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The effect of the directed imagination strategy in developing visual-motor integration among slow learners in the city of Kirkuk

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Abstract---The goal of the study is to investigate the impact of the directed imagination technique on the growth of visual-motor integration in Kirkuk slow learners. The pretest and posttest findings for the experimental group and control group in the development of visual-motor integration for slow learners in the region of Kirkuk were significantly different statistically, according to the researchers' hypotheses, which they used to fulfill their study objectives. Additionally, they believed that there would be statistically significant changes in the post-test findings of the experimental and control groups in terms of how well Kirkuk slow learners integrated their visual-motor skills. By creating two equal groups with a post-test suitable to the nature of the study the researchers employed an experimental technique. The study sample consisted of 32 (1st & 2nd grade) primary school pupils (special education) at the Mixed Primary School of Al-Mi'raj. Via lottery, Al-Mi'raj Elementary coeducational Elementary School had been selected to stand for the experimental group and Al-Irada Primary School represented the control group. The teaching material was set in accordance with the strategy of directed imagination and consisted of 12 policies expressing the pedagogical program of the experimental group and applied for (44)days. Later, when completing pre-tests and the experiment and its posttests, the findings were statistically accounted. The researchers came to the conclusion that the experimental group, which used the directed imagination technique, significantly outperformed the control group in terms of student's grades on the post-test. The researchers arrived at the conclusion that the technique had a good effect on the growth of visual motor integration. The researchers advised implementing the directed imagination technique in special education sports courses as a result.

Keywords---strategy, directed imagination, visual-motor integration, slow learner.

Introduction

We are currently living in a time of scientific advancement for all facets of life as well as a revolution in science and technology as a result of the Corona epidemic. These quick shifts have come to be seen as a defining aspect of the modern period. This in turn forced education into a new scenario, forcing it to reassess its goals and operating procedures in order to identify any areas that need improvement. Additionally, it is necessary to provide substitute techniques and strategies that adhere to contemporary scientific and technical norms. (Attia, 2010, p, 247).

Based upon such developments, educational institutions have a crucial duty to keep up with that rapid development by having to invest throughout whole human recruits were able to keep pace with scientific and technological progress as well as effectively adapting to the fast modifications in community. They also have an obligation to attempt to develop students' experiences, adjust them, enhance their talents, and boost their motivation and enrichment. With the cooperation of both the instructor and the student, teaching is a crucial tool for accomplishing goals and objectives. This includes ensuring that students learn via collaborative efforts and adapting teaching methods when necessary. (Alayan, 2010, p. 107).

The teaching process plays a critical role in converting the pedagogical goals of the materials into the facts, data, thoughts, trends, tendencies, and abilities that represent the real outcomes of education. This indicates that the teaching approach is a useful instrument for accomplishing educational goals. Therefore, it was up to the teachers to become proficient in a range of innovative techniques. (Katout, 2009, pp. 76-78).

No matter if the educational objectives are cognitive, emotional, or kinetic, all teaching methods and approaches are useful instruments and genuine channels of communication. Therefore, it is important for instructors and students to use instructional methods that have a range of educational goals and objectives, as well as varied psychological requirements. There are several ways to achieve the goals, all of which are based on the idea that the student is where the educational process should begin. The capacity of the learner to psychologically and effectively transcend beyond the present location and time by depending on the map of memory and imagination is perhaps the most well-known of these techniques. We have the ability to build and see things with a mindset that goes beyond the present, and here is where imagination is crucial. (Al-Hashemi & Al-Dulaimi, 2008, p. 208).

The strategy of directed imagination is a successful method to establish a logical connection among the learner and the imagination skill possessed. It forces the student to embark on an imaginary journey in detecting of creating mental images of things heard and instructs the students to create images rich in color

and of various sizes. The five senses are combined, and the formation of a mental image includes the five sensations of taste, heat, texture, smell, and image. (Khamis & Mohammed, 2009, p. 281).

