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OBJECTIVES

The main objectives of the Journal are:

- To initiate, conduct, and support research in psycho-educational fields of knowledge;
- To assemble all who are interested in these fields for an exchange of ideas and experiences;
- To disseminate research findings;
- To provide a database for members and researchers.

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The Effect of Metacognitive Strategy Training on Student Mathematical Problem Solving Process and Contemplative Thinking Skills in Primary School Children with Learning Disabilities

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Abstract

The Purpose of this study was to explore the effect of a metacognitive strategy training on mathematical problem solving process and contemplative thinking skills of primary school children with learning disabilities. The participants in this study were Forty grade five students identified with LD. A pre- post design was used to examine the effectiveness of the metacognitive instructional approach of Strategies Program for Effective Learning and Thinking (SPELT) on mathematical problem solving process and contemplative thinking skills of the target children . Findings from this study indicated the effectiveness of the metacognitive instructional approach of Strategies Program for Effective Learning and Thinking (SPELT) on mathematical problem solving process and contemplative thinking skills of the target children. On the basis of the findings, the study advocated for the effectiveness of metacognitive instructional approach of Strategies Program for Effective Learning and Thinking (SPELT) on mathematical problem solving process and contemplative thinking skills of the target children.

Keywords: metacognitive strategy, mathematical problem solving process, contemplative thinking skills, learning disabilities

Introduction

Metacognition (Flavell 1979; Kuhn 2000; Veenman 1993; O'Neil and Abedi 1996 Mourad Ali, 2010; Saada, 2013) refers to two aspects, namely the students' self-awareness of a knowledge base in which information is stored about how, when, and where to use various cognitive strategies and their self-awareness of and access to strategies that direct learning (e.g. monitoring difficulty level, a feeling of knowing). This awareness is developmental and lies on a continuum. Proficient readers use one or more metacognitive strategies to comprehend texts. There are three main aspects of metacognition: metacognitive knowledge, metacognitive monitoring, self regulation and control (Pintrich, Wolters and Baxter 2000). The first group consists of cognitive learning strategies which the learner uses to regulate the process of knowledge acquisition. These include, for example, elaboration strategies such as the building of links to prior knowledge, or memory strategies such as note taking. The second group consists of metacognitive control strategies. Central here are activities like the planning and monitoring of learning activities, the evaluation of learning outcomes and the adaptation to varying task demands and (unexpected) difficulties, for example, an increase in directed efforts. In addition to these two groups, which are dominant in research and crucial for the learning process, a third group of strategies in the model developed by Pintrich and Garcia (1994) is dedicated to resource management. These strategies are concerned with the control of the general conditions associated with learning, for example, time management and management of the learning environment.

The following two key questions students need to ask themselves are crucial in terms of metacognitive awareness and knowledge:

1. What do I want out of this? (What are my motives?)
2. How do I propose going about getting there? (What are my strategies?)
(Biggs & Moore 1993).

Metacognition appears to function as a vital element contributing to successful problem solving by allowing an individual to identify and work strategically (Mourad Ali, 2009). According to O`Malley and Chamot (1990), meta-cognitive strategies are higher order executive skills that may entail planning for, monitoring, or evaluating the success of a learning activity meta-cognitive strategies operate directly on informing information,

manipulating it in ways that enhance learning. Similar definitions have been given by other researchers in this field (Yin and Agnes, 2001; Shokrpour and Fotovatian, 2009; Carrell, et al, 1998; Chamot 2005).

Metacognition and problem solving

Many psychologists assert that problem-solving is the highest level of thinking or learning skills. Crucial to problem-solving ability are the learner's cognitive and metacognitive skills. There has been extensive research on cognition and metacognition in mathematics problem-solving with learning disabled students (Borkowski, Estrada, Milstead, & Hale, 1989; Case, Harris, & Graham, 1992; Montague & Bos, 1986; Slife et al., 1985), with elementary and junior high school students (Charles & Lester, 1984; Montague, 1991; Okamoto & Kitao, 1992), and with gifted and learning disabled students (Garofalo, 1993; Montague, 1992,1993).

Failure in problem solving is generally resulted from failing to organize the mathematical operations, to choose the most effective method, to analyze, to understand the point of problem and to monitor and control operations carried out (Victor, 2004). It is a known fact that students with high metacognitive skills perform better in problem solving (Desoete, Roeyers & Buysse, 2001; Schoenfeld, 1985; Lester, 1994). It has been observed that during problem solving process they are more controlled; they try to break the complex problems into simple parts and they ask questions themselves for clarifying their thoughts. Schoenfeld (1985) states that when one encounter with failures in problem solving techniques, control skills (metacognition) will be helpful for applying strategies successfully (Gökhan& Aysegül, 2009)

Metacognition and contemplative thinking skills

Contemplative thinking interacts with most thinking patterns. Moreover, every step of critical thinking, problem-solving method and deduction- as other thinking patterns- generally include contemplative thinking that cannot be dispensed with since it helps recognize different aspects of the situation and disambiguate it. Therefore, it becomes easier to come up with scientific conclusions that help find reasonable solutions for the problems. Based on what we have presented so far, contemplative thinking can, then be defined as mental process that individuals take during encountering a particular problem or addressing a certain subject. Contemplative thinking, thus, enables them to set hypotheses, present reasonable interpretations and suggest solutions so that they can recognize the consequences of the problem and analyze its components which, in turn, will lead to solving that problem or situation. Dewey put three essential keys to prepare individuals for contemplation: open mind, self-motivation, and responsibility. It was found out that contemplative thinking passes through three stages: Reflection for action, reflection in action, and reflection on action(Jamal Al-Khaldi & Mohammed Awamreh, 2012).

The purpose of the present study was to examine the extent to which metacognitive strategy training can be used to improve mathematical problem solving process and contemplative thinking skills of primary school children with learning disabilities. The primary research question was, what effects will metacognitive strategy training have on mathematical problem solving process and contemplative thinking skills of primary school children with learning disabilities?

Method

Participants

Forty grade five students identified with LD were invited to participate. Each student participant met the following established criteria to be included in the study: (a) a diagnosis of LD by teacher's references, and learning disabilities screening test (Kamel, 1990) (b) an IQ score on the Mental Abilities Test (Mosa, 1989) between 100 and 116 (c) absence of any other disabling condition. The sample was randomly divided into two groups; experimental (n= 20 boys) and control (n=20 boys).

The two groups were matched on age, IQ, achievement and attitude tests. Table 1. shows means, standard deviations ,t-value, and significance level for experimental and control groups on age (by month) , IQ, mathematical problem solving process and contemplative thinking skills (pre-test).

Table 1. *Pre-test Means, standard deviations, t- value, and significance level for experimental and control groups on age (by month), IQ, mathematical problem solving process and contemplative thinking skills* .

Variable	Group	N	M	SD	T	Sig.
Age	Experimental	20	130.80	2.25	.618	-
	Control	20	130.55	2.76		
IQ	Experimental	20	114.15	2.38	-.816	-
	Control	20	115.25	3.49		
mathematical	Experimental	20	52.15	2.00	.488	-
problem solving	Control	20	50.40	1.87		
process						
contemplative	Experimental	20	99.85	1.46	-.393	-
thinking skills	Control	20	102.35	2.13		

Table 1 shows that al t-values did not reach significance level. This indicated that the two groups did not differ in age, IQ , mathematical problem solving process and contemplative thinking skills (pre-test).

Instruments

Mathematics Problem-Solving Process Questionnaire (MPSPQ).(Doehee, 1998). This questionnaire consisted of a 5-point, Likert-type format of 24 items mainly drawn from the Problem-Solving Questionnaire (Mulcahy, 1987) as a general measure of students' perceptions of problem-solving strategies .The Likert-scale ranged from "describes me very well", "describes me well", "describes me somewhat", "does not really describe me" to "does not describe me at all." The 24 items are classified into four groups. The first three groups are components of the cognitive process involved in mathematics problem-solving (i.e., orientation, organization, execution). The fourth group is a component of the metacognitive process involved in mathematics problem solving (Le., verification) as suggested by Flavell (1985) and Lester (1985). With regard to the measure of internal consistency, Cronbach's alpha for the MPSPQ was estimated to be -80, indicating a high degree of reliability. The maximum score for the MPSPQ was 120.

