Impact of the Application of Positive Reinforcement on Attention Deficit Students with Learning Disabilities in Jordan

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This study investigated the effectiveness of the application of positive reinforcement in dealing with attention deficit and learning disabilities students (LD) in Jordan. To achieve this goal the study raised the following questions: 1. To what extent the observed improvement in addressing attention deficit which occurred on (LD) students can be attributed to the application of positive reinforcement/ praise procedure? 2. What is the student’s teacher evaluation of the improvement acquired by the student as a result of the application of positive reinforcement/ praise procedure? 3. To what extent has the objective of improvement on the part of the student been achieved as a result of conducting this study? The sample of the study consisted of one nine year student with learning disabilities. He was selected based on attaining the highest levels on the attention deficit scale which was designed to measure his attention deficit problem. This scale was proven to be valid and reliable. The positive reinforcement/ praise procedure was used to reduce the student's attention deficit through the use of Single Case Research (pre-test and post-test, ABA) to answer the first question; while Qualitative Research was used to answer the second and third questions. The results of this study had shown the effectiveness of positive reinforcement/ praise, at an approximate improvement average of (65%). The results of the second question that is related to the teacher's responses, showed that there was a high improvement in certain aspects such as listening, waiting turns, and commitment to sit in his own seat. The teacher indicated that the positive reinforcement/ praise procedure is applicable by 100%, and is capable of directing student's thinking while working on his assignments by 80%. The results of the third question that is related to the objectives of the procedure used in this study were achieved by 90%.

Key words: Positive reinforcement, Attention deficit, learning disabilities and Jordan

INTRODUCTION

Some of the students enrolled in the Jordanian schools are suffering from many of the signs and indications of the existence of learning disabilities, which may impede the process of learning and the acquisition of basic skills and percepts of school materials, such as: the Arabic language or mathematics or both together. Some indicators show that the percentage of students who have been diagnosed as suffering from learning difficulties have increased twice, and the percentage increased from about 5% to almost 10% of the students who are between the ages (6-17 years). (Hallahan, Kauffman, Pullen, 2009; Heward, 2009; Kirk, Gallagher, Coleman, Anastasiow, 2009; Lerner, 2000; Torgessen, 1998).

In spite of the modifications, procedures of adoption of the learning tools, curriculum and teaching methods, sometimes students they suffer from a decline in the level of educational attainment as well as the problem of attention and concentration, which would prevent them from acquiring the concepts and skills provided. It should be noted when using the regular learning strategies, they still suffering from the previous problem; simply because the regular individual educational strategies used by teachers, are focusing on the problems of the academic learning. Therefore, this will not bring about the
educational development required. This study was conducted because the regular educational strategies failed to reduce the problems and difficulties of learning that may be experienced by students, in addition to their other academic learning and acquiring skills necessary for the academic materials, such as: the lack of attention, and the students' for educational programs dealing with reduction of these problems so that they can acquire the skills required and necessary to the process of learning. This study is addressing some modern educational strategies derived behavioral theories, such as: the method of positive reinforcement / praise, in order to deal with this problem, and to help those students who experience learning disabilities.

Modification of behavior is depending on some assumptions that, that behavior can be observed, measured, targeted, and modified. All behaviors belong to a set of laws, and there are different ways to identify, observe and measure behaviors. The most effective interventions could be designed with regard to the modification of behavior and get it improved, changed, and formulated throughout the Consequences of such behavior. The reinforcements used to modify the behavior are a set of behavioral consequences serve to reinforce the functions of this behavior (Miltenberger, 2008).