Statement of problem

Paying consideration to childhood and developing it is one of the priorities of developed countries, Since the quality of services offered to this group generally, and those are disabled and slow learners particularly, is correlated with the development of these nations. Physical education lessons in special education classes represent an instrumental tool in fulfilling that attention. Thus, it was essential to those lessons the best as regards arranging, activating, and investing all the thoughts and potentials existing to increase the level of this category, similar to their competitors in schools, in terms of behavioral and mental development, and the improvement of capabilities. These include visual-motor integration given its key part in the coordination to slow learning with life.

Thus, the research problem lies in the following question: What is the effect of the strategy of directed imagination in boosting visual-motor integration among slow learners in Kirkuk?

Research Objectives

- 1) Identifying the contribution of the directed imagination method to the improvement of visual integration in the city of Kirkuk for slow learners.
- 2) A comparison of the directed imagination technique and the technique utilized in Kirkuk to help delayed learners strengthen their motor abilities and visual-motor integration.

Research Hypotheses

- 1) The findings of the pretest and posttests for the experimental and control groups in Kirkuk show statistically significant differences in the slow learners' development of visual-motor integration.
- 2) In the post-test findings of the experimental and control groups, there are statistically significant differences in the visual-motor integration of slow learners in Kirkuk.

Research domains

- Human: 1st and 2nd grade students (private education) in Al-Mi'raj Elementary coeducational School and Al-Irada Primary School / Kirkuk Education Department.
- Temporal: from 14/12/2021 to 9/2/2022.
- Spatial: the place and the classroom of Al-Mi'raj and Al-Irada Elementary coeducational School / Kirkuk Education Department.

Defining the terms

Directed imagination strategy

According to Galen (1993), the directed imagination technique is a meeting in which a group of learners is shown an imaginary scenario of an imaginary journey during which they travel to an imaginary world while being guided by a mentor. Its goal is to get students to visualize what they hear, go back on a sequence of experiences they've had, connect those experiences to the actual world, bring them back to reality, ask them questions, and then have them respond by drawing and coloring their ideas. (Galen, 1993, p. 26).

Visual-motor integration

Al-Khatib defined as: "It is the ability to coordinate between sight and the movements of the body or parts of it, and it is also called perceptual-motor matching or visual-motor integration. (Al-Khatib, 2001, p. 77).

Slow learner

In the broadest sense, this person (kid) is normal, but for whatever reason, he or she finds it challenging to achieve the educational level that, on average, his or her normal classmates achieve. Despite this, the person is not considered to be mentally retarded (Ministry of Education, 1986).

Previous studies:

Al-Zubaidi's Study (2012)

(The impact of directed imagination and spontaneous enthusiasm on first-grade pupils' performance and growth in emotional intelligence and creative thinking) The goal of the study was to determine how guided imagination and random excitement tactics affected first-year intermediate physics students' academic performance as well as the growth of their emotional intelligence and capacity for creative thought. The sample was made up of (100) students divided into three sections to indicate the control group, the two experimental groups, and the first experimental group, which consists of (33) students and uses the directed imagination method of learning, for the first experimental group. A total of (33) students are in the second experimental group, which uses the random stimulation method to learn, and (34) are in the control group, which uses the standard method. The study made use of the necessary instruments, such as the physics accomplishment exam, the test of creative thinking, the emotional intelligence scale, and the statistical package employed by the researcher (SPSS). The research produced the following findings:

In favor of the first experimental group, there were variances among the first experimental group and the control group on the accomplishment exam and the test of creative thinking, whereas there was no difference which is statistically significant among the second experimental group and control group.

The study by Al-Arajia (2012)

Al-Arajia's study (2012)

(The impact of the educational imagination method on the reading-related creative thinking skills of female fourth-grade literary learners.) In order to partially meet the requirements for a master's degree. This research intends to ascertain the impact of the educational imagination method on encouraging creative thinking in female 4th class (literary division) pupils. The sample of the study consisted of (63) students, representing the experimental group (32) that studied the strategy of educational imagination and the control group (31) studied in the traditional way. The stat package was employed by the researcher (SPSS). These findings from the research:

1. There is a statistically significant difference at the (0,05) level in the average differences among the grades of the prettest and posttests of creative thinking for the posttest for both experimental and control groups.
2. A statistically significant difference at the (0,05) level was noticed among the mean scores of both study groups in creative thinking in favour of the experimental group.

