2016), Al-Khawalda (2015), Kroothkaew & Srisawasdi (2013), Hamzah & Zain (2010), Al-Ubaidi & Jasim (2020), Kurniawan et al. (2020), Al-Asimi (2021), and Hafizy.(۲۰۲۲)

#### The Problem of the Study

Social Studies curricula have witnessed substantial developments in their content during recent years. However, their teaching is still largely characterized by an emphasis on rote memorization and recall, while teachers continue to rely on traditional instructional methods without adopting modern learning strategies that promote deep understanding and critical thinking.

#### The features of this problem are manifested in the following points:

The recommendations of the International Conference for Education and Training Evaluation (2020), titled "Improving Learning Outcomes and Supporting Economic Growth", emphasized the necessity for students to acquire knowledge and skills and to be able to apply them in real-life situations (Zaman, 2020).

Several previous studies have confirmed the weakness of students' conceptual understanding, as indicated in the studies of Abdulsalam (2018), Al-Mahdawi (2019), Abdulrahman (2019), and Al-Shahrani.(۲۰۱۹)

Multiple studies have recommended employing the Dual Situated Learning Model (DSLM) in teaching, including those of Al-Khawalda (2015), Al-Asimi (2021), and Hafizy (2022), due to the model's significant role in improving conceptual understanding and enhancing higher-order thinking among students.

Considering the points, the current study problem lies in the weak conceptual understanding among intermediate-stage students in Social Studies. Therefore, this study aims to investigate the effectiveness of the Dual Situated Learning Model (DSLM) in developing conceptual understanding among second intermediate grade students in Social Studies.

## **Theoretical Background**

The model is grounded in the Conceptual Change Theory, which assumes that learners often hold alternative conceptions or misconceptions about scientific concepts. The learning process, therefore, requires the occurrence of a cognitive conflict or dissonance between the learner's existing conceptions and the new scientific understanding, prompting the reconstruction of a more accurate conceptual framework.

Moreover, the model draws upon the idea that the educational context or situation plays a crucial role in transforming a concept into a lived experience, rather than leaving it as a mere theoretical abstraction. In other words, learning should take place within situations directly connected to the nature of the concept and the learner's own experience.

The literature also emphasizes that scientific concepts with a higher hierarchical level require more complex or multi-situated learning events, as learners must engage with a broader range of mental sets to achieve meaningful conceptual reconstruction.

#### **Model Components / Phases**

According to several studies — most notably those by Hsiao-Ching She — the model is composed of six principal stages, as outlined below:

1. Phase One – Examining Attributes of the Science Concept

Purpose: To identify the mental sets necessary for developing a scientific understanding of the target concept.

2. Phase Two – Probing Students' Misconceptions or Beliefs

Purpose: To uncover the alternative or incorrect conceptions that learners hold regarding the scientific concept.

3. Phase Three – Analyzing the Mental Sets Students Lack

Purpose: To construct a cognitive map that clarifies the conceptual or mental structures learners need to build an accurate scientific understanding.

4. Phase Four – Designing Dual-Situated Learning Events

Purpose: To design learning activities situated within two contexts: the conceptual domain and the learner's belief system, thereby challenging and addressing the missing mental sets.

5. Phase Five – Instructing with Dual-Situated Learning Events

Purpose: To provide learners with opportunities to predict, explain, experience dissonance, and reconstruct their conceptual understanding accordingly.

6. Phase Six – Instruction Using a Challenging Situated Learning Event

Purpose: To enable learners to apply their newly formed mental sets in a novel context, ensuring that conceptual change has been fully achieved.

#### **Conceptual Understanding**

Definition of Conceptual Understanding: Conceptual understanding refers to the ability to grasp fundamental concepts and ideas deeply and to relate them to prior knowledge and the surrounding context, rather than merely memorizing information. It emphasizes distinguishing the true meaning of a concept and its various applications, thereby enabling learners to think critically and solve problems effectively.