Contemplative Thinking Skills Scale(Jamal Al-Khaldi & Mohammed Awamreh, 2012). This scale consisted of a 5-point, Likert-type format of 36 items The Likert-scale ranged from "describes me very well", "describes me well", "describes me somewhat", "does not really describe me" to "does not describe me at all.". With regard to the measure of internal

consistency, Cronbach's alpha for the scale was estimated to be .87, indicating a high degree of reliability. The maximum score for the scale was 180.

Procedure

The metacognitive instructional approach of Strategies Program for Effective Learning and Thinking (SPELT) was used in the teaching of two strategies in this study. The metacognitive nature of SPELT is reaüzed in its training techniques. SPELT combines two types of training as identified by Brown and Palincsar (1982. as cited by Mourad Ali, 2010). It is an 'Informed Training" (explicit instruction in strategies and their use) and a 'Self-Control Training" (explicit instruction in planning, monitoring and evaluating strategy use) program as opposed to 'Blind Training (students are taught strategies with no explanations as to why, where or when). The program is comprised of three phases (Mourad Ali, 2010, Amaal Ahmed Mostafa, 2014). Phase I, Direct Teaching of Strategies, requires the teacher to introduce students to the benefit and use of strategies. Strategies are taught directly to students: students are Med, and reminded and prompted to use strategies. This is teacher-imposed strategy instruction. in Phase II, Maintenance, Evaluation and Generalization of Strategies, students continue to use the strategies, but also evaluate their strategy use and use the strategies in different subjects or settings. Students begin to take a more active role in their learning during this phase. Phase III, Strategy Generation by Students, necessitates complete student involvement in utilizing, monitoring, evaluating and generating strategies. Students progress from being passive to active learners, self-regulating their learning and performance. Students received 3 training sessions a week, lasting between 40 and 45 min. Instruction took place in the regular classroom in order to naturalize the situation.

Results

Table 2. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in mathematical problem solving process test scores. The table shows that the (F) value was (146.793) and it was significant value at the level (0.01).

Table 2. *ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in mathematical problem solving process test scores*

Source	Type 111 sum of squares	df	Mean square	F	Sig.
Pre	59.285	1	59.285		
Group	16944.693	1	16944.693	146.793	0.01
Error	4271.015	37	115.433		
Total	21222.400	39			

Table 3. shows T test results for the differences in post-test mean scores between experimental and control groups in mathematical problem solving process test. The table shows that (t) vale was (12.175). This value is significant at the level (0.01) in the favor of experimental group. The table also shows that there are differences in post- test mean scores between experimental and control groups in mathematical problem solving process test in the favor of experimental group.

Table *3. T- test results for the differences in post- test mean scores between experimental and control groups mathematical problem solving process test*

Group	N	Mean	Std. deviation	T	Sig.
Experimental	20	96.25	1.79	12.175	0.01
Control	20	55.15	2.01		

Table 4. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in contemplative thinking skills test scores. The table shows that the (F) value was (19.431) and it was significant value at the level (0.01).

Table 4. *ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in contemplative thinking skills test scores*

Source	Type 111 sum of squares	df	Mean square	F	Sig.
Pre	839.081	1	839.081		
Group	5610.475	1	5610.475	19.431	0.01
Error	10683.469	37	288.742		
Total	16881.775	39			

Table 5 shows T. test results for the differences in post- test mean scores between experimental and control groups in contemplative thinking skills test. The table shows that (t) vale was (4.204). This value is significant at the level (0.01) in the favor of experimental group. The table also shows that there are differences in post- test mean scores between experimental and control groups in contemplative thinking skills test in the favor of experimental group.

Table 3. *T- test results for the differences in post- test mean scores between experimental and control groups thinking skills test*

Group	N	Mean	Std. deviation	T	Sig.
Experimental	20	128.00	1.02	4.204	0.01
Control	20	104.85	2.11		

Discussion

The purpose of the present study was to examine the extent to which metacognitive strategy training can be used to improve mathematical problem solving process and contemplative thinking skills of primary school children with learning disabilities. Participants were selected, then pretest data were collected using mathematical problem solving process and contemplative thinking skills(pre-test). The metacognitive instructional approach of Strategies Program for Effective Learning and Thinking (SPELT) was used in the teaching of two strategies in this study. Students received 3 training sessions a week, lasting between 40 and 45 min. Instruction took place in the regular classroom in order to naturalize the situation.

The results of this study as revealed in tables 3, 5, show that the metacognitive instructional approach of Strategies Program for Effective Learning and Thinking (SPELT) was effective in improving mathematical problem solving process and contemplative

thinking skills of the target students in experimental group, compared to the control group whose individuals were left to be taught in a conventional way .

Participants of this study fall into IQ of 114 or more, nevertheless, they are learning disabled. Thus IQ score cannot account for learning disabilities. The results of the present study support that conclusion with evidence that students who participated in the study do not fall into the low IQ range, however they have learning disability. When designing a program based on the metacognitive instructional approach of Strategies Program for Effective Learning and Thinking (SPELT), they had statistical increase in mathematical problem solving process and contemplative thinking skills. This goes in line with what Mourad Ali et al (2006) notes that there is one problem " students who are identified as learning disabled often cover any special abilities and talents, so their weakness becomes the focus of their teachers and peers, ignoring their abilities. Mourad Ali (2007) , however, notes that " learning disabled, as well as gifted students can master the same contents and school subjects", but they need to do that in a way that is different from that used in our schools.

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The Effect of Differentiating Instruction using Multiple Intelligences on Improving Reading Comprehension of 5th Graders with Learning Disabilities

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Abstract

This study investigated the effect of using differentiated instruction using multiple intelligences on improving reading comprehension of 5th graders with learning disabilities. A total of 60 students identified with LD participated. The sample was randomly divided into two groups; experimental (n= 30 boys)and control (n= 30 boys). ANCOVA and T .test were employed for data analysis. Findings from this study indicated the effectiveness of differentiated instruction using multiple intelligences on improving reading comprehension in the target students. On the basis of the findings, the study advocated for the effectiveness of using differentiated instruction using multiple intelligences on improving reading comprehension in learning disabled students.

Key words :differentiated instruction, multiple intelligences, reading comprehension, learning disabilities

Introduction

Reading is a process that requires beginning readers to develop fundamental skills such as recognizing the alphabet, developing phonics skills, understanding vocabulary and sentence structure, developing spelling proficiency, and practice in developing comprehension and fluency skills. A student's ability to master such a concept in primary grades establishes the groundwork needed for student achievement in reading and thereby in other subjects as well. If the ability to learn to read takes a prolonged time to develop, students may struggle to read in later grades (Nielsen, Winter ,Keetle& , Jackson, 2007)

Chapman and King (2009) stated that there are too many students who struggle to read and have difficulty completing literacy assignments. At the same time, advanced students are not being challenged. Researchers have demonstrated that differentiated instruction has been effective in some schools (Beecher & Sweeney, 2009) . VanSciver (2005) stated, "Teachers are now dealing with a level of academic diversity in their classrooms unheard of just a decade ago" (p. 534). In a single classroom, students' learning abilities may range from above grade level to below grade level. Levy (2008) stated that "students enter classrooms with different abilities, learning styles, and personalities…." (p. 161). Teachers need to find adequate strategies that provide students with the support needed to achieve standards presented through problem solving .Differentiating instruction by integrating student's multiple intelligences and learning style is one such strategy. According to Lawrence-Brown (2004), "with suitable supports, including differentiated instruction, students ranging from gifted to those with significant disabilities can receive an appropriate education in general education classrooms" (p.34).

McBride(2004) stated that "Differentiated instruction is vital to effecting positive change in student performance, because the one-strategy-fits-all approach doesn't work in a real classroom" (p. 39).

Benefits of Differentiated Instruction

Servilio (2009) stated that differentiating instruction is "an individualized method of meeting all of the students' academic needs at their level" (p. 7). One benefit of differentiating instruction is that it helps teachers address the learning needs of each student. This can be accomplished by targeting the student characteristics Tomlinson (2001) identified as: readiness, interest, and learning profile. When planning for differentiated instruction, knowing students' interests and dominant learning styles, or profiles, can allow the teacher to plan

learning activities that specifically target what students would like to learn and how they learn best (Servilio, 2009). When teachers teach to students' readiness level, they can accommodate a student who has mastered the lesson content, and is ready to be challenged. In this case, a harder text or a more complicated project could be assigned. Once a need is identified, the teacher responds by finding a method or solution to answer the need in order for all students to be successful in learning (VanSciver, 2005). In these examples, the teacher is able to use differentiated instruction to meet the learning needs of their students.