Following a survey of the previous studies, the following aspects refined and as follows:

- Formulation of research problem and objectives
- Selecting the right experimental design, equivalence and procedures of homogeneity.
- Getting to know the sampling methods .
- Benefiting from the statistical methods used.
- Tracking down various resources relevant to the up-date investigation.

Research methodology and procedures

Research Methodology

The researchers made use of the experimental program as it fits the nature of the research.

The research community and sample

The community of research was recognized as 314 pupils of special education in the Kirkuk Education Dept. The sample included 32 and second grade primary pupils (special education) at the Mixed Primary School of Al-Mi'raj at the Kirkuk Education Department. The sample was chosen by lottery. The Mi'raj Mixed Primary School was selected to express the experimental group and Al-Irada Primary School was chosen to express the control group with 16 pupils per school.

Experimental design

Figure (1) depicts how the researchers employed a technique known as the construction of equal random groups with controlled pre- and post-tests:

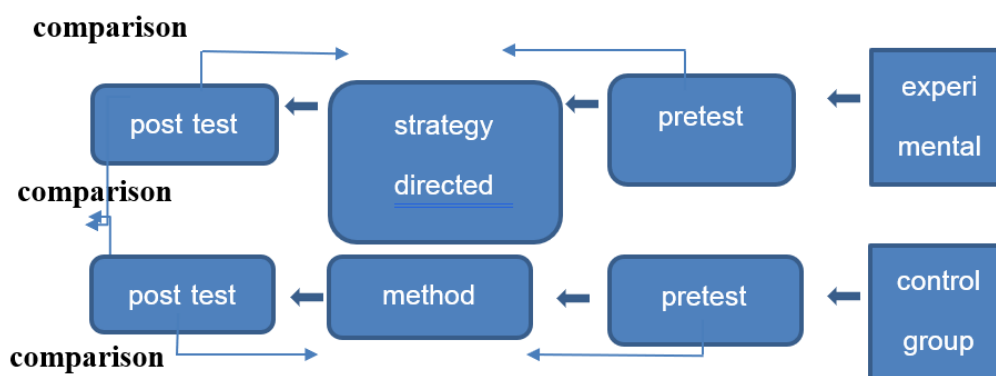


Figure (1): The research experimental design

The equivalence of the research sample

The researchers used the pre-tests for equivalence simultaneously, which were administered on 12/19/21/2021 at 10:30am and in the place and classrooms of Al-Mi'raj and Al-Irada coeducational Elementary Schools / Kirkuk Education Dept with the assistance of an associate team, to fulfill equivalence among the two research groups. (1). The goal of the equivalency is to guarantee that the two groups begin with the identical set of study variables, as indicated in Table (2).

Table (2): The equivalence of the both research groups

Variables	Measuring unit	t-value	experimental group		control group		Sig. value	Statistical treatment
			(p)	(s)	(p)	(s)		Statistical significance
Colored balloon test 2 minutes	Degree	0.589	1.17	3.94	0.98	3.22	0.562	Non-significant
chalk board test	Degree	0.193	1.07	1.33	1.03	1.	0.848	Non-significant
horizontal line test	Degree	0.518	1.009	1.51	1.16	1.45	0.609	Non-significant
rhythmic writing test	Degree	0.264	1.07	1.61	1.14	1.57	0.794	Non-significant

non-significant because the value of sig. is greater than (0,05).

Table (2) makes clear that all of the (sig) values for the study variables are more than (0.05). This suggests that the two research groups (experimental and control) are equivalent since there are no notable differences between them.