#### **Importance of Conceptual Understanding:**

- 1. Development of Critical Thinking: It facilitates understanding and analyzing the relationships between different concepts.
- 2. Enhancement of Deep Learning: It ensures the continuity and retention of knowledge beyond superficial memorization.
- 3. Facilitation of Knowledge Transfer: It allows learners to apply concepts in new and diverse contexts.

4. Promotion of Self-directed Learning: It encourages learners to explore knowledge and connect it to various situations

#### **Factors Influencing Conceptual Understanding:**

- 1. The learner's prior knowledge and cognitive background.
- 2. Clarity and precision of the presented concepts.
- 3. Teaching methods employed (e.g., active learning or inquiry-based learning).
- 4. Use of illustrative examples and real-life applications

## **Supporting Educational Models:**

Constructivist Learning: Learners build their understanding based on prior experiences

Inquiry-based Learning: Learners are encouraged to discover and analyze to achieve deep comprehension.

#### **Conclusion:**

Conceptual understanding constitutes a cornerstone of effective learning, as it enhances learners' comprehension of concepts and equips them with the ability to apply these concepts in diverse real-life situations. It serves as a fundamental tool for fostering critical thinking and problem-solving skills.

#### **Previous Studies**

## Studies that Addressed the Dual Situated Learning Model (DSLM)

Wibowo et al. (2016) conducted a study aimed at exploring the effectiveness of using microscopic virtual media within a Dual Situated Learning Model (DSLM) environment to develop students' conceptual understanding of thermal expansion of solids in physics and to correct alternative conceptions related to it. The study employed a case study design that enabled in-depth examination of the phenomenon using both quantitative and qualitative tools. The sample consisted of 30 high school students in Indonesia. The results indicated the effectiveness of using microscopic virtual media within the DSLM-based learning environment in enhancing and modifying students' conceptions regarding thermal expansion.

Al-Ribat (2018) aimed to examine the interaction between thinking maps strategy and the dual-situated learning model in developing 21st-century skills among first preparatory grade female students. The researcher adopted the experimental method, with a sample of 86 students from Qalyubia Governorate divided into two groups: an experimental group (45 students) who studied the unit "Geometry and Measurement" using the integration of both strategies, and a control group (41 students) who studied using the traditional method. The post-test results showed statistically significant differences in favor of the experimental group—both overall and across sub-skills of the test.

Al-Asimi (2021) conducted a study that investigated the application of the DSLM in teaching science to develop scientific concepts, metacognitive skills, and epistemological beliefs among second intermediate grade students. The sample included 88 students equally divided into experimental and control groups. The experimental group was taught using the DSLM, while the control group followed traditional instruction. Three tools were employed: a test of scientific concepts, a metacognitive skills scale, and an epistemological beliefs scale. The results revealed statistically significant differences in the post-test in favor of the experimental group.

Hamzy (2022) conducted another study that examined the effect of the Dual Situated Learning Model in teaching physics on developing both conceptual understanding and higher-order thinking among students with different learning styles. The study employed a quasi-experimental design with a sample of 77 second-grade high school students in Jazan. The experimental group (39 students) was taught using DSLM, while the control group (38 students) received traditional instruction. The findings revealed statistically significant differences in the post-test in favor of the experimental group.

#### **Studies Addressing Conceptual Understanding**

Mousa (2018) conducted a study to investigate the effect of the Numbered Heads Strategy on developing both conceptual understanding and science process skills among fourth-grade students. The researcher employed both descriptive and experimental methods. The sample consisted of 84 students from Rafah Primary School (A), randomly divided into two equal groups: an experimental group (42 students) who learned using the strategy, and a control group (42 students) who received traditional instruction. The post-test results showed statistically significant differences in favor of the experimental group in both conceptual understanding and science process skills.

