

The Impact of a Proposed Educational Games Program on Modifying School Behavior Among Elementary Students

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Research Summary

During the field follow-up of this segment of our children, the researcher noted that the problem lies in the fact that pupils benefit little from physical education lessons, which negatively impacts their social behavior and ignores their individual needs i.e., their privacy. This situation leads to a decline in their emotional and social well-being, as well as their adaptability in school. Given the lack of support for their needs, the researchers decided to study the problem and develop appropriate solutions ensuring both the education and growth of pupils in all aspects.

The significance of this research lies in investigating the impact of a proposed educational games program on students' school behavior. An experimental research design was employed, with a sample of 60 students randomly selected from primary schools offering physical education. The aim was to determine the effect of the proposed program on a school behavior scale, ensuring that the scale's validity, reliability, and objectivity were maintained.

Keywords: *proposed educational games program, students' school behavior, primary schools, social behavior.*

1-introduction

Childhood is the most important stage in a child's life due to the fact that it's the character-forming stage and preparation for life. It is the time when habits and attitudes are formed, skills developed, and the child's future physical, mental, emotional, social, and cognitive development is determined according to the surrounding environment and its educational, cultural, health, and social components. The period of childhood is considered one of fertilization in learning, influenced by several factors that interact with one another, including genetic and environmental ones. Gradually, over time, children expand their experiences through sensory perception, observation, listening, speaking, thinking, analysis, and understanding. By this process, they become capable of identifying their potentials and developing their model for relations with the world and people surrounding them.

In this context, playing is identified as a vital component of this process (Fatima, 2021), providing a foundation for enhancing physical, cognitive, and social skills. It enables children to express their emotions, engage in social interaction, and explore their environment, all of which are vital for their overall development (Fatima, 2021). Playing fosters creativity, communication, and problem-solving abilities, equipping children with the tools to navigate challenges more effectively.

Beyond its role in recreation and entertainment, games can be a powerful tool for learning, particularly in the acquisition and development of language skills. Fatima (2021) asserts that the integration of play with education enhances a child's vocabulary, improves linguistic expression, and strengthens communication skills. The integration of educational games in the learning process has been shown to facilitate the acquisition of new vocabulary, as well as the development of fluency and proficiency in language use across a range of social and academic contexts.

Additionally, in primary education, the role of playing will be very important, and free playing with some structured activities is recommended. This should be instituted in programs with many varied small games that tend to meet the child's needs and interests at this stage. Various research portrays playing as one of the vital elements for character development. For instance, a study conducted in Jordan by Al-Harashsha (2007) examined the effectiveness of educational games on learning scientific concepts, creative thinking development, and the development of science attitudes. Results showed that students who learned through using educational games fared significantly better compared to those who received traditional approaches. Further, Kara et al. (2015) investigated Kartal in Istanbul based on activities that transform children's attitudes towards environmental issues, such as storytelling, drawing, and puppetry. The results indicated that early childhood is a very sensitive and important period in the development of pro-environmental attitudes for the protection of the world and its living organisms. Environmental education in early childhood institutions aids in initiating positive behaviors and attitudes in children toward nature, recycling, and care for the environment.

In the light of the above, the problem statement, therefore, is to assess the impact a proposed educational games program will have on behavior in school, including how best to use and implement these games to improve positive behavior.

2- Research problematic:

- Are there statistically significant differences in school behavior between the pre-test and post-test scores in the study sample?

2-1- Sub-questions:

1. Are there statistical differences between the pre-test and post-test of personal skills in the study sample?
2. Are there statistical differences between the pre-test and post-test of self-control skills in the study sample?
3. Are there statistical differences between the pre-test and post-test of academic skills in the study sample?

3- Research thesis:

- There statistically significant differences in school behavior between the pre-test and post-test scores in the study sample.

3-1- Sub-hypotheses:

1. There are statistical differences between the pre-test and post-test of personal skills in the study sample.
2. There are statistical differences between the pre-test and post-test of self-control skills in the study sample.
3. There are statistical differences between the pre-test and post-test of academic skills in the study sample.

4- Objectives of the study:

- To identify the impact of mini games on the development of social behavior among pupils of the second cycle primary education.
- To identify the differences between the pre-test and post-test of the social competence scale (personal skills, self-control skills, and academic skills).
- To identify the effectiveness of the proposed program in the development of social behavior among pupils of the second cycle primary education.

Procedures of field of study

Research methodology:

In the field of scientific research, the choice of the appropriate methodology to solve the research problem mainly depends on the nature of the problem itself. The followed methodologies vary according to different objectives that researchers want to reach. In this research, the problematic requires the use of the experimental method.