Another benefit of differentiated instruction is that it leads to increased student achievement. Servilio (2009) stated "The combination of a differentiated curriculum and the options for student choice are ideal for promoting success for students with disabilities and it can improve outcomes for other students as well" (p. 10). In a differentiated classroom, when students are engaged and have achieved their goal or completed a task, they are more motivated to continue learning and exceed their original goal or expectation. "With the tools of differentiated instruction, we can take each child as far as he or she can go" (Levy, 2008, p. 164) towards further achievement and success.

Methods for Differentiating Instruction: Multiple Intelligences

Harvard professor Howard Gardner first introduced the theory of multiple intelligences in the early 1980s. According to Armstrong (2003)“Gardner argues that traditional ideas about intelligence employed in educational and psychological circles for almost a hundred years require reform. In particular, he suggests that the concept of a“pure”intelligence that can be measured by a single I.Q. score is seriously flawed″(P.12).Gardner has identified nine intelligences and has indicated there may be many more that people possess at varying levels. Gardner’s theory is that the variability to which people possess a certain intelligence determines how they learn and interact best with other people.

Gardner (2003) summarized the first seven intelligences as follows:

1. Linguistic Intelligence. The understanding of the phonology, syntax, and semantics of language, and its pragmatic uses to convince others of a course of action, help one to remember information, explain or communicate knowledge, or reflect upon language itself.

2 Bodily-Kinesthetic Intelligence. The ability to control one’s bodily motions and the capacity to handle objects skillfully.

3. Spatial Intelligence. The ability to perceive the visual world accurately, to perform transformations and modifications upon one’s initial perceptions, and to be able to re-create aspects of one’s visual experience (even in the absence of the relevant physical stimuli).

4. Musical Intelligence. The ability to understand and express components of music, including melodic and rhythmic patterns through figural or intuitive means (the natural musician) or through formal analytic means (the professional musician).

5. Logical Mathematical Intelligence. The understanding and use of logical structures, including patterns and relationships, and statements and

propositions, through experimentation, quantification, conceptualization, and classification.

6. Intrapersonal Intelligence. The ability to access one's emotional life through awareness of inner moods, intentions, motivations, potentials, temperaments, and desires, and the capacity to symbolize these inner experiences, and to apply these understandings to help one's own life.

7. Interpersonal Intelligence. The ability to notice and make distinctions among other individuals with respect to moods, temperaments, motivations, intentions , and to use this information in pragmatic ways, such as to persuade, influence, manipulate, mediate, or counsel individuals or groups of individuals toward some purpose (P.13-14)

According to Lazer (2004), using MI in the classroom makes lessons more interesting, which causes students to pay more attention to what is taught and then learned. As a result, students are more engaged, they remember more, and achievement increases. He also stated that when students become aware of their intelligence strengths and consider themselves as being "smart" in that area of intelligence, their self esteem is raised.

Mourad Ali & Amal Mostafa (2013) investigated the effect of using differentiated instruction by integrating multiple intelligences and learning styles on solving problems , achievement in , and attitudes towards math in six graders with learning disabilities in cooperative groups. A total of 60 students identified with LD were invited to participate. The sample was randomly divided into two groups; experimental (n= 30 boys)and control (n= 30 boys).ANCOVA and T .test were employed for data analysis. Findings from this study indicated the effectiveness of differentiated instruction by integrating multiple intelligences and learning styles on solving problems , achievement in , and attitudes towards math in the target students. On the basis of the findings, the study advocated for the effectiveness of using differentiated instruction by integrating multiple intelligences and learning styles on solving problems, achievement in , and attitudes towards math in learning disabled students.

Further research is necessary to build on the vast amount of research into differentiated instruction with learning disabled students. This will allow researchers to determine how differentiated instruction can be best used as an intervention with learning disabled students as there is a dearth of research with this population. In order to address this issue with the lack of research on differentiated instruction with learning disabled students . Thus the present study seeks to give answers to the following questions.

1- Are there differences in post-test scores mean between control and experimental groups on Reading Comprehension Test ?

2- If the programme is effective in improving reading comprehension of experimental group, is this effect still evident a month later?

Method

Participants

60 students participated in the present study. Each student participant met the following established criteria to be included in the study: (a) a diagnosis of LD by teacher's referral. Neurological scanning results indicated that those individuals were neurologically deficient (b) an IQ score on the Mental Abilities Test (Mosa, 1989) between 90 and 118 (c) reading performance scores at least 2 years below grade level (d) absence of any other disabling condition. Students were randomly classified into two groups: experimental (n= 30 boys) and control (n= 30 boys).

The two groups were matched on age, IQ, and reading comprehension. Table 1. shows means, standard deviations, t- value, and significance level for experimental and control groups on age (by month) ,IQ and reading comprehension (pre-test).

Table 1. *Means, standard deviations, t- value , and significance level for experimental and control groups on age (by month),IQ, and reading comprehension (pre-test).*

Variable	Group	N	M	SD	T	Sig.
Age	Experimental	30	132.24	1.96	-.121	Not sig.
	Control	30	132.41	2.01		
IQ	Experimental	30	111.34	4.45	-.221	Not sig.
	Control	30	111.89	4.24		
Reading	Experimental	30	6.82	2.65	-.539	Not sig.
comprehension	Control	30	6.54	2.32		

Table 1. shows that all t- values did not reach significance level. This indicated that the two groups did not differ in age, IQ , and reading comprehension (pre-test) .

Instrument

Reading Comprehension Test. The test was developed to assess reading disabled children 's skills in reading comprehension. It was based on the features of comprehension skills recognized by Moored Ali (2005). The test consists of (22) items assessing word recognition, with score ranging from 0-1 on each item and a total score of 22. The test has demonstrated high internal consistency with Cronbach's α ranging from 0.86 to 0.89.

Procedure

Experimental – group students were taught in the " Technology Room " at EL Obour primary school after the school day ended .First the instructor (author) gave students an idea

about the MI theory and how it is useful in helping them achieve their lessons in different school subjects in general , and in reading skills in particular.

The MI program comprised 3 weekly sessions lasting between 40 and 45 min, and several homework tasks . The program lasted for 2 months. Over these sessions the students completed a total of twelve basic reading subskills, namely similar words recognition skill, opposite word recognition skill, odd word recognition skill, correct word recognition skill, relational sentences skill, answering questions skill, plausible and implausible sentences recognition skill, recognizing the message conveyed by the text skill, characterization skill, titling skill, cause–effect relation recognition skill.

During sessions, students were allowed to work together , and the instructor (the author) gave help and modeling , if necessary. The seven intelligences were employed in all sessions. Employing verbal / linguistic intelligence requires students to brainstorm , use new vocabulary, and tell the story in their own words. While using logical / mathematical intelligence requires that students asking and answering questions about the text, and explain their answers. Students employed visual / spatial intelligence through illustrations, and using pictures of the new vocabulary. They also used role play, body movements, and concrete materials while learning the new word as part of bodily / kinesthetic intelligence. Musical / Rhythmic intelligence was employed by students. They created rhythmic patterns, and sang songs. Students shared work with one another, assessed peer's work, and worked collaboratively as part of their interpersonal intelligence. Additionally, each student had a space to work individually and reflect on his/her progress and achievement as part of his intrapersonal intelligence.

Design and Analysis

The effects of implementing the MI program on students' reading comprehension skills were assessed using a repeated-measures design, pre- post- and follow-up testing.

Results

Table 2. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in reading comprehension test. The table shows that the (F) value was (128.009) and it was significant value at the level (0.01).

Table 2. *ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in comprehension test*

Source	Type 111 sum of squares	df	Mean square	F	Sig.
Pre	1.725	1	1.725		
Group	217.276	1	217.276	128.009	0.01
Error	317.340	57	5.567		
Total	1067.933	59			

Table 3 shows T. test results for the differences in post- test mean scores between experimental and control groups in reading comprehension test. The table shows that (t) vale was (11.67). This value is significant at the level (0.01) in the favor of experimental group. The table also shows that there are differences in post- test mean scores between experimental and control groups in comprehension test in the favor of experimental group .

Table 3. *T-test results for the differences in post- test mean scores between experimental and control groups in comprehension test*

Group	N	Mean	Std. deviation	t	Sig.
Experimental	30	13.50	1.10	11.67	0.01
Control	30	6.43	3.12		

Table 4. shows data on repeated measures analysis for reading comprehension test. The table shows that there are statistical differences between measures (pre- post- follow –up) at the level (0.01).