Taha et al. (2018) examined the use of visual thinking networks to develop conceptual understanding among middle school students in science. The study included the development of a teacher's guide explaining how to use interactive electronic visual networks, as well as constructing a test to measure levels of conceptual understanding, including explanation, interpretation, application, and perspective-taking. The tools were administered pre- and post-intervention to a sample of 68 students (38 control and 30 experimental). Results showed statistically significant post-test differences in favor of the experimental group.

Murad (2019) conducted a study to assess the effectiveness of the PDEODE (Predict—Discuss—Explain—Observe—Discuss—Explain) strategy in developing conceptual understanding of physics among second-grade high school female students in Hail City. The sample consisted of 52 students divided equally into two groups (26 each). A conceptual understanding test designed by the researcher was administered, and the results indicated statistically significant differences in favor of the experimental group, confirming the effectiveness of the PDEODE strategy in improving conceptual understanding in physics.

Abdel-Fattah (2020) aimed to develop a proposed teaching model based on hemispheric integration to enhance conceptual understanding and self-efficacy in science among elementary

students. To achieve this, a four-phase model was designed: (1) concept reflection, (2) concept formation, (3) concept practice, and (4) concept expansion. A teacher's guide for the "Energy" unit (Grade 5) was prepared based on this model, along with a conceptual understanding test and a self-efficacy scale. Using a quasi-experimental design with experimental and control groups, the results favored the experimental group in both conceptual understanding and self-efficacy, indicating a large effect size for the model.

## **General Commentary on Previous Studies**

In terms of objectives: The current study aligns with those of Wibowo et al. (2016), Al-Asimi (2021), and Hamzy (2022) in focusing on developing scientific concepts and achieving conceptual understanding. However, it differs from Al-Ribat (2018), which examined the DSLM's impact on 21st-century skills rather than conceptual understanding. Studies in the second category focused on developing conceptual understanding through other models and strategies, such as those by Mousa (2018), Taha et al. (2018), Murad (2019), and Abdel-Fattah (2020). The current study distinguishes itself by employing the DSLM.

In terms of sample: The samples of previous studies varied, but most were drawn from student populations, making this study consistent with prior sample characteristics.

In terms of methodology: Most studies used a quasi-experimental design, consistent with the current study, except for Wibowo et al. (2016), which used a case study approach.

In terms of instruments: All previous studies, including the current one, used tests as primary tools for data collection.

#### **Study Hypothesis**

After reviewing the previous studies, the main hypothesis of the current research was formulated as follows:

"There is no statistically significant difference at the 0.05 level between the mean scores of the experimental and control groups in the post-test of conceptual understanding".

## Methodology and Procedures of the Study

#### **Research Method**

The study employed the experimental method based on a quasi-experimental design, as it aligns with the objective of the research—to examine the effectiveness of the Dual Situated Learning Model (DSLM) in teaching Social Studies to develop conceptual understanding among second intermediate grade students.

## **Population of the Study**

The population of the study consisted of all second intermediate grade students enrolled in schools affiliated with the Baghdad Education Directorate – Al-Rusafa 3 for the academic year 2023–2024.

## Sample of the Study

A sample of 70 students from the second intermediate grade was selected randomly from Al-Fajr Al-Jadeed Intermediate School (affiliated with the Baghdad Education Directorate – Al-Rusafa 3).

- 1. The sample was divided into two equal groups:
- 2. Experimental group: 35 students who were taught using the DSLM.
- 3. Control group: 35 students who were taught using the traditional method.

## **Study Materials**

The researcher relied on the official Social Studies textbook for the second intermediate grade for the first semester of the 2023–2024 academic year, specifically covering the first three chapters of the book.

#### **Study Instrument**

The study instrument was a Conceptual Understanding Test (CUT), designed and developed based on several previous studies such as Mousa (2018), Taha et al. (2018), Murad (2019), and Abdel-Fattah (2020)

The test was constructed through the following steps:

#### **Determining the Objective:**

The test aimed to measure the dimensions of conceptual understanding among second intermediate grade students. These dimensions included:

Explanation – Interpretation – Application – Perspective-Taking – Self-Knowledge.