In connection with the procedures used for punishment, are consequences serve to weaken the behavior. Management and modification of students' behaviors would be carried out within the classroom through various functions of behavior. Some research was conducted to study the situation of education and identification of the reinforcement impact of all kinds on the academic achievement. This study illustrates that the reinforcement had a positive impact led to make an increase in the level of achievement of students. They also demonstrated that students, at the primary stage of education, have benefited from the procedures of reinforcement and praise. The use of these procedures has increased the level of achievement for the students. It has been found that the procedures of reinforcement will be more effective when they are clear, and are geared towards the students under their control to achieve the desired objectives. It was found that there is some kind of positive impact in producing the academic reinforcement individually and also found that the volume of impact will be equal when coupled with the procedures of behavioral reinforcement. The positive reinforcement is one of the techniques arising from the behavior modification and is widely used with children, where it is encouraging certain behaviors through a system of rewards. The rewards include things that the child wants such as Books, playing cards and watching T.V. For example, when dealing with a child who is suffering from Social problems, he can get a reward for each day he greeting a certain number of individuals (Cummings, Nelson and Shaw, 1986).

The procedure of (Praise) has been used as a positive supporter that can be used with the student, the sample of the study, who is suffering from learning disabilities, so as to minimize the problems he faces, namely: the problem of attention; teachers tend, in particular with the young students, to praise them for their performance and many of their behaviors. When the teacher says "I love the way that Ali sits in the Class," by saying so, the teacher does not only mean the behavior of the student alone, but to draw the other students attention in class Classroom to the proper sit.

The procedure of praise means that the teacher shall appreciate student's behavior, and usually the student is given praise when he completes his homework correctly. Preferably the teacher does not repeat the same words of praise; because they could lose the power impact on the student, he has to diversify the words of praise and focuses on the conduct by the student by saying: "I like that you have waited your turn to come to play," "I liked the way you entered the class and even when you found another kid taking your place you sat elsewhere," "I like the way you looked at me when I was reading the story, you have been concentrating, thank you " (Cummings et al., 1986).

Walker (1968), have conducted a study in which the used the positive procedures of reinforcement to teach a (9) years old student the behavior of attention during his school assignments. In order to obtain the required response, he has exposed him to a variety of actions, so as to ensure the stability of this behavior upon the withdrawal of therapeutic interventions, and make him able to circulate the behavior learned to the other class behaviors, with a view to ensuring access to the attention required. He provided him with limited quantities of positive reinforcement and under certain experimental conditions. The results demonstrated that the proportion the student's attention has been increased based on this procedure and the student was able to circulate it.

A study conducted by Aaron and Bostow (1978) to determine the impact of the relationship between the behavior of the tasks performance and the academic performance of three students of low achievement, and suffering from a deficit of attention, and they have disruptive behaviors from the elementary stage of education. They were together in the Hall of sources, where they were providing them with positive reinforcement by providing them with opportunities for access to free time when they executing the paper work, and tasks of reading perception and recognition of vocabularies. The results indicated that, during the times of treatment, while the two researchers were applying the free for students during the performance of the tasks assigned, they do not carry out the disruptive behaviors, there was a significant impact and this method has proved its effectiveness.

The researchers, (Hall, Panyan, Rabon and Broden, 1986) have used the procedures of the positive
reinforcement on a regular basis (such as the attention of the teacher; increase rest times and Classroom Games), on a group of students who suffer from difficulties, with a view to increase the periods of study, complete the school homework assigned to them in addition to help them to get rid of the disturbing behaviors and the lack of attention.

The results of the study have indicated that these procedures have a positive impact if the periods of study and the rate of completion of school assignments have increased and their disturbing behaviors will be automatically reduced.

In a study conducted by Martens, Hilt, Needham, Surttere, Panahon and Lannie (2003) to determine the impact of the use of positive reinforcement to increase the accuracy of the completion of the work of two schoolgirls suffering from learning disabilities, the results of the study showed that these two students have completed the tasks, which contained issues more difficult than those when they were free to choose the positive reinforcement they want.

Purpose of the Study

The traditional practice in the procedures to intervention for (LD) students requires the development of educational plans, and implementation of the strategies of teaching the basic academic skills, without paying attention to the associated behaviors that are of the fundamental characteristics of people with learning disabilities. Since the lack of attention was one of the fundamental problems that characterizes (LD) students in Jordan, and limits their access to educational intervention strategies; there is a need to carry out educational and therapeutic procedures to reduce this problem, which reflected positively on student learning, and to overcome their academic problems.