Table 4. *Repeated measures analysis for comprehension test.*

Source	Type 111 sum of squares	df	Mean square	F	Sig.
Between groups	661.250	1	661.250		0.01
Error 1	105.611	58	1.821	363.148	
Between Measures	794.978	2	794.978	193.121	0.01
Measures x Groups	596.933	2	298.467	145.011	0.01
Error 2	238.756	116	2.058		

Table 5. shows data on Scheffe test for multi-comparisons in reading comprehension test.The table shows that there are statistical differences between pre and post measures in favor of post test , and between pre and sequential measures in favor of follow -up test , but no statistical differences between post and follow -up test .

Table 5. *Scheffe test for multi- comparisons in comprehension test*

Measure	Pre M= 6.76	Post M= 13.20	Sequential M= 12.86
re	--	--	--
Post	8.43*	--	--
Sequential	8.10*	.33	--

Discussion

The main objective of the present study was to explore the effect of differentiated instruction using multiple intelligences on reading compehension in 5th graders with learning disabilities .

The results of this study as revealed in tables 3, 5, show that the differentiated instruction that used multiple intelligences was effective in improving reading comprehension of students in experimental group, compared to the control group whose individuals were left to be taught in a traditional way.

Participants of this study fall into the minimum IQ of 90, nevertheless, they have learning disability. Thus IQ score cannot account for learning disabilities. The results of the present study support that conclusion with evidence that students who participated in the study do not fall into the low IQ range, however they have learning disabilities. When designing a program based on the differentiated instruction that used multiple intelligences, they had statistical increase in reading comprehension. This goes in line with what Mourad Ali et al (2006) notes that there is one problem "students who are identified as learning

disabled often cover any special abilities and talents, so their weakness becomes the focus of their teachers and peers, ignoring their abilities. Mourad Ali (2007), however , notes that "learning disabled, as well as gifted students can master the same contents and school subjects", but they need to do that in a way that is different from that used in our schools.

Experimental group gained better scores in reading comprehension than did control groups in post-tests though there were no statistical differences between the two groups in pre- test. This is due to the program which met the experimental group's needs and interests. On the contrary, the control group was left to be taught in a traditional way. This goes in line with our adopted perspective which indicates that traditional methods used in our schools do not direct students as individual toward tasks and materials , and do not challenge their abilities. This may lead students to hate all subjects and the school in general. On the contrary, when teachers adopt differentiated instruction that suits students interests and challenge their abilities with its various modalities .

This indicates that " as we learn more about the scope and complexity of individual differences and how they affect academic progress, we become increasingly convinced that many individuals who do not do well at school due to the instructional methods used to teach them does not complement preferred styles to learn, thus, we should seek strategies that help these students and match their strengths.

Implications

The results of this study have several important implications. This study adds to the literature on the effectiveness of differentiated instruction with learning disabled students. Results appear to indicate that differentiated instruction are an effective instructional strategy for improving reading comprehension test scores of students with learning disabilities. This study has referential adequacy because this study could be replicated for any performance task by any teacher wanting to test how students perform when learning through using multiple intelligences .

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Examining the Reflection of Mathematics Education on Sustainable Development in the Light of the Quality of Life Index in Turkey, PISA and TIMSS *

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Abstract
There is a linear relationship between the levels of development of people and countries development. So, if a country wants to be developed, it should increase the level of the development of the citizens. The most effective way to increase the level of the development of the society passes through education. The countries which are investing on education provide sustainable development at the same time. It is possible to see its examples in our environment. In this paper, we are going to collapse the title of education in to mathematic education and examine the relation between mathematic education and sustainable development. Based on mathematic education process may increase the levels of development of individuals, obtaining sustainable development is going to be emphasized. The mentioned situation is going to be supported in the light of the quality of life index in Turkey, PISA and TIMSS practices with examples.

Key Words. *Education, Mathematics Education, Sustainable Development, Quality of Life Index in Turkey, PISA, TIMSS.*

Introduction

Sustainable development means to program development by giving opportunity for today's and future's natural resources and needs by bridging between human and nature without consuming natural resources. Sustainable development is a term which has a few dimensions like ecology, economy, culture and spatial (Yapıcı, 2003). We always see human in each of these dimensions. However, there is a need for qualified human resources for sustainable development. This is possible only through education.

When we consider developed countries, we see that the quality of life standards and per capita income is high. We also see that in developed countries, literacy rate is high. This shows us that there is a linear relationship between development and education. According to Hanson (2008) in traditional development models education and development is an absolute corner of the triangle. Ergün (2011) likened the model of sustainable development as a triangular prism:

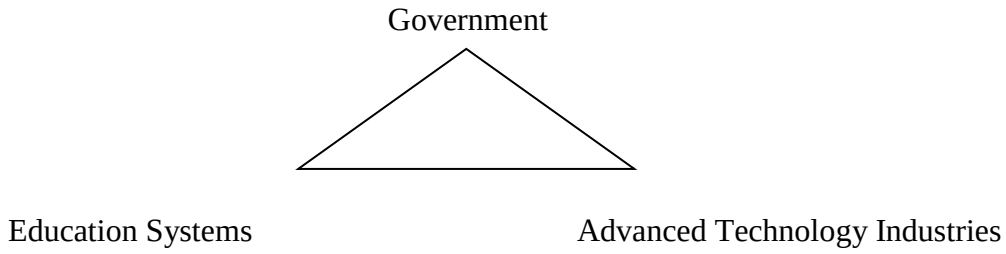

Figure 1. *Development Triangle (Hanson 2008)*

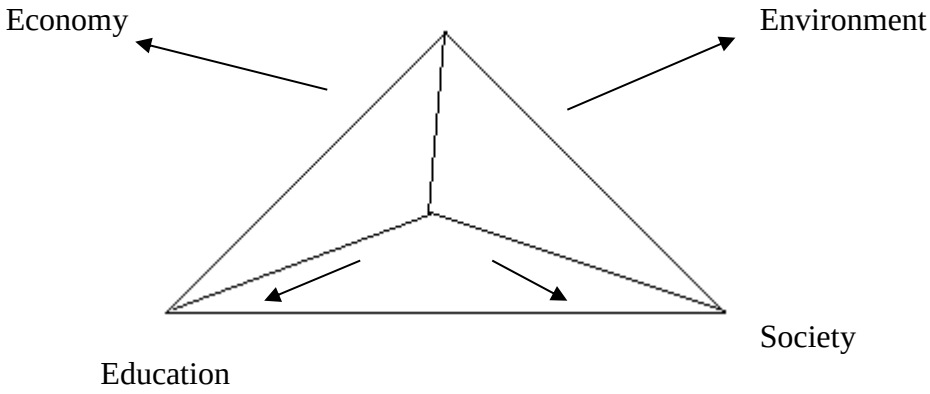

Figure 2. *Development Triangle Pyramid(Ergün 2011)*

The last two figures show that education is one of the elements essential for development.

Method

The study includes assessments about Turkey and mathematic education on the basis of the quality of life index according to "Turkey and Regional Differences in Quality of Life's" (Şeker 2013) article. Also in this study, by looking at the results of the PISA and the TIMSS assessments were completed for sustainable development and mathematic education in some countries in the world. The main purpose of this research was to make generalizations which were response to the following research questions by looking at the quality of life index, the results of the PISA and the TIMSS. We considered to sustainable development instead of development, welfare, economy and education. And so,our research questions:

1) Is there a linear relationship between mathematics education and sustainable development in Turkey in the light of quality of life index?

2) Is there a linear relationship between mathematics education and sustainable development in some countries in the world in the light of PISA?

3) Is there a linear relationship between mathematics education and sustainable development in some countries in the world in the light of TIMSS?

Findings

This part of the study, assessments were made about Mathematics Education and sustainable development in Turkey and some countries in the world in the light of quality of life index in Turkey, PISA and TIMSS.