#### **Defining the Dimensions of the Test:**

The five dimensions mentioned above were adopted as the foundational structure for constructing the test items.

#### **Formulating Test Items and Instructions:**

The test included 40 multiple-choice items (with options A, B, C, D). Each student was required to choose the correct alternative that best reflected his/her conceptual understanding of the situation.

#### **Content Validity:**

The test was reviewed by specialists in curricula and teaching methods to ensure the appropriateness and clarity of the items and their alignment with the dimensions of conceptual understanding.

## **Pilot Study**

A pilot administration of the initial version of the test was conducted with 30 second intermediate students (not included in the main study sample) from Al-Shaheed Kadhem Brism Intermediate School for the purpose of statistical item analysis.

Difficulty and Ease Coefficients: ranged between (0.20-0.80), all within acceptable limits.

Discrimination Coefficients: ranged between (0.44 - 0.78), also within statistically acceptable limits.

## **Internal Consistency Validity:**

Correlation coefficients between item scores and their corresponding dimension scores ranged between. (0.738-0.450)

Correlations between item scores and the total test score ranged between (0.651-0.375)

Correlations between each dimension and the total test score ranged between. (0.923-0.798)

All these correlations were statistically significant at the 0.01 and 0.05 levels, confirming the internal validity and consistency of the test.

#### Reliability of the Test

Using Cronbach's Alpha method, the reliability coefficients for the conceptual understanding test and its dimensions were calculated.

The obtained values are presented in Table (1) below:

Table (1): Cronbach's Alpha Reliability Coefficients for the Conceptual Understanding

Dimension	Number of Items	Cronbach's Alpha
Explanation	8	0.733
Interpretation	8	0.723
Application	8	0.715
Perspective-Taking	8	0.757
Self-Knowledge	8	0.750

#### **Final Version of the Test**

The final version of the conceptual understanding test was prepared based on experts' feedback and the results of the pilot study. The test consisted of **40 multiple-choice items**, with **one point** awarded for each correct answer and **zero** for incorrect responses. Thus, the total score

for the test was 40 points, with a minimum of zero.

The items were distributed across the five dimensions of conceptual understanding as shown in **Table (2):** 

Table (2): Distribution of the Conceptual Understanding Test Items

No.	Dimension	Item Numbers	No. of Items	Percentage (%)
1	Explanation	1–8	8	20%
2	Interpretation	9–16	8	20%
3	Application	17–24	8	20%
4	Perspective-Taking	25–32	8	20%
5	Self-Knowledge	33–40	8	20%
	Total	_	40	100%

## **Pre-Test Application**

The **conceptual understanding test** was administered as a *pre-test* to both the experimental and control groups before instruction, to ensure the equivalence of the two groups.- The results of the **independent samples t-test** (**T-Test**) are presented in **Table** (3).

Table (3): Results of the Independent Samples t-Test for the Experimental and Control Groups on the Pre-Test of Conceptual Understanding

Dimensions	Group	N	Mean	SD	Levene's Test F	Sig.	df	t- value	Sig. (2-tailed)
Explanation	Exp.	35	3.025	1.898	0.092	0.762	75	0.313	0.755
	Ctrl.	35	3.157	1.808					
Interpretation	Exp.	35	3.179	1.730	0.048	0.828	75	0.575	0.567
	Ctrl.	35	2.947	1.815					
Application	Exp.	35	2.846	1.725	0.225	0.615	75	0.979	0.331
	Ctrl.	35	3.236	1.777					
Perspective- Taking	Exp.	35	2.769	1.856	0.003	0.956	75	0.202	0.840
	Ctrl.	35	2.684	1.832					
Self- Knowledge	Exp.	35	3.128	1.935	0.064	0.800	75	0.833	0.407
	Ctrl.	35	2.763	1.909					
<b>Total Score</b>	Exp.	35	14.948	5.744	0.585	0.447	75	0.117	0.908
	Ctrl.	35	14.789	6.239					

The results in Table (3) indicate **no statistically significant differences** (p > 0.05) between the experimental and control groups across all dimensions of the conceptual understanding test. Additionally, Levene's test values revealed **no significant variance differences**, confirming the **homogeneity and equivalence** of the two groups before the experiment.