The idea of this study is focus on providing a type of interventional procedures and methods that can be a supporting procedural tool for the teachers who are suffering from the problem of the acquisition of their students to the objectives and concepts designated for them as well as to make them acquainted with the strategies presented through the cognitive and behavioral modification, which would work to reduce these problems experienced by these students.

The study focused on one of a commonly known problem experienced by (LD) students and others handicapped students in Jordan, which is the deficit of attention. The positive reinforcement procedures / praise, have been used to determine their effectiveness in reducing the problem of the students, as many of the results of previous studies have confirmed that it may be effective and produce positive results, when used with students who have learning disabilities and suffering from problems with attention deficit.

Research Questions

1. What is the extent of improvement observed on the student with learning difficulties in term of the deficit of attention, as a result of using the positive reinforcement procedures?
2. What is the teachers’ assessment of the level of improvement as a result of using the procedures of positive reinforcement / praise?
3. What is the extent of the objectives achievement due to use of the positive reinforcement procedures / praise for the student sample of study?

METHODS

Design

Using method of the (Single Case Research) of the pre-test and post-test (ABA) for the student sample of study in addition to the use of the (Qualitative Research).

Participants

A student from the basic stage to the fourth grade has been deliberately chosen as sample of the study. This student was chosen according to the official diagnostic tests, Wechsler scale of mental capacity, test audio; Visual test and the achievement tests for reading and writing from Princess Tharwat College that he is suffering from learning disabilities, (9) years old, and enrolled in a private school. The reason behind choosing the sample from this school refers to the availability of resources for (LD) students.

Instruments

The instruments of study include the following:

First: The scale of attention deficit was developed by the researcher to serve the purposes of the current study in order to detect the weakness of the sample of the study, in accordance with the following steps:

1. To access to the theoretical literature related to the signs of attention deficit of students who suffer from learning difficulties, in addition to what has been set forth in the Diagnostic and Statistical Manual (DSM-IV), and the revised version of the Diagnostic and Statistical Manual (DSM-III-R) and the signs of attention deficit that have been referred to in the studies carried out by the two researchers (Conte, 1998; Epstein, Shaywitz, Shaywitz and Woolston 1991); and others in addition to what has been pointed out by each of (Sosin and Sosin, 1997; Roberts, 1995; Rief, 1993; Smith and Luckasson,
2. Building a list of (14) paragraph of attention deficit of (LD) students based on the previous theoretical literature.
3. Re-wording of the paragraphs selected to be compatible with the definition of conceptual and procedural aspects in this study as well as to take into account their representation of the deficit of attention as attempts of theoretical literature. simplicity; clarity; gesturing with non-specific answers and shall be consistent with the age of the student sample of the study in the selected paragraphs have been taken into account as well as the brief so as not to take a long time during the response.
4. The scale in its final shape included (14) paragraph. The answer to the paragraphs of the measure was to choose one out of four answers, based on the method of ‘Eckert’ so that the correction of the answers will be as follows:
   a. (Zero) means does not happen, given zero.
   b. (1) Means a little happening, given the degree of one.
   c. (2) Means a medium occurs, and given two degrees.
   d. (3) Means it occurs in a substantial way and given three degrees.
5. The instrument shall be seen by a panel of arbitrators consists of professors in field of Special Education, guidance and teachers of the sources Rooms, aims to reach a reasonable indication of the truth. After taking notes and suggestions of the arbitrators on the paragraphs of the instrument, which focused on amending the language of the paragraphs and the adjustments required and then returned it to the arbitrators who have unanimously approved the appropriateness for which it was designed.
6. In order to investigate the stability of the scale; the two teachers have been asked individually to evaluate the student, sample of the study, according to the measure. These two teachers are usually teaching the sample of the study and they are acquainted with his ability and behavior. Then the agreement between the estimates was made and found (89%).
7. The researcher has evaluated the student sample of study, based on the scale, as a Pre-test.