1. Mathematics Education And Sustainable Development In Turkey In The Light Of Quality Of Life Index In Turkey

According to research held by Şeker (2013), the highest quality of life index of 10 provinces in Turkey are Istanbul, Ankara, Izmir, Kocaeli, Bursa, Eskişehir, Antalya, Adana, Konya and Mersin. The lowest quality of life index of 10 provinces in Turkey are Hakkâri, Sirnak, Mus, Bitlis, Iğdır, Ardahan, Van, Siirt, Batman, Ağrı. Also, according to the index of the quality of working life in the provinces is rated as 1st, 2nd, 3rd and 4th. For example, while Istanbul, Ankara and Izmir provinces are determined in the first place according to life

quality index; Kocaeli, Bursa, Eskişehir, Antalya, Adana, Konya, Mersin, Gaziantep, Kayseri, Samsun and Trabzon are the provinces that place in the second place according to life quality index in Turkey. In quality of life index, it is observed that the more provinces are in the third and fourth groups. There are 30 provinces in the third gruop and 25 provinces in the fourth group. This situation shows that Turkey is concentrated in medium level of quality of life. We can see Ağrı, Siirt, Van, Ardahan, Iğdır, Bitlis, Muş, Şırnak ve Hakkâri among the provinces with the lowest quality of life. In the following of the study, it is sorted like below by using factors determining the quality of life:

Table 1. *Quality of Life in the provinces in Turkey Ratios* (Şeker, 2013)

	The three provinces			**Last three province**		
Health	İstanbul	Ankara	Kayseri	Kütahya	Ardahan	Bilecik
Social Life	İstanbul	Ankara	İzmir	Şanlıurfa	Şırnak	Ağrı
Demand Potential	İstanbul	Ankara	İzmir	Siirt	Kırıkkale	Hakkari
Range of Transportation	İstanbul	İzmir	Ankara	Şırnak	Gümüşhane	Hakkari
Infrastructure	Ankara	Karaman	Gaziantep	Bitlis	Muş	Hakkari
Demographic Structure	Ankara	Eskişehir	İstanbul	Ağrı	Muş	Van
Green and Smokeless	Giresun	Eskişehir	Artvin	Hakkari	Tekirdağ	Şırnak
Finance	İstanbul	Ankara	İzmir	Hakkari	Ağrı	Muş
Commercial Life	İstanbul	İzmir	Antalya	Batman	Siirt	Muş
Economic Capacity	İstanbul	Ankara	İzmir	Muş	Siirt	Hakkari
Education	Ankara	İstanbul	Eskişehir	Mardin	Şırnak	Hakkari

According to the above analysis at the provincial level, we say that the cities like İstanbul and Ankara etc. are economically and as well as educationally developed cities and also the cities like Hakkâri, Şırnak etc. are economically and as well as educationally underdeveloped cities. So it is seen that education is an essential prerequisite for the development. By the way, we can say that, Turkey which is trying to be among developed countries should increase firstly the level of education of its citizens for sustainable development. Skilled people will benefit to both the environment and the economy and also their countries. So that these goals can only be reached Turkey in 2023.

2. Mathematics Education and Sustainable Development In Some Countries In The World

Korea turned in to a advanced industrial society from backward agricultural society in a term. In this turn, export-oriented manufacturing, high savings and investment, stable macroeconomic policies have played an important role (Ergün, 2011). We see similar situations in some countries such as Finland, the Netherlands, Japan and Canada. In the foundation of the developed countries about which we have been talking, education is an essential factor. We see examples of this in the evaluations which are held at the internationally level.

2.1. Mathematics Education and Sustainable Development In Some Countries In The World In The Light Of PISA

Program For International Student Assessment (PISA) is an international study that was launched by the OECD in 1997. It aims to evaluate education systems worldwide every three years by assessing 15-year-olds' competencies in the key subjects: reading, mathematics and science. Across OECD countries, governments are seeking policies to make education more effective while searching for additional resources to meet the increasing demand for education. The 2008 edition of Education at a Glance: OECD Indicators enables countries to see themselves in the light of other countries' performance. It provides a rich, comparable and up-to-date array of indicators on the performance of education systems and represents the consensus of professional thinking on how to measure the current state of education internationally. The indicators look at who participates in education, what is spent on it and how education systems operate and at the results achieved. The latter includes indicators on a wide range of outcomes, from comparisons of students' performance in key subject areas to the impact of education on earnings and on adults' chances of employment (OECD, 2008).

The top five countries and Turkey's the results of mathematic course evaluation in PISA 2003 and 2006 exams,

Table 2. *The Top Five Countries And Turkey's The Results Of Mathematic Course Evaluation In Pisa 2003 and 2006 Exams*

	Finland	**Korea**	**The Netherlands**	**Japan**	**Canada**	**Turkey**
PISA 2003	1	2	3	4	5	28
PISA 2006	2	1	3	5	4	29

According to Table 2, if we examine the five most successful countries' and Turkey's placement, the first noticeable factor is that the first five countries are the countries which have high economy development. So there is a positive relationship between the development and level of achievement in mathematics. In the successful countries, per capita income is very high. However, Korea's per capita income is lower than other four countries; we can say that, PISA success is higher than those four countries. Turkey where per capita income is very low in the other five countries, so we can say that PISA results are worse. Five times more money is spent on students aged 6-15 in the successful countries than Turkey. It is know that when we consider the annual salary range of elementary teachers, in the countries which are successful in PISA, the annual salary range is higher than Turkey (approximately 2.5 times) . According to Table 2, another factor determining the ranking of Turkey and successful five countries may be the indicators of physical infrastructure. There are averagely 15,9 students in Finland, 31,6 students in Korea, 22,4 students in the Netherlands, 28,3 students in Japan; 27,2 students in Turkey per a classroom in the most successful countries. This situation tells us that it is insufficient to explain the relationship between students per classroom and success or unsuccess. However, in the successful countries there are 16 students per a teacher, in Turkey and Korea it is 26,7 students per a teacher. According to Table 2, another factor which determines the ranking between Turkey and the most successful five countries can be the compulsory education period. In addition, the literacy rate is 99% in successful countries while the rate in Turkey is 88% . According to Table 2, another factor which determines the ranking between Turkey and the most successful five countries can be the socio-economic status. There is a direct correlation between parents' education level and students' success. In Turkey high school graduate parents' level is 25% while this level is approximately 90% in successful countries. While in Turkey 45% of students which are in the 15-19 age group goes on their secondary education, this ratio is

nearly 90% in successful countries. In Finland, more than 90% of students who completed their compulsory education continue their secondary education and 65% of students who completed their secondary education continue higher education. It is also observed that the students in the successful countries are more advanced (Aydın et al. 2013). This situation stated in Sarıer's study (2010) like 'Socio-economic and socio-cultural variables create a big difference in terms of academic success among students'.

The top five countries and Turkey's the results of mathematic course evaluation in PISA 2009,

Table 3. *The top five countries and Turkey's the results of mathematic course evaluation in PISA 2009*

	Shanghai-China	**Finland**	**Korea**	**Hong Kong-China**	**Liechtenstein**	**Turkey**
PISA 2009	1	2	3	4	5	33

When we analyze Table 3, while new countries are added to PISA exam in 2009, Finland and Korea are still among the top three. Although Turkey fell back in the range in 2009, we can tell that at least some improvement has succeeded.

In a study which was about Finland which gains the highest score in PISA which is held in every three years, there are main four factors in education system behind the success of Finnish students. These four factors are:

- Teacher training programs
- Traditional school life
- Culturally overview of the teaching profession
- In-service teacher training (Eraslan, 2009).

A similar situation lies behind the success of South Korea. In South Korea, beside the university exam point plus lycee mean grade points, students must enter a skill exam and interview for entering the Education faculties which is different from Turkey.. Teacher Training Programs are very important in South Korea like Finland (Aras and Sözen 2012).

2.2. Mathematics Education and Sustainable Development In Some Countries In The World In The Light Of TIMSS

The Trends in International Mathematics and Science Study (TIMSS) is an international assessment of the mathematics and science knowledge of 4th and 8th grader (loosely, ages 9/10 and 13/14, respectively) students around the World and centered in The Netherlands. TIMSS was developed by the International Association for the Evaluation of Educational Achievement (IEA) to allow participating nations to compare students' educational achievement across borders. The trends in International Mathematics and Science Study (TIMSS) provides reliable and timely data on the mathematics and science achievement of U.S. 4th- and 8th-grade students compared to that of students in other countries. TIMSS data have been collected in 1995, 1999, 2003, 2007, and 2011. The next data collection is in 2015. In 2011, more than 60 countries and other education systems, including the United States, participated in TIMSS. More than 20,000 students in more than 1,000 schools across the United States took the assessment in spring 2011, joining almost 500,000 other students around the world who took part in TIMSS. Because the Progress in International Reading Literacy Study (PIRLS) was also administered at grade four in spring

2011, TIMSS and PIRLS in the United States were administered in the same schools to the extent feasible. Students took either TIMSS or PIRLS on the day of the assessments.