#### **Results and Discussion**

## **Testing the Main Hypothesis**

The main hypothesis of the study stated:

"There is no statistically significant difference at the 0.05 level between the mean scores of the experimental and control groups in the post-test of conceptual understanding."

To verify this hypothesis, and after ensuring the homogeneity of regression slopes, an **Analysis of Covariance (ANCOVA)** was applied. **Table (4)** presents the results.

Table (4): Results of the Homogeneity of Regression Slopes for Using ANCOVA

Dimension	F-Value	Sig.	Result
Explanation	0.035	0.853	Not Significant
Interpretation	0.022	0.880	
Application	0.194	0.659	_
Perspective-Taking	0.145	0.704	
Self-Knowledge	0.370	0.542	_
Conceptual Understanding (Total)	0.280	0.596	_

The table shows that **all F-values were not statistically significant** (ranging from 0.022 to 0.370), with significance levels between 0.542 and 0.880, confirming the **validity of using ANCOVA** for the subsequent analysis.

#### The Mean and Standard Deviation of the Two Groups' Performance on the Post-Test

**Table (5)** presents the means and standard deviations of the scores obtained by both the experimental and control groups in the post-test of conceptual understanding.

Dimension	Maximum Score	Experimental Group – Mean	%	SD	Control Group – Mean	%	SD
Explanation	8	7.020	87.8%	0.931	3.132	39.1%	1.847
Interpretation	8	6.926	86.5%	1.035	3.222	40.1%	1.726
Application	8	6.739	84.2%	1.117	3.469	43.4%	1.656
Perspective- Taking	8	6.493	81.7%	1.022	2.845	35.5%	1.685
Self-Knowledge	8	6.510	80.1%	1.140	3.240	40.4%	1.746
Total (Conceptual Understanding)	40						

The data in Table (5) indicate a **clear superiority of the experimental group** over the control group in the post-test of conceptual understanding. The mean scores for the experimental group ranged between **6.493 and 33.702**, compared to **2.845 and 15.891** for the control group. This demonstrates the positive impact of applying the DSLM in enhancing students' conceptual understanding.

## **Using ANCOVA to Test Differences Between Groups**

An **Analysis of Covariance (ANCOVA)** was performed to compare the post-test mean scores of the experimental and control groups while controlling for pre-test performance. The results are shown in **Table (6).** 

Table (6): Results of the ANCOVA for the Differences Between Post-Test Mean Scores of the Experimental and Control Groups

Dimension	Source of Variance	Sum of Squares	df	Mean Square	F- Value	Sig.	Eta <sup>2</sup>	Effect Size
Explanation	Pre-Test Effect	67.782	1	67.782	57.669	0.000	0.435	Medium
	Experimental Effect	300.859	1	300.859	249.482	0.000	0.770	Medium
Interpretation	Pre-Test Effect	57.065	1	57.065	44.920	0.000	0.369	Medium
	Experimental Effect	245.114	1	245.114	195.282	0.000	0.721	Medium