Data collection methods

Data collection methods help the researchers in collecting data and solving issues in order to achieve the objectives of the research, regardless of the tools, such as data, samples, and tools used (Mahjoub, 1993, p. 179).

- Arab and foreign sources and references.
- Tests and measurements employed in the study.
- questionnaires.
- In-person interviews.

Selecting tests of visual -motor integration

To determine appropriate tests for the visual-motor integration variable, the researchers' methodology included content analysis of academic literature and earlier research. (Khayoun & Fakher 2016) (Al-Fahrawi & Obeis 2018) (Muhammad, 2018), which agreed on the following tests to measure visual-kinetic integration after scientific procedures were conducted on them to verify their validity and stability. Thus the researchers adopted the following tests:

Chalk board test

The purpose of the test: measuring the ability to control the limbs of the body during its single and combined movement and evaluate directionality, synchronization and motor integration. Testing the performance: The child is required to put a piece of chalk in both hands and draw two circles with his/her hands at the same time.

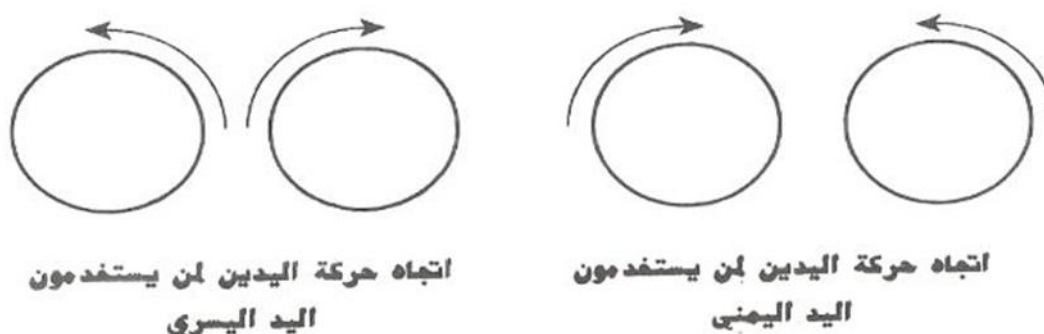


Figure (2): the direction of the left and right hand movement of the chalk board test

The tested pupil must comply with the following instructions:

- 1- Pupil standing in the middle and in front of the board.
- 2- The performance of drawing both circles must be equal.
- 3- The two circles must be drawn in the same direction.

Evaluation

Degree	The details
1	Unable to perform the drawing or performing it in an inappropriate size and misplacing the hand or paying attention to only one hand and drawing a dented circle.
2	The child had difficulty performing any part and the direction of the drawing was incorrect and unacceptable after two or three attempts.
3	The child made two or three attempts until he/she achieves the required drawing, and is not continuous and rigid.
4	The child performed easily and confidently with simple guidance to adjust size and position in one attempt.

Note that the score is out of (4).

Horizontal line drawing test

The purpose of the test:

Balance, pairing, motor, rhythm direction.

Testing the performance:

Two marks are determined on the board on a horizontal line, the distance between them (35-40 cm) at the level of the experimenter's shoulder in the middle. The pupil draws a line between the two specified marks. The tested pupil must adhere to the following:

- 1- Not moving the feet i.e. walking during the performance.
- 2- Drawing of the line between the two marks with one hand.

Figure 3 illustrates this.

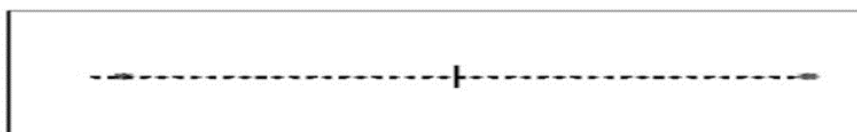


Figure (3): a performance model

Evaluation :

Degree	Details
1	Could not perform and tried to walk to the other side and used both hands
2	Frequency and slight error during performance
3	Low hesitation and slight error during performance
4	Perfect fit performance

Note that the degree is out of (4)

Rhythmic writing test

The purpose of the test:

Motor coherence, rhythm and movement direction.