Turkey started to be part in TIMSS in 1999 and 2007 in the level of 8 th grades and in 2011 in the level of 4th and 8th grade. You can see the distribution of achievement in 2011 TIMSS year by year in the table 4. As it is seen in the table 4 that the highest mathematic achievement points are from the Far East countries' students such as Singapore, South Korea, Hong Kong, China-Taiwan and Japan. The mean points of these countries are between 606 and 585 points. There are 27 countries of which the mean standard point is upper TIMSS's standard point 500. The lowest mathematic achievement points are from Middle East and Africa.

Table 4. *Distribution of TIMSS 2011 Mathematics Achievement: 4 Classes*

Place	**Countries**
1	Singapore
2	South Korea
3	Hong Kong
4	China-Taiwan
5	Japan
6	North Irland
7	Belgium
8	Finland
9	The United Kingdom
10	Russia
35	**Turkey**
46	Oman
47	Tunis
48	Kuwait
49	Morocco
50	Yemen

Turkey's standard mean point for TIMSS is 469 which is really under the TIMSS's standard mean point 500 and all the students mean point 492. In terms of ranking Turkey is in 35th country amoung 50 countries and it is in the last place among the European countries (Yücel et al. 2013). When table 4 is examined it is obvious that the developed countries are the most successful countries in TIMSS results. It is possible to say that the undeveloped African and Middle East countries are the last countries in the range.

As it is seen in the table 5 that the highest mathematic achievement points are from the Far East countries' students such as Singapore, South Korea, Hong Kong, China-Taiwan and Japan. The mean points of these countries are between 613 and 570 points. There are 14 countries of which the mean standard point is upper TIMSS's standard point 500. The lowest mathematic achievement points are from Middle East and Africa.

Table 5**.** *Distribution of TIMSS 2011 Mathematics Achievement: 8 Classes*

Place	Countries
1	South Korea
2	Singapore
3	China-Taiwan
4	Hong Kong
5	Japan
6	Russia
7	Israel
8	Finland
9	USA
10	The UK
24	**Turkey**
38	Indonesia
39	Syria
40	Morocco
41	Oman
42	Ghana

Turkey's standard mean point for TIMSS is 452 which is really under the TIMSS's standard mean point 500 and all the students mean point 478. In terms of ranking Turkey is in 24th country among 42 countries and it is in the second last place among the European countries before Macedonia (Yücel et al. 2013).

It is obvious that as it is same with 4t grade, in 8th grade the developed countries are in the first places in the Mathematic achievement, Turkey is in 24th country which is developing country and the last countries are African and Middle East countries which are undeveloped countries.

When TIMSS 1999, 2007 and 2011 mean is compared, it is understood that TIMSS Mathematic Achievement mean is getting higher. However, it shows us that Turkey can not catch the upward trend of success. So it is obvious that Turkey's new education program can not achieve the wanted mathematic achievement.

TIMSS 2011 put forward other elements determining rankings of mathematic achievement. For example, when we consider the mathematic achievement points, the successful students have other resources for mathematic in their houses, their schools are in the cities of which population is more than 100.000, the socio-economic status of the successful students is high and the successful student's teachers are experienced (especially 4th grade teachers) (Yücel et al, 2013). The elements are the determining elements for both sustainable development and development status. There is a positive relationship between mathematic achievement level and sustainable development. Let's find out that relationship.

Results

There is a positive relationship between Mathematics Education and sustainable development. We see that the results section which is about the quality of life index in Turkey, PISA and TIMSS practices. As it is mentioned in Findings 1, we can see that education situation is better conditions in the cities which has no problem about infrastructure, transportation variety, more social and have beter economical life.(cities that have the quality of life in the first degree). We can give Ankara, İstanbul and Izmir as example of this kind of

cities (Şeker, 2013). The positive positions in the cities that have the quality of life in the first degree reflect to the mathematic success of the students that are living in these cities. We also see that the general and especially mathematic success of students living in developed cities is better when we consider the central examination which is held by the ministry of education in Turkey. For example according to the results of 2013 Transition to Higher Education Examination the most successful city in Turkey is Ankara. According to 2013 Placement Test there are 19 students got full score 500 points 9 of which are from İstanbul, 2 of which are from İzmir and 1 of which is from Ankara and 1 of which is from Aydın. On the other hand, we can see that education situation is worse conditions in the cities which has problems about infrastructure, transportation vareity, more social and have worse economical life. (cities that have the quality of life in the fourth degree). We can give, Hakkari and Mardin as example of this kind of cities. The lack of success of mathematic can be seen in the cities which are in the third or fourth range when we consider the quality of life. The negative positions in the cities that have the quality of life in the third and fourth degrees reflect to the mathematic success of the students that are living in these cities. We also see that the general and especially mathematic unsuccess of students living in undeveloped cities is worse when we consider the central examination which is held by the ministry of education in Turkey. For example the most unsuccessful city is Hakkiari according to 2013 Transition to Higher Education Examination.

According to the classification in Turkey depending on the quality of life index, we see that first and second group provinces with a high quality of life and success have better success on mathematics too. It shows us that there is a positive relationship between mathematic success and development especially sustainable development. The situation is similar in the third and fourth degree group cities. So we can say that the mathematic success is worse in undeveloped cities.

We can also see the examples of such situations all over the world. We can also see that mathematic success is parallel to a country's development status as we mentioned in the Findings 2. Similar to the situation in Turkey, we see that there is a direct correlation between development and mathematic success.

If we consider the subject within the framework of the structure of Eco-Economy-Society-Education, we can say that countries can achieve sustainable development when they evaluate these four subjects together. The importance of mathematic can not be ignored in these four structures. It is possible to form a direct relation between sustainable development and mathematic success. We can see that situation when we take in to account PISA and TIMSS results of developed countries. We see that the investment on education reflects on economy and the investment on economy reflects on education.

Recommendations

When we look at Turkey example, PISA and TIMSS results it is seen that sustainable development is possible with education. The countries willing to provide development should increase their qualified manpower for their level of sophistication. Education is for training qualified people. Mathematics education should be emphasized in education. Because according to Baki (2006), mathematic brings to people these skills:

- Logical, critical and creative thinking,
- Problem solving, to be resolving consistent and patient,
- Practicing the power of abstraction and generalization,
- Transferring capabilities and subsequent developments in alternative situations,

• The systems development work habits and timely completion of tasks,
• Using mathematics as a means of communication and etc.

The person who gains these skills will be the qualified person who countries need for development. The word of the first female president of Turkish Mathematic Association Prof. Dr. Betül TANBAY is an evidence on the issue: "G8 countries are currently the most successful countries in mathematics. It is not a coincidence that the countries with better economy are successful in mathematics. It is said that the countries such as Brazil, Mexico and Turkey will be a member of the 10 greatest economies of the world of 2050. I can say that Brazil and Mexico are lucky on the issue because they give importance to mathematics. The mathematics research centers in these countries are very good. But Turkey doesn't care mathematics. That's why you will see that Turkey will not enter the league that he really wants. The countries like China, India, Korea, Mexico, Brasil but Turkey know to enter the league mathematics is very important." Also Saygılı et al (2007) voice similar thinkings on the same issue. "There should be formed a link between education and its return. Education is a future investment of individuals, firms and countries. So it is like other investments, these units should take the value of their investments. The dynamics of sustainable economic growth is the increase in productivity and increase in productivity needs that there should be created a system which the investors are rewarded. Individuals are taken on the basis, based on the knowledge and skills of employment, promotion and remuneration policy are very important. On the other hand firms are taken on the basis, economic and social environment which the investors are rewarded and on the basis of country, an open-minded, creative, education system that educates individuals to teamwork are important for the process of sustainable development and development of Turkey."

Countries should devote a huge share of cost for mathematics and education which requires a long-term process and dedication. Financial support should be supplied for education which is one of the pillars of sustainable development. After exceeding the economic problems, education program and special mathematics education program should be adopted for for quality and success in education. The adopted programs should supply success in international evaluations. The programs that are not successful should be reviewed according to the successful programs in successful countries. There is no other faster way except for education for sustainable development which is need qualified human for both Turkey and other countries**.**

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The Effect Of Social Stories Intervention On Social Skills Of Children With Autism Spectrum Disorder

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Abstract
This study explores whether or not Social Stories Intervention Strategy has positive effects on the social skills of children with autism. Participants were ten children between the ages of five and seven who attended a school for children with developmental disabilities(Tarbya Fekrya). A pre- post design was used to examine the effectiveness of the social stories Intervention Strategy on the social skills of the target children. Findings from this study indicated the effectiveness of the social stories intervention employed in teaching the target children social skills. On the basis of the findings, the study advocated for the effectiveness of the social stories intervention employed in teaching the target children social skills.