Second: The positive reinforcement strategy/ praise: For the purposes of the current study, the behavior modification procedures have been used by the researcher, including the positive reinforcement, which is represented in providing the praise, so as to reduce the signs of attention deficit for the study, sample of the study. This strategy has been built with reference to the theoretical literature and previous studies, which dealt with this strategy, such as: (Miltenberger, 2008; Grant, 2004; Maag, 2001; Merrett and Thorpe, 1996 Randy and Amy, 1989; Ward and Baker, 1968) and as pointed out by both (Lerner, 2000; Mercer and Mercer, 1985).

The positive reinforcements used in this study was the social reinforcements, by using expression of praise to the student when he follows the instructions that have been informed by the researcher that were represented in; "not to answer quickly without thinking, remains attentive, waits for his role, sits down in this seat, does not interrupt the others, maintaining the necessary instruments to finish the job entrusted to him, and not to move from assignment to another without finishing its requirements." The researcher has used the positive verbal reinforcements, such as, "You are wonderful, well, and excellent.", "you have successfully completed this step, lets move to the other one."
8. Researcher was assessing the student's commitment according to the instructions that have been agreed upon and praising him when finishes his duty and focuses attention.
9. Researcher was providing praise only when student shows a desired behavior and does not provide praise when he does not follow the necessary steps.
10. Researcher has chosen words that are noted to have more impact on the student, the sample of study, and she was using a variety of verbal praise to the student's responses that ought to have such praise.

Qualitative Research Instruments
For the purposes of this study, the teachers of the student were asked to answer this qualitative question: What was the teachers' assessment on the improvement level of student?

In order to know the achievement level of objectives which the researcher aims to prepare a questionnaire (5) questions, the researcher has prepared a questionnaire consists of (5) questions to be answered by the teachers of the student for the purposes of the study.

Application procedures
i. Prepare the scale of the deficit of attention, in addition to use the procedures of the positive reinforcement strategy / praise.
ii. The design of a timetable for the application of the pre-tests of attention deficit scale, in addition to the application of these pre-tests on the student by his teachers.
iii. An appropriate environment was provided for the student during the conduction of the per-test, and taking into account that the individual meetings would not cause an annoyance or weak point to the student or his teachers.
iv. Application the positive reinforcement strategy / Praise, after the pre-test was applied on the student. The application periods lasted for (10) weeks, during the
Results of qualitative analysis

Table 2 illustrates the results of answering the second qualitative question, which is: what was the teacher's assessment for the extent of improvement of the student participating in the positive reinforcement procedures?

At the end of the training program, the researcher has conducted an interview the student's teacher in order to know her opinion of the course of action that has been applied on the student, and how much progress has the student achieved. It was as follows:

1. What are the aspects that the student benefited from? “I have noticed a change to the student after being subjected to procedures of the positive reinforcement / praise, I was having a problem with this student, particularly in attempting to make it listen to the others, he is reckless and his voice is always high. I always insist that he sits quietly in class”, teacher reported.

“I think that his self-confidence is increased after being subjected to the positive reinforcement strategies/ praise. But now I see some signs indicating that he is capable to listen to the others, and thus his active participation in class is increased, I was encouraging whenever I felt that he became close to that goal. Moreover, I also noted
Table 1. The per and post grades of the student on the attention deficit scale and percentage of improvement.

<table>
<thead>
<tr>
<th>Degree / percentage</th>
<th>Attention deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-grade</td>
<td>2.89</td>
</tr>
<tr>
<td>Post-grade</td>
<td>.96</td>
</tr>
<tr>
<td>Degree of improvement</td>
<td>1.93</td>
</tr>
<tr>
<td>Perce. of improvement</td>
<td>64%</td>
</tr>
</tbody>
</table>

Figure 1. This chart represents the grades of improvement of the student, sample of study according to scale of the attention deficit.

that there is an improvement on the academic performance and he became close to achieving the individual educational goals, which was scheduled for that period." She added

2. What are the aspects that have not benefited the student, and why?

"I think that his way he answers had improved, but it was not enough because he still rushing to answer in some cases, I think he needs to work more on the positive reinforcement procedures on the attitudes that are similar inside and outside the classroom, sometimes he needs to be reminded to abide by the instructions required", teacher said.