Dimension	Source of Variance	Sum of Squares	df	Mean Square	F- Value	Sig.	Eta <sup>2</sup>	Effect Size
Application	Pre-Test Effect	40.936	1	40.936	29.009	0.000	0.281	Medium
	Experimental Effect	223.460	1	223.460	155.272	0.000	0.676	Medium
Perspective- Taking	Pre-Test Effect	65.176	1	65.176	60.614	0.000	0.451	Medium
	Experimental Effect	256.751	1	256.751	238.800	0.000	0.760	Medium
Self- Knowledge	Pre-Test Effect	43.710	1	43.710	27.271	0.000	0.261	Medium
	Experimental Effect	173.905	1	174.905	109.055	0.000	0.592	Medium
Conceptual Understanding (Total)	Pre-Test Effect	928.442	1	928.442	93.055	0.000	0.556	Medium
	Experimental Effect	5995.584	1	5995.584	600.300	0.000	0.893	Large

The results in Table (6) reveal statistically significant differences (p < 0.05) between the mean scores of the experimental and control groups in all dimensions of conceptual understanding and in the overall post-test.

The effect sizes (Eta²) ranged from 0.592 to 0.893, indicating medium to large effects, confirming the substantial impact of the Dual Situated Learning Model (DSLM) on enhancing students' conceptual understanding.

#### **Recommendations and Suggestions**

#### Based on the findings of the study, the researcher recommends the following:

- 1. **Organizing training programs and workshops** for Social Studies teachers to qualify them in using and applying the **Dual Situated Learning Model (DSLM)** during the planning and implementation of lessons.
- 2. **Designing pre-instructional activities** by Social Studies teachers aimed at identifying students' misconceptions related to the scientific concepts included in the Social Studies curriculum.
- 3. **Giving particular importance** to employing the **Dual Situated Learning Model (DSLM)** in Social Studies teaching and learning environments at both the *intermediate and secondary* levels, while ensuring the availability of a suitable learning environment and the necessary infrastructure for effective implementation.

- 4. **Developing a teacher's instructional guide** to accompany the second intermediate grade Social Studies textbook, serving as a pedagogical reference to facilitate the application of the DSLM in classroom practice.
- 5. **Emphasizing the importance of conceptual understanding** in Social Studies by training students in conceptual skills and providing an appropriate learning environment—considered one of the essential pillars for ensuring the quality of curriculum instruction.

## **Suggestions for Future Research**

- 1. **Conducting similar studies** involving larger random samples from various educational settings to verify the generalizability of the current study's findings.
- 2. **Investigating the effectiveness of the DSLM** in teaching Social Studies and its impact on developing other dependent variables such as *scientific thinking*, *probabilistic thinking*, *creative thinking*, *divergent thinking*, *scientific argumentation*, and *habits of mind*.
- 3. Carrying out comparative studies between the effectiveness of the DSLM and other instructional models in enhancing conceptual understanding.
- 4. **Exploring the challenges and barriers** that hinder the application of the **Dual Situated Learning Model (DSLM)** in developing conceptual understanding from the perspective of Social Studies teachers.