***Keywords*:** Social stories, social skills, Social Stories Intervention Strategy, autism

Introduction

Autism is a disability characterized by impaired social interactions, limited verbal and nonverbal communication, and restricted and repetitive patterns of behavior. Children with autism may not make friends, spend more time alone than with others, and may not develop empathy or other forms of social reciprocity. They may exhibit stereotypical behaviors to the exclusion of all other activities, may engage in echolalia if any speech at all, and may also engage in dangerous behaviors such as aggression or self-injury (Adel Abdulla & Mourad Ali, 2014).

Since Kanner's (1943) early description of autism, there has been considerable research in identification and appropriate interventions for children with autism. Studies that have focused on cognitive and social competencies of children with autism have noticed strengths in visual-perceptual skills (Lincoln, Courchesne, Kilman, Elmasian, & Allen, 1988: Rodgers, 2000; Siegel, Minshew, & Golstein, 1996) and pictographic stimuli (Garretson, Fein, & Waterhouse, 1990). Visual displays of skill sequences, in particular, have helped with skill acquisition of daily living skills (Pierce & Schriebman, 1994; Roberson, Gravel, Valcanten, Maurer, 1992).

Given the unique learning needs of individuals with autism, social stories may provide an effective strategy to improve social competence. Carol Gray, a special education teacher, developed social stories in order to enable individuals with an autistic spectrum disorder to "read, interpret, and respond effectively to their social world" (Gray, 1994, p.5). A social story is a concise narrative about a situation, concept, behavior, or social skill that is written and implemented according to specific guidelines. Social stories are designed to bring predictability to a situation by providing specific and relevant social cues as well as defining the appropriate responses to a social situation.(Adel Abdulla & Mourad Ali , 2014).

Social Deficits in Individuals with Autism

Researchers have identified the need for an increased emphasis on social skill development to promote greater social competence (e.g., Gresham, Sugai, & Horner, 2001; Ogilvy, 1994; Kolb & Hanley-Maxwell, 2002; Korinek & Popp, 1997; Sugai & Lewis, 1996).Although individuals with autism express interest in the social world, their lack of social skills creates lifelong challenges when interacting and communicating with peers and adults (e.g., Church, Alisanki, & Amanullah, 2000). Early on, individuals with autism often avoid being in close proximity with others, even with their parents (Wing, 1997). Individuals may exhibit inappropriate social behaviors, such as talking "at" another person or asking questions but do not use communication (verbal or non-verbal) to direct the attention of

people around them, known as joint attention (Wing, 1997). Wing (1997) reported that many individuals with autism engage in inappropriate or socially embarrassing behavior, such as temper tantrums, aggression, destructiveness, restlessness, screaming, grabbing objects from shop counters, removing clothing in public, and running away, because they lack the understanding of the rules of social behavior.

Due to the fact that social skills are an important aspect of our daily lives, improving social functioning is one of the most important intervention outcomes for individuals with autism (e.g., Jacobson, Mulick, & Green, 1998; Kamps & Tankersley, 1996; Odom, McConnell, & McEvoy, 1992; Ozonoff & Miller, 1995).

Social Stories and Social Skills in Individuals with Autism

Core deficits in autism (functional language and social interaction) not only impede development, but also may lead to social withdrawal, isolation, and behavior problems (Rubin & Clark, 1983; Ollendick, Weist, Borden, & Greene, 1992). Because of this, improving social functioning is one of the most important intervention outcomes for children with autism (Delano & Snell, 2006).

Carol Gray is the director of The Gray Center for Social Learning and Understanding. Gray has served as a teacher for students with ASD for over 22 years. Gray developed Social Stories and Comic Strip Conversations (Gray, 1998). These resources are used worldwide with individuals with ASD. According to Gray, Social Stories are designed to share social information in a way that will be easily understood by the audience. A Social Story describes a situation, skill, or concept in a way that is relevant to the student. Information often given in the stories includes: where and when a situation may take place, who is involved in the situation, and why the particular situation may occur. Gray explains that, in the stories, relevant social cues, perspectives of others, and common responses to the situation are given. The stories may also explain what other people know, feel, or believe; Social Stories can also explain concepts that are abstract and often difficult to understand (Gray).

According to Gray (2011), Social Stories should affirm something the individual does well while teaching the target behavior or skill. The goal of a Social Story should not be to change the individual's behavior, but to improve understanding of social situations that may lead to increased appropriate behavior. According to Gray, the understanding a person gains often promotes self-esteem, can calm and create order in a turbulent situation, promote independence, reduce anxiety, and increase social understanding.

Social skills are complex, and even individuals diagnosed with autism who are high functioning ''often experience considerable difficulty with social situations'' (Kuoch and Mirenda 2003, p. 219) and tend to have pronounced deficits in comprehension, notably social comprehension (e.g., Goldstein et al. 2001; Lincoln et al. 1988). Undesirable social behaviors in this population, such as poor eye contact or a lack of an awareness of others may hinder individuals diagnosed with autism from actively participating in simple social play or games (American Psychiatric Association 2000, p. 70). Individuals diagnosed with autism do not tend to initiate social contact or play interactively with peers. This may be due to a lack of understanding of social norms. The American Psychiatric Association reports, ''Younger individuals may have little or no interest in establishing friendships. Older individuals may have an interest in friendships but lack understanding of the conventions of social interaction'' (American Psychiatric Association 2000, p. 70). Thus, if individuals diagnosed with autism were given direct access to social information in a manner that is easily understood and clearly identifies the behavior expected of them, it is hypothesized that they can more successfully engage in social interactions.

A growing body of literature has examined the effectiveness of social stories with individuals with autism. Existing literature showed that social stories were effective in decreasing aggressive behavior (Adams, Gouvousis, Van Lue, & Waldron, 2004; Gray & Garand, 1993; Romano, 2002; Rowe, 1999), increasing appropriate behaviors (Agosta, Graetz, Mastropieri, & Scruggs, 2004; Kuoch & Mirenda, 2003, Smith, 2001), increasing the use of appropriate social skills (Barry & Burley 2004; Hagiwara, 1999; Pettigrew, 1998), increasing greeting behavior and initiation of play activities (Feinberg, 2001), increasing on-task behavior (Brownell, 2002), increasing appropriate meal-eating behavior (Staley, 2001; Adel Abdulla & Amal Mostafa, 2012) and decreasing precursors of tantrum behaviors (Simpson & Myles, 2002).

Collectively, these studies showed that social stories can improve a wide range of behavior among individuals with ASD (Crozier & Sileo, 2005). The purpose of the present study was to examine the extent to which social stories can be used to improve the social skills of ten children with ASD. The primary research question was, what effects will social stories have on social skills of children with autism?.

Method

Participants

Participants were ten children between the ages of five and seven who attended a school for children with developmental disabilities(Tarbya Fekrya).All children attended the same classroom within the school. Parental informed consent forms were sent home by the school director and school psychologist to parents of potential participants telling them about the study and requesting them to give permission for their children to participate. Through a previous comprehensive psychological evaluation each targeted child had received a primary diagnosis of Autistic Disorder. All children were also capable of communication using speech assessed through a combination of teacher report and observation. They were so-called high functioning.

Each child also had the following characteristics: (a) meet the full criteria for autism according to The Scale for Screening Autism Disorder(Mohammed, 2003) (b) functional verbal communication, (c) able to read and comprehend words, and (d) ability to follow directions.

Dependent Measure

Social Skills Scale(Logsdon, 2012). The *Social Skills* scale includes 34 items on three subscales: (a) social cooperation, (b)social interaction, and (c) social independence. Internal consistency reliabilities ranged from .96 to .97 for the two scale totals and from .81 to .95 for the subscales.

Independent Variable

The independent variable was the use of individualized social stories. As noted, social stories are short written and pictorial vignettes that are used to help students with ASD behave more appropriately and independently. Typically, these stories are written using individuals' specific behaviors and contextual variables as the source of story content. They then use these stories interactively with pupils to improve those particular behaviors in specific contextual situations. Social stories are created using three different sentence types (descriptive, directive, and perspective) that give students information about what is happening, how to behave and how others feel or think about their behavior. Picture cues (e.g., drawings, photographs, or even stick figures) are also used to enhance pupil understanding. Typically,

social stories are created using a variety of formats including: (a) illustrations, (b) photographs, (c) symbols (e.g., Picture Exchange Communication System), (d) audio and video-tape, and (e) story boxes. To create social stories, the investigator met initially with the classroom teacher to identify specific target behaviors. Support teacher then photographed children while they were engaged in socially appropriate and inappropriate target behaviors. The investigator then created stories for the four target students using the three primary sentence types. Support teacher was then trained to use social stories. The investigator created each social story based on individual pupil needs. Social stories were read to target children. social stories can be seen in (Appendix B).