3. What do you think the negative aspects of the procedures that have been used with the student?

"I think it was a good action, and the students who suffer from difficulties can benefit from these actions. I have noted that these actions increase the motivation and confidence of the student, and make him feel that he controls his conduct, and he can develop his performance. This is a method enables the student to overcome the problems, these students need to learn how to control themselves." She Said.

4. What are your suggestions to improve the positive reinforcement procedures that have been used with the student?

"The application of these actions from the beginning of the school year with the permanent follow-up of the student is preferable and I suggest increasing the time of application according to the development and the need of the student for such action," the teacher said.

Table 3 shows the answers of the student's teachers to the third question, which is: to what extent the positive reinforcement procedures have achieved the objectives of student?

Procedures have been prepared for the student after the problem suffered by the student has been identified, and prior to subject him to the positive reinforcement procedures / praise, which is the deficit of attention. Procedures have been designed for the student after identifying the level of his performance. Upon the completion of the application, to the following objectives have been achieved in the field of attention deficit

1. The student became depending on the revision of the solution steps, which enabled him to focus only on the task required to be solved
2. The student expressed his desire to sit close to the place of the teacher and right in front to the board to avoid dispersion, which was sometimes, hampered his work.
Table 2. The teachers answers to the qualitative question no. (2): what is the teachers’ assessment of the student’s improvement degree as a result of the positive reinforcement procedures?

<table>
<thead>
<tr>
<th>Aspects that have benefited the student</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
<td>%90</td>
</tr>
<tr>
<td>Follow instructions</td>
<td>%90</td>
</tr>
<tr>
<td>Work on assignments</td>
<td>%80</td>
</tr>
<tr>
<td>Remain mindful</td>
<td>%80</td>
</tr>
<tr>
<td>Waiting for the session</td>
<td>%90</td>
</tr>
<tr>
<td>Not to move from assignment to another without completing the requirements</td>
<td>%80</td>
</tr>
<tr>
<td>Increase in focus</td>
<td>%100</td>
</tr>
<tr>
<td>Not to answer quickly</td>
<td>%70</td>
</tr>
<tr>
<td>Sitting in the seat</td>
<td>%90</td>
</tr>
<tr>
<td>Student’s awareness of what is required to be resolved</td>
<td>%80</td>
</tr>
<tr>
<td>Total</td>
<td>%85</td>
</tr>
</tbody>
</table>

Aspects that have not benefited the student

<table>
<thead>
<tr>
<th>Remarks on procedures</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student still in need for assistance</td>
<td>%70</td>
</tr>
<tr>
<td>Effective program</td>
<td>%90</td>
</tr>
<tr>
<td>Positive impact</td>
<td>%90</td>
</tr>
<tr>
<td>Supportive program</td>
<td>%80</td>
</tr>
<tr>
<td>Works on directing student to think during the answer</td>
<td>%80</td>
</tr>
<tr>
<td>Applicable</td>
<td>%100</td>
</tr>
<tr>
<td>Total</td>
<td>%44</td>
</tr>
</tbody>
</table>

Suggestions on the positive reinforcement / Praise

<table>
<thead>
<tr>
<th>Application of program from the beginning</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of program from the beginning</td>
<td>%100</td>
</tr>
<tr>
<td>Permanence of application</td>
<td>%90</td>
</tr>
<tr>
<td>Increase in application</td>
<td>%90</td>
</tr>
<tr>
<td>Apply the program to get rid of other the problems</td>
<td>%80</td>
</tr>
<tr>
<td>Total</td>
<td>%36</td>
</tr>
</tbody>
</table>

Table 3. The teachers answers to the qualitative question no. (3), which is: is the teachers’ assessment of the improvement degree of the positive reinforcement procedures?

<table>
<thead>
<tr>
<th>Achievement of program goals</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student’s goals have been achieved</td>
<td>%90</td>
</tr>
<tr>
<td>Total</td>
<td>%90</td>
</tr>
</tbody>
</table>

3. The student has reported to his teacher that he feels improvement in performance when he pays attention to the lesson.