Testing the performance:

The tested pupil is asked to perform eight models in a row, after these eight models are presented to him/her on an illustration on paper. Figure (5) illustrates this.

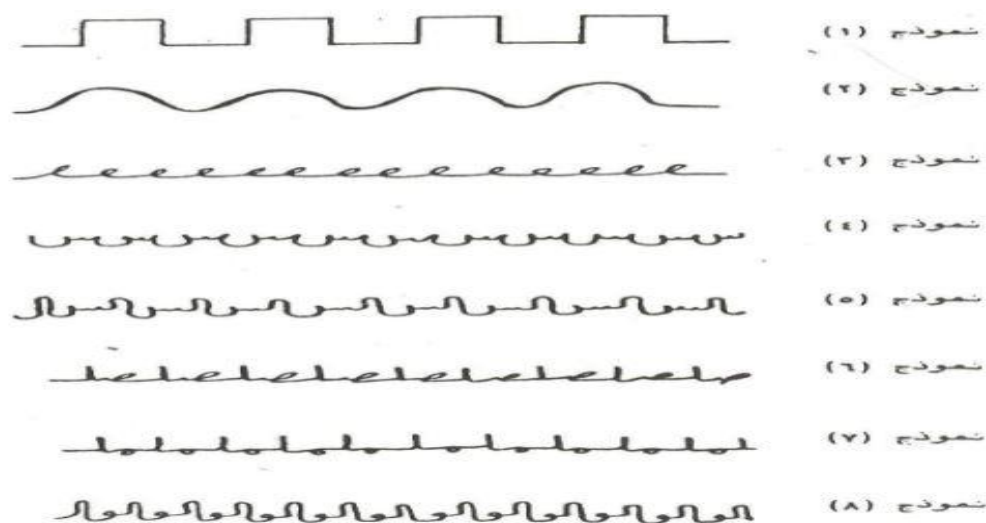


Figure (5): the eight patterns of rhythmic writing

Evaluation :

Degree	The details
1	If the pupil cannot perform the models
2	If the pupil has difficulty in any part of the performance
3	If the pupil performs the forms with three or four attempts,
4	If the pupil's performance is smooth and consistent, allow him to try one more time

Coloured balloon test in 2 minutes

The purpose of the test

The ability to control the limbs of the body during the movement of the limbs individually or in combination, pairing, synchronization, and interconnection of the body during movement.

Testing the performance

Drawing a circle of (2) m and asking the tested pupil to keep the balloon in the air and hit it with the head, hand and foot within a time of (2 minutes) without

dropping it and the pupil must not get out of the circle or touch the circle line as in Figure (6).



Figure (6): Demonstration of how to perform the balloon test

Evaluation :

Degree	The details
10	The tested pupil performed the movement easily without dropping the balloon using the head, hands and feet during the performance and not leaving the circle at the same specified time.
9	The tested pupil dropped the balloon once during the performance using the head and hands simultaneously.
8	The tester left the circuit once during the performance and his performance was acceptable
7	The tested pupil exited the circuit twice during the performance and his/her performance was acceptable
6	Used your hands and head only, and did not drop the balloon during the performance
5	Used the feet and head only, and did not drop the balloon during the performance
4	Dropped balloon twice during the performance
3	Dropped the balloon three times during the performance
2	The balloon was dropped more than once and exited from the circle more than once
1	Could not perform

Note that the grade is out of (10) degrees

Making lesson plans that use the directed imagination strategy

The researchers performed multiple in-person interviews with specialists in teaching strategies, motor learning, and private education in order to construct lesson plans using the directed imagination technique. They also analyzed prior research and pertinent scientific sources. After taking the experts' observations into account, the plan became ready for implementation. In order to administer

the educational program for a total of (6) weeks to the experimental group, the researchers created (12) lesson plans with two lessons per week. The steps for putting the strategy into practice and using it in the physical education class were mentioned in the plan.