Research community and sample

5-2-1- Research community:

The research community consists of pupils of the fourth and fifth grade in primary school, registrants for the academic year 2016-2017, from primary schools in Laghouat city. That is due to several rules adopted by the researcher, including:

- Availability of equipment's and tools, in addition to the tools provided by the researchers.
- Presence of a large sports arena in the school.
- Classes do not exceed 30 pupils.

5-2-2- Research sample:

The research sample consists of 60 pupils, aged between 9-12 years, attending primary schools in Laghouat.

3-5- Research domains:

5-3-1- Human domain:

The research sample consists of 60 pupils randomly chosen from 03 primary schools.

5-3-2- Settings:

A. Place:

Our games program, pre-tests and post-tests are applied in schoolyards. All schools have the same surface area and the same floor.

B. Time:

The pre-tests were carried out on September 25th, 2016, for 120 min for each group. The program was then applied to the sample and lasted until May 26th, 2017. The number of hours is 120 min / week in the afternoon. The post-tests were carried out on May 27th, 2017.

6- Study tools:

- References and resources.
- Tests and scales.
- Statistical methods.
- Research equipment's including (10-foot balls, 06 basket balls, 40 small balls, 12 chairs, floor mat, ropes, cones, colored balloons, ground tape, 20 small boxes, 04 large boxes, 10 hoops, chalk bags, decameter, watch timer, whistle).

6-1- Social Behavior Scale:

The scale consists of two separate scales: social sufficiency behavior and non-social behavior. The first scale measures the social behavior leading to desirable results; the second one measures the non-social behavior leading to undesirable results.

It consists of a main scale of (60) paragraphs, out of which the (30) expressions measure the sufficiency behavior, while the other (30) paragraphs measure the non-social ones. These are made up of three areas: personal social skills, self-control skills, and academic skills. In addition, there are three areas of the remaining (30) paragraphs of non-social behavior: agitated, aggressive, inquisitive-chaotic. In front of each paragraph, there are five levels of the answer: never, rarely, sometimes, often, and always. The teacher of the private class marks an (×) in the gap corresponding to pupil's behavior.

7-1-1- Explanation of the scales' results according to the following percentages:

The scale of school behavior:

80% of pupils have high skills.

50% of pupils need simple development.

20% of pupils are in urgent need to acquire social skills.

7.2 Study Protocol:

7.2.1 – Pre-test: scale distribution

The school behavior scale is distributed to teachers of the subject. The teacher answers the scale expressions for each pupil selected in the sample. Then, we measure the behavior of each individual in the sample.

7.2.2 - Stage 2: execution of the mini-games program.

The researcher selected a set of mini-games, targeted specific social behavior and some basic movements under study.

- The time of executing the set of mini games is supposed to be (09) months.

- The number of educational units per week is two (2).
- The duration of each educational unit is (60) minutes.
- Each educational unit consists of three sections:
 1. Preparatory section timed (10) minutes.
 2. The main section, timed (45 minutes) including:
 - A. Educational activity timed (15) minutes.
 - B. Applied activity, timed (30) minutes.
 3. Final section, timed (05) minutes.

1- Description of performance of the experimental group: - the sample members perform, during the days assigned to them, the educational units according to the following steps:

2- The educational unit begins by giving general warm up exercises, strengthening several body muscles, and specific warm up exercises in the preparatory section (shaped as games).

3- The teacher explains the set of educational games during the educational part of the main section, which will be applied during the educational unit and according to the objectives to be achieved.

4- The sample members perform the set of mini-games prepared by the researcher in the applied part of the main section of the educational unit.

5- The teacher supervises the work of the sample members and provides assistance when needed or adjusts the mistakes if any.

6- The educational unit ends by relaxation exercises (final section).

10- Statistical means:

The results of the study are analyzed according to standard statistical methods, using statistical program known as Statistical Package for Social Sciences (SPSS). Ed.20

1. Presentation, analysis and discussion of the study results:

1.1 Presentation and analysis of pre-test and post-test results under the first hypothesis:

To validate the hypothesis saying that there are statistical differences between the pre-test and post-test of the personal skills in the study sample, the results show the impact of educational game programs on development of social behavior according to the sample members. The researcher used the test (T) to compare the average scores of pre-tests and post-test as follows:

Table (1) shows the pre-test and post-test results of the study sample, and the calculated and tabulated (T) value of the personal skills test.

Statistic	Pre-test	Post-test	(T) value	Degre	Level	of	Type	of
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al marks							e of freedo m	e of significanc e	differenc e
	Tests	N	±A	N	±A	Calculate d			
Persona l skills	2, 35	6,0 38	38, 01	4,9 17	56,644	1,67	59	0,05	Significa nt

It is clear from the table above that the calculated (T) value estimated 56.64 of the personal skills post-test is greater than the tabulated (T) value estimated 1.67 at the degree of freedom (59), and the mistake rate ($0.05 \geq$) reaching (0.00). This means that there are significant differences between the average scores of the pre-test and post-test, in favor to the personal social skills post-test.