DISCUSSION AND CONCLUSIONS

The results of the current study have confirmed an improvement on the average pre-grades and post grades on the scale of attention deficit, where the percentage of the average improvement was (64%).

The reason behind the improvement occurred to the student, regardless to the scale of attention deficit, to the fact that this student had attained high levels of pre-grades and post-grades on the scale, in addition to that he has become depending on the implementation of the assignments by getting a benefit from the positive reinforcement procedures/ praise, which would enable him to focus on the task required. Moreover, the student would prefer, while in class, to sit in places away from dispersants. His teacher has pointed out that he was aware of the fact that when the focus and pay attention,
this will be reflected positively on his performance. The student scored the highest degrees of improvement in the following paragraphs: answering quickly without thinking, waiting for his role, sitting down in the seat, and not interrupting the others. The lowest degree of improvement on the scale of attention deficit was scored in the following paragraphs: moving from assignment to another without completing the requirements needed, and the preservation of the tools necessary to complete the assignment. These results are consistent with the findings reached by (Walker, 1968), when he used the positive reinforcement procedures to instruct the behavior of attention to a (9) years-old student, during the performance of his school assignments. It showed that he student’s percentage of attention has increased according to this procedure.

In addition to the findings reached, Aron and Bostow (1975) and Hall, Panyan; Rabon and Borden, (1986) when using positive reinforcement procedures to assess the impact of use of these procedures on the attention deficit; and failure to complete assignments. The results have confirmed the effectiveness of this procedure with members of the study.

The qualitative results of the current study have indicated that here is a clear improvement has been shown on the student sample of the study. His teachers have noticed that he has become trying to make achievement, such just like his classmate. They also noticed that his self-confidence has increased and become more integrated with the classmates; in addition to that he has acquired a strategy to assist him to work. The percentage of improvement scored on the following aspects: listening, waiting for his role, and sitting on the seat was (90%). As for the obligation to remain attentive to the and to work on assignments, the rate scored was (80%), and as for following the instructions during work, the percentage of improvement was (90 %). While the aspects of awareness of what is required to be done as well as aspect of not to move from assignment to another without completing the requirements needed, the rate scored was (70%).

Qualitative results regarding the teachers’ remarks on the procedures of the positive reinforcement / praise: The results have illustrated that a rate of (100%) considers the program is applicable, and it had a positive impact on the participating student was at a rate of (90%). The program was considered by the teachers that it helps the student to direct his thoughts during work at a rate of (80%).

Qualitative results related to the teachers’ proposals on the procedures: The teachers have suggested to apply the positive reinforcement procedures / praise from the beginning of the school year and the percentage that had been reached was (100%), as well as the continuity in the application and the increase of application the rate scored was (90%). The teachers indicated that It can be applied to get rid of other problems, the percentage was (80%).

Discussion of the results connected to the assessment of teachers to achieve the goals of the positive reinforcement procedures / praise. The results of the current study, have indicted that there is a marked improvement occurred on the student sample of the study by a rate of (90%). It was noticed that the impact of interventions procedures has been positive in all the dimensions and areas related to the study sample.

The study has illustrated that there are a number of factors that have contributed to the success of procedures of interventions, namely:

i. The professionalism of the teachers of the student, the study sample, where they abided by the instructions provided by the researcher before and during the conduct of the study, in addition to their commitment to provide an ongoing feedback on student. Instruct the student and make him aware of the importance of adhering to the instructions provided by the researcher has a positive impact on his acquisition of positive reinforcement procedures.

Determinants of study

The results of the study determined the following:

i. The student who suffers from learning disabilities, one (1) student, of a private school, from the fourth grade, and the accuracy of diagnosis.

ii. Psychometric characteristics of the tools developed for the purposes of the current study: the scale of the attention deficit, and positive reinforcement procedures.

iii. The time taken by the application of the positive reinforcement procedures.

In the light of these results, we find that there is a need for further studies dealing with the positive reinforcement to identify their impact in reducing the manifestations of other problems suffered by (LD) students in Jordan, such as: the problem of social withdrawal; and the problem of dependency on others, low self-concept and motivation to (LD) students.

REFERENCES


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