Field Research Procedures

First exploratory experiments

With the help of the associate team (3), the researchers performed an exploratory experiment upon motor visual integration tests on a sample of 8 pupils private education on Monday, 13/12/2021 and was aimed at:

- Checking the appropriateness of the employed tests and tools.
- Recognizing potential problems and barriers and working to come up with solutions before putting the tests into practice.

Second exploratory experiments

On Tuesday, December 14th, 2021, both researchers carried out an exploratory experiment on instruction plans using the technique and the directed imagination strategy on a sample of eight students with the following goals:

- determining if the place is acceptable for implementing the lesson in line with the lesson plans and the approach being employed.
- determining if the lesson plans and the way they are implemented are appropriate for the study sample participants' skill levels.
- Recognizing potential faults and roadblocks and working to come up with remedies before implementing the instructional program.

Pre-tests

On Sunday, December 19, 2021, the two researchers, with assistance from the assistant team, completed the pre-tests for both study groups in the visual integration tests.

The main experience

On Monday, December 20, 2021, in accordance with the weekly lesson plan, the researchers put into practice the lesson plans in accordance with the directed imagination method until Tuesday, August 2, 2022. In order to ensure that the educational plans assigned to the educational program were implemented to completion, As a result of holidays and special occasions during the time that the educational program was being implemented, the educational plans were compensated on other days with an extra week. The study sample was subjected to the lesson plans, and the experimental group received the educational program in accordance with the directed imagination method, while the control group received the educational materials in accordance with the subject teacher's procedures.

Post tests

On Wednesday, 9/2/2022, the assistant team helped to perform post-tests for the experimental and control groups following the conclusion of the scholastic program in the variables of visual-motor integration.

Statistical means

The (V. 20 SPSS program) was used to analyze the data.

Presentation and Discussion of the results

Following the proper statistical procedures, the researcher processed the data she had collected in order to confirm the accuracy of the study hypothesis.

Presentation of first hypothesis results

Statistically significant differences were noticed among the results of the pre-tests and posttest for the experimental and control groups in the development of visual-motor integration for slow learners in Kirkuk.

Table (3): The significant differences among the prettests and post measurement in visual -motor integration for the control group

Statistical Treatment Variables	Measuring unit	Values (t)	Post-tests		Pre-tests		Sig. Value	Significance level
			(±p)	s	(±p)	S		
Colored balloon test 2 minutes	Degree	5.84	1.03	5.15	0.98	3.22	0,00	Significant
chalk board test	Degree	7,62	0.23	2.33	1.03	1.5	0,00	Significant
horizontal line test	Degree	8,40	0.93	2.98	1.16	1.45	0,00	Significant
rhythmic writing test	Degree	7,25	0.95	3.11	1.14	1.57	0.000	Significant

Sig. value < (0.05)

The findings of the pre-tests and post-tests for the visual-motor integration of the control group are shown in Table 3 together with their arithmetic means, standard deviations, and computed (t) values. There are statistically significant differences among the two tests, as shown by the value (sig) being smaller than the value of the significance threshold (0.05). Pre- and post-tests for the latter.

Table (4): the significant differences among the prettests and post measurement in visual -motor integration for the experimental group

Statistical processors Variables	Measuring unit	Values (t)	Post-tests		Pre-tests		Sig. Value	Significance level
			(±p)	s	(±p)	S		
Colored balloon test 2 minutes	Degree	4,91	1.02	7.23	1.17	3.94	0.000	Significant
chalk board test	Degree	8,42	0.98	4	1.07	1.33	0.000	Significant
horizontal line test	Degree	4,53	0.73	3.94	1.09	1.51	0.001	Significant
rhythmic writing test	Degree	3.75	.094	4	1.07	1.61	0.0003	Significant

Sig. value < (0.05)

In the visual-motor integration of the experimental group, Table (4) illustrates the arithmetic means, standard deviations, and estimated (t) value among the results of the prettests and posttests. It demonstrates that the value of the significance level is lower than the value of the sign (0.05). As a result, it may be concluded that the post-test performed better than the pre-test, which is statistically significant.