1-2 Presentation and analysis of pre-test and post-test results under the second hypothesis:

To validate the hypothesis saying that there are statistical differences between the pre-test and post-test of self-control skills in the study sample, results show the impact of educational game programs on the development of social behavior according to sample members. The researcher used the (T) test to compare the average scores of the pre-test and post-test as follows:

Table (2) shows the pre-test and post-test results of the study sample, and the calculated and tabulated (T) value of the self-control skills test.

Statistic al marks	Pre-test		Post-test		(T) value		Degre e of freedo m	Level of significanc e	Type of differenc e
	Tests	N	±A	N	±A	Calculate d			
Self- control skills	16, 01	4,0 06	31, 08	2,3 01	50,291	1,67	59	0.05	Significa nt

It is clear from the table above that the calculated (T) value estimated 50.29 of the self-control skills post-tests is greater than the tabulated (T) value estimated 1.67 at the degree of freedom (59), and the mistake rate ($0.05 \geq$) reaching (0.00). This means that there are significant differences between the average scores of the pre-test and post-test, in favor to the self-control skills post-test.

1-3 Presentation and analysis of pre-test and post-test results under the third hypothesis:

To validate the hypothesis saying that there are statistical differences between the pre-test and post-test of academic skills in the study sample, results show the impact of educational game programs on the development of social behavior according to sample members. The researcher used the (T) test to compare the average scores of the pre-test and post-test as follows:

Table (3) shows the pre-test and post-test results of the study sample, and the calculated and tabulated (T) value of the academic skills test.

Statistic al marks	Pre-test		Post-test		(T) value		Degr e of freedo m	Level of significanc e	Type of differenc e
	N	±A	N	±A	Calculate d	Tabulate d			
Academ ic skills	23, 35	6,0 38	25, 23	2,7 82	50,962	1,67	59	0,05	Significa nt

It is clear from the table above that the calculated (T) value estimated 50.96 of the academic skills post-tests is greater than the tabulated (T) value estimated 1.67 at the degree of freedom (59), and the mistake rate ($0.05 \geq$) reaching (0.00). This means that there are significant differences between the average scores of the pre-test and post-test, in favor to the academic skills post-test.

2 - Discussion of the study results:

The development of school behavior in pupils is closely linked to the proposed program applied by the researchers on the study sample. This program incorporated educational games and practical exercises, effectively connecting physical activities with skill development. Additionally, the selected games were age-appropriate, aligning with the physical, cognitive, and linguistic requirements of the pupils. These games were embedded in structured training modules throughout the implementation of the program, which catered to the intellectual, emotional, and social needs of the learners.

According to Fatima (2021), educational games play a fundamental role in linguistic achievement, as they enrich a child's vocabulary, enhance fluency, and improve language comprehension. Within this study, pupils engaged in structured and interactive learning environments that not only improved their social and behavioral skills but also enhanced their communication abilities. The competition atmosphere and variety of games encouraged participation, focus, and engagement, leading to the overall improvement of school behavior.

The research program exposed students to new educational games that they had not previously encountered in their regular classroom activities. As Fatima (2024) suggests, such structured play helps children develop self-confidence, attention, and problem-solving skills. This aligns with the findings of this study, where the pupils exhibited noticeable improvements in behavior after consistently participating in the program for six months. By engaging in play-based learning, they were able to practice and internalize new skills in a natural and enjoyable manner, reinforcing positive behavior patterns.

Based on the study's findings, the following conclusions can be drawn:

- There are statistically significant differences between the pre-test and post-test results for social sufficiency, with post-test scores demonstrating improvement. This aligns with Fatima's assertion that educational games encourage social interaction and communication, helping children become more engaged with their peers.
- There are statistically significant differences between the pre-test and post-test results for personal skills, with the post-test showing greater development. This supports the idea that educational games help children express themselves more effectively, develop critical thinking, and gain confidence (Fatima, 2021).
- There are statistically significant differences between the pre-test and post-test results for self-control skills, with improvements noted in the post-test. This reinforces Fatima's perspective that structured play enhances focus, discipline, and the ability to navigate challenges.
- There are statistically significant differences between the pre-test and post-test results for academic skills, favoring the post-test. This confirms that integrating play with learning boosts language achievement, as Fatima (2021) highlights that games provide an engaging platform for acquiring and using new vocabulary effectively.
- The proposed educational games program effectively contributed to overall school behavior improvement, supporting the idea that play is not merely a recreational activity but an essential educational tool for behavioral, cognitive, and linguistic development (Fatima, 2024).

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