#### References

- Abdulsalam, M. A. F. (2018). The effectiveness of Marzano's Dimensions of Learning Model in developing conceptual understanding and some habits of mind. International Journal of Arts, Humanities and Social Sciences, 7, 200–243.
- Abdel-Fattah, M. A. (2020). A proposed model for teaching science based on hemispheric integration to develop conceptual understanding and self-efficacy in science among primary school students. Egyptian Journal of Science Education, 23(6), 1–40.
- Al-Mahdawi, M. A. A., & Abdulrahman, G. M. M. (2019). The effectiveness of differentiated instruction strategy in developing understanding of some physics concepts among second secondary grade students in Al-Laith Governorate, Saudi Arabia. Al-Rasikhoun Journal, 5(1), 59–79.
- Al-Khawalda, S. A. (2015). The effect of the Dual Situated Learning Model on understanding photosynthesis and respiration concepts among ninth-grade students and retaining this understanding. Al-Manarah Journal for Research and Studies, 21(2), 423–463.
- Al-Ribat, B. S. I. (2018). The effectiveness of integrating the Thinking Maps strategy with the Dual Situated Learning Model in developing 21st-century skills in geometry among first preparatory grade students. Journal of Mathematics Education Studies, 21(12), 277–368.
- Al-Raqqab, S. A. M. (2017). The reading level in fourth-grade science textbooks and its relation to conceptual understanding (Unpublished master's thesis). The Islamic University.
- Al-Saleem, M. (2010). The effectiveness of teaching science according to a blended model based on multiple intelligences and learning styles theories in developing conceptual understanding and learning motivation among middle school students. International Journal of Educational Research, (27), 1–30.
- Al-Sayyid, A. M. (2011). *Encyclopedia of Educational Terms*. Dar Al-Maseera for Publishing and Distribution.
- Al-Shahrani, J. L. M. (2019). The effect of teaching science using differentiated instruction based on educational activities in developing conceptual understanding and habits of mind among second intermediate grade students. Journal of Scientific Research in Education, 13(20), 479–510.
- Al-Ubaidi, R. A. A., & Jasim, R. M. (2020). The effect of the Dual Situated Learning Model on correcting grammatical misconceptions among first intermediate grade students. Journal of Arts, Literature, Humanities and Social Sciences, (58), 307–320.
- Al-Asimi, K. H. M. (2021). The effectiveness of the Dual Situated Learning Model (DSLM) in teaching science in developing scientific concepts, metacognitive skills, and epistemological beliefs among second intermediate grade students. Journal of the Faculty of Education in Educational Sciences, Ain Shams University, 45(2), 1–49.
- Cummings, K. (2015). How does Tutoring to Develop Conceptual Understanding Impact Student Understanding?.From: https://vc.bridgew.edu/cgi/viewcontent.cgi?article=1086&context=honors proj

- Fayyad, S. M. S. (2015). The effect of using scientific stations and mind maps strategies in developing physical concepts and visual thinking skills in science among fourth-grade students in Gaza (Unpublished master's thesis). The Islamic University, Gaza.
- Hafizy, A. M. A. (2022). The effectiveness of using the Dual Situated Learning Model (DSLM) in teaching physics to develop conceptual understanding and higher-order thinking among secondary school students with different learning styles (Unpublished doctoral dissertation). Umm Al-Qura University.
- Hamzah, M; & Zain, A. (2010). **The Effect of Cooperative Learning with DSLM on Conceptual Understanding and Science Reasoning Among from Four Physics Students with Different Motivation Levels**. Bulgarian Journal of Science and Education Policy, 4 (2), 275-310.
- Kroothkaew, S; & Srisawasdi, N. (2013). **Teaching how light can be refracted using simulation-based inquiry with a dual-learning model** .Procedia-https://doi.org/10.1016/j.shspro.2013.10.159
- Kurniawan, Me Rahayu, S: Fajaroh, F. & Almuntasheri, S. (2020). **Effectiveness of Dual Situated Learning Model in Improving High School Student's Conceptions of Chemistry Equilibrium and Preventing Their misconceptions**. Journal of Science Leaming, 3(2). 99-105. https://doi.org/10.17509/jsl.v3.2.22277
- Mousa, Y. O. (2018). The effect of employing the Numbered Heads strategy in developing conceptual understanding and science process skills among fourth-grade students (Unpublished master's thesis). The Islamic University, Gaza.
- Murad, S. S. S. (2019). The effectiveness of the PDEODE strategy in developing conceptual understanding in physics among second secondary grade female students in Hail City. Umm Al-Qura University Journal for Educational and Psychological Sciences, 11(1), 1–38.
- Olayan, S. R. (2010). *Science curricula and teaching methods: Theory and application*. Dar Al-Maseera for Publishing and Distribution.
- Ramadan, H. A. M., & Khateeb, M. F. A. (2009). The effectiveness of the Dual Situated Learning Model (DSLM) in correcting alternative conceptions and developing scientific thinking in science among elementary school students. Studies in Curricula and Teaching Methods Journal, (150), 34–40
  - Shahaneh, H. A. (2003). Dictionary of Educational and Psychological Terms. Egyptian Lebanese House
- She, H (2002). Concepts of a Higher Hierarchical Level Require More Dual Situated Learning Events for Conceptual Change A Study of Air Pressure and Buoyancy International Journal of Science Education, 9(24), 981-995.
- She, H (2003). **DSLM Instructional Approach to Conceptual Change Involving Thermal Expansion. Research Science**, Technological Education, 1(21), 43-54.
- She, H (2004A), Facilitating Changes in Ninth Grade Students Understanding of Dissolution and Diffusion through DSLM Instruction. Research in Science Education, 4 (34), 503-525,
- She, H. (2004B). **Fostering Radical Conceptual Change through Dual-Situated Learning Mode**l. Journal of Research in Science Teaching, 2(41), 142-164. https://doi.org/10.1002/tea, 10130