Presenting the results of the second hypothesis

In the visual-motor integration of Kirkukian slow learners, there are statistically significant variations among the outcomes of the experimental and control groups on the post-tests.

Table (5): The Differences among post-tests of visual-motor integration of the experimental and control groups

Statistical processors Variables	Measuring unit	Values (t)	Post-tests		Pre-tests		Sig. Value	Significance level
			(±p)	s	(±p)	s		
Colored balloon test 2 minutes	Degree	391	1.02	7.23	1.03	5.15	0.000	Significant
chalk board test	Degree	7.23	0.98	4	0.23	2.33	0.000	Significant
horizontal line test	Degree	5,11	0.73	3.94	0.93	2.98	0.000	Significant
rhythmic writing test	Degree	3.66	.094	4	0.95	3.11	0.000	Significant

Sig. value < (0.05)

The arithmetic means, standard deviations, and estimated (t) value among the post test results for the visual-motor integration of the two experimental and control groups are shown in Table (5). It demonstrates that the significance level's value (sig) is smaller than its value (0.05). This reveals that the post-test results are significantly different and benefit the experimental group.

Discussion of the results

The activation of the physical education lesson and the teaching strategy used are credited by the researchers as the causes of the results of Table (3), i.e. the substantial differences and development for the post-tests of the control group in the visual-motor integration. This was applied to the control group by the course instructor (the researcher), who concentrated on explanation, reiteration, and introducing a model performance before the students for motions and games in addition to making an effort to devote time to playing and reiterations to accomplish the best interaction in the classroom. According to Mahjoub (2001), the usage of motor models in front of the students and repeated performance are crucial for their interaction and the acquisition of the skill (Mahjoub, 2001p. 175). The scheduling of the physical education lesson and the work on motivating and implementing the collaborative learning environment that the researchers created are credited by the researchers as the causes of the results of Table (4), specifically the significant differences and improvement in visual-motor integration that occurred for post-tests of the experimental group. This was achieved by setting up the kids' seating space such that it was a suitable location to carry out the directed imagination strategy phases. It was also created by carefully choosing the scenario and motor story contents, which were then applied during the stages of deep breathing and relaxation while concentrating entirely on the sensual and emotional facets by using all of one's senses in the role-playing and imagining the motor story as thought one were living within it. This makes it simpler for the brain to process mental pictures and attempts to associate them with the sensory interactions among the pupils to foster a collaborative and enjoyable learning environment. The variety of situations in the motor narrative also contributed to the pupils' slow learners experiencing genuine joy. They felt compelled to engage in every aspect of the session as a result, and they also received encouragement and reinforcement in the form of feedback. Additionally, the variety of techniques used to communicate the material stimulated pupils and contributed to the accomplishment of the intended objectives. The study's findings concur with those of (Obeis & Karim, 2019), (Al-Jadba, 2012), and (Hashem, 2019) in terms of the importance of the strategy's influence.

Conclusions and Recommendations

Conclusions

The following may be deduced based on the findings of the two researchers:

- a. Slow learners' development of visual-motor integration has benefited from the directed imagination technique.

- b. The directed imagination technique was used to create tension, concentration, and engagement among the sampled students throughout the physical education class.
- c. Using an approach of focused imagination to alter the teacher's role.
- d. Using their conversations and the expressions of joy on their faces, the students' dialogues and cognitive processes were expanded through the directed imagination technique.
- e. The potential to teach physical education to parent-classes and all primary grades utilizing the directed imagination method.

Recommendations

The researchers suggested the following in light of the findings:

- 1- The need to teach physical education using contemporary methods in the elementary stage generally and particularly directed imagination.
- 2- Creating training sessions for physical education instructors within the Ministry of Education to introduce the current methodologies for instruction.
- 3- Setting up classrooms, sporting venues, and the equipment and tools needed for instruction to support instructors in their chosen methods of instruction.
- 4- Research and study on how to make the physical education course engaging for the various levels.

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