- Taha, M. I. A., Alloush, M. M., & Al-Shabah, M. N. H. (2018). The effect of interactive electronic visual thinking networks on developing conceptual understanding in science among middle school students. Journal of the Faculty of Education, Kafr El-Sheikh University, 18(2), 395–428.
- Tseng, C. Tuan, H. Chin, C (2010). **Investigating the Influence of Motivational Factors on Conceptual Change in a Digital Learning Context Using the Dual-Situated Learning Model**. International Journal of Science Education, 32 (14), 1853-1875.
- Wibowo, F; Suhandi, A; Rusdiana, D; Ruhiyat, Y; Darman, D (2016). **Microscopic virtual media (MVM) in physics learning to build a scientific conception and reduce misconceptions**: a case study on student's understanding of the thermal expansion of solid. International Conference on Innovation in Engineering and Vocational Education. 239-244. https://doi.org/10.2991/icieve-15.2016.52
- Zaman, H. A. W. (2020, October). Final statement of the International Conference for Education and Training Evaluation Enhancing learning outcomes and supporting economic development. Education and Training Evaluation Commission.

# مدى فاعلية انموذج التعلم ثنائي الموقف (DSLM) في تنمية الاستيعاب المفاهيمي لدى طلاب الصف الثاني متوسط في مادة الاجتماعيات

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#### ملخص الدر اسة:

رمت إلى معرفة فاعلية انموذج التعلم ثنائي الموقف (Dual Situated Learning Model - DSLM) بتنمية "الاستيعاب المفاهيمي" لدى طلاب الثاني متوسط في مادة الاجتماعيات. واعتمدت الدراسة على المنهج التجربي، وتحديداً التصميم شبه التجربي، حيث تكونت العينة من (٧٠) طالب من الصف الثاني الثانوي متوسط في مديرية تربية بغداد الرصافة الثالثة. تم توزيع العينة عشوائياً إلى مجموعتين: مجموعة تجريبية ضمّت (٣٥) طالب درسو وفق الموقف (DSLM)، ومجموعة ضابطة تألفت من (٣٥) طالب درسو وفق الطريقة التقليدية "وكانت النتائج بوجود فرق عند مستوى (٠٠٠٠) في متوسطات درجات طلاب المجموعتين في اختبار "الاستيعاب المفاهيمي البعدي" للمجموعة التجريبية. توصي الدراسة بضرورة تفعيل نموذج التعلم ثنائي الموقف في بيئات تعليم الاجتماعيات للمرحلة الثانوية، إلى جانب عقد برامج تدريبية وورش عمل لتأهيل معلمات الاجتماعيات على استخدام هذا النموذج بفعالية ضمن عمليات التخطيط والتنفيذ للدروس.

#### الكلمات المفتاحية:

أنموذج التعلم ثنائي الموقف(DSLM) ، الاستيعاب المفاهيمي، مادة الاجتماعيات، الصف الثاني المتوسط، استراتيجيات التدريس، المنحى البنائي، فاعلية التعليم