Procedure

Social Skills level of each child was measured on The Social Skills Scale. The assessment was done in an environment familiar to the children and during their usual intervention time. Treatment consisted of social skills training using social stories. The pretest scores were analyzed to ensure parity among the children.

Each child in the treatment group received 14 teaching sessions. The duration of each session would be from 15 minutes to 20 minutes, depending on child's capacity. While treatment group children received social skills training using social stories ,the control group continued with usual special classroom interventions. At the completion of the treatment session, children from both groups were tested again on The Social Skills Scale.

Results

Social stories and development of social skills

The first objective of the study was to determine if use of social stories would be more effective for the treatment group compared to the control group. For this purpose, the post intervention scores of both treatment and control groups were analyzed. Table 1. shows Z Value results for the differences in post- test mean rank scores between experimental and control groups in social skills scale. The table shows that (Z) values were(-2.739)for social cooperation,(-2.660)for social interaction, (-2.668)for social independence, and (-2.635)for the composite score. These values are significant at the level (0.01) in the favor of experimental group.

Table 1. *Z Values results for the differences in post- test mean rank scores between experimental and control groups in social skills*

Variables	**Groups**	**N**	**Mean Ranks**	**Sum Ranks**	**Mann-whiteny**	**Z Value**	**Sig**
social cooperation	Ex	5	8	40	Zero	-2.739	0.01
	Cont.	5	3	15			
social interaction	Ex	5	8	40	Zero	-2.660	0.01
	Cont.	5	3	15			
social independence	Ex	5	8	40	Zero	-2.668	0.01
	Cont.	5	3	15			
Composite	Ex	5	8	40	Zero	-2.635	0.01
	Cont.	5	3	15			

The second objective of the study was to determine the effect of social stories on the development of social skills in children with autism. The treatment consisted of social skills training through use of social stories. The children's performance on social skills was

measured pre and post intervention. Table 2. shows Z Value results for the differences in post- test mean rank scores between experimental and control groups in social skills scale. The table shows that (Z) values were(-2.041)for social cooperation,(-2.060)for social interaction, (-2.032)for social independence, and (-2.060)for the composite score. These values are significant at the level (0.01) .This indicates that use of social stories had a positive effect on development of social skills in children with autism.

Table 2. *Z Values results for the comparison of mean rank scores of experimental group at pre- and post intervention in social skills*

Variables	**Negative Ranks**		**Positive Ranks**		**Z Value**	**Sig.**
	Mean	Sum	Mean	Sum		
social cooperation	3	15	Zero	Zero	-2.041	0.01
social interaction	3	15	Zero	Zero	-2.060	0.01
social independence	3	15	Zero	Zero	-2.032	0.01
Composite	3	15	Zero	Zero	-2.060	0.01

Discussion

The present study evaluated the effects of social stories intervention on the social skills of children with autism. The study results showed that the social story intervention was effective in increasing social cooperation, social interaction and social independence of all children participated in this study. The social stories developed for the study were written according to the Gray's guidelines (1993).

The present study contributes in several ways to the effectiveness of social story literature. First, findings from this study demonstrate the potential benefits of using the social story intervention as the sole intervention to increase the social skills of children with autism. The results of this study were similar to those found previously for children with autism populations (Adel Abdulla & Amal Mostapha, 2012; Barry & Burley, 2004; Thiermann & Golstein, 2001). Second, pre- post experimental design was used in the present study. Many studies on the effectiveness of social stories have used nonexperimental designs that are plagued by threats to internal and external validity (Kuoch and Mirenda, 2003; Reynhout and Carter, 2006). Furthermore, the children in this study did not receive any type of reinforcement or behavior modification strategies while participating in the sessions. Removing strategies such as prompting techniques, token systems, and other reinforcement systems reduced the potential for confounds within the study. Therefore, one can conclude that the social story intervention was primarily responsible for the change in the social skills of children participated in the study.

In summary, social stories effectively increased the social skills of the children who participated in this study. Overall, results from this study contribute to the social story literature for improving the social skills of children with autism. The present study lends empirical support to the notion that children with autism, specifically young children with autism, can be taught and can learn appropriate social skills.

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Differential Diagnosis of Autism and Asperger's Syndrome

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Abstract

Differential diagnosis through systematic observation has been regarded an effective tool to overcome the problems of misdiagnosing and overlapping between autism and Asperger. The author used the systematic observation method (time sampling) in the differential diagnosis of the behavioral characteristics of autistic and Asperger cases between 5-7 years old. The sample consisted of 18 children who were divided into 9 autistic children and 9 Asperger children. The author developed an observation checklist for the behavioral characteristics which contained four dimensions (stereotypic motor responses – social responses – linguistic responses – emotional responses – and the total score). The items of the checklist were chosen according the DSM-IV criteria of diagnosing both autism and Asperger. Results asserted the efficacy of systematic observation through time sampling method in discriminating autistic and Asperger children. The results showed many diagnostic criteria that may be used to differentiate between autistic and Asperger children. ***Conclusion****: caution must be taken in diagnosing autistic and Asperger cases due to the overlapping of these both disabilities. Many behavioral characteristics that may be used to discriminate between these two disabilities had been pointed out.*

***Keywords*:** differential diagnosis, Autistic disorder (AD), Asperger's syndrome (AS)

Introduction

The differential diagnosis between Autistic disorder (AD) and Asperger's syndrome (AS) in most cases is quite difficult since most of the symptoms are clinically undistinguished. They are two conditions within the broad category of the Autism Spectrum Disorders (ASDs) that are often overlapping and characterized by social-communication impairment and over-focused, repetitive interests and behaviors, without any significant learning disabilities or language delay in the case of AS. Individuals suffering from AS/ASD typically show pedantic speech often with monotonous or exaggerated vocal intonation (Klin et al., 2005), poor nonverbal communication (Adel Abdullah Mohammed, Mourad Ali Eissa, 2014) and motor clumsiness. Despite AS and classic autism both belonging to the same category of ASDs, individuals with AS tend to show a distinct pattern of social impairment that seems to be milder than in classic autism (Ghaziuddin,2008), and it has been hypothesized that the differences between AS and classic autism may be both quantitative and qualitative.

Symptoms of Autistic and Asperger's Disorders

The etiologies of the various ASDs are relatively unknown, but what is know is that they have overlapping symptoms as outlined in the diagnostic criteria . More specifically, diagnostic criteria comprising the socialization and repetitive behaviors and restricted interests do mains are exactly the same for AS and AD The same symptoms related to social deficits in AD and AS are also symptomatology associated with a diagnosis of PDD NOS, but are less specified (APA, 2000).

Impairments in Social Interactions.

Both children with AD and children with AspD show impairments in their ability to interact socially with others. Social interaction impairments may be manifested a number of ways and can range from relatively mild to severe in their influence on a child's functioning within the family and school environment. Furthermore, both AspD and AD are

developmental disorders, thus, symptoms and behavioral characteristics change as a child develops (Stone, 1997).

Preschool children with AD may show little interest in others (sometimes referred to as being "aloof"), may exhibit little eye contact, and fail to engage others in a manner typical for their age (e.g., pointing while making eye contact). They are frequently described as being delayed in the development of interactive play with peers (Stone, 1997). As the preschooler with AD grows older, he or she frequently does not establish typical peer relationships. Reduced eye contact as well as reduced use of other nonverbal behaviors generally utilized by normal peers to engage others and regulate social interactions may also continue to be a common behavioral manifestation (Loveland & Tunali-Kotoski, 1997; Mayes & Calhoun, 1999; Volkmar, Carter, Grossman, & Klin, 1997). As the children with AD grow into adolescents and then adults, social interaction difficulties typically continue. Some show increased interest in interacting with others; but, due to poor social skills, have difficulty establishing and maintaining interpersonal relationships. Adolescents and adults with AD frequently have difficulty understanding what others are thinking or feeling and also experience difficulty identifying and understanding the subtle and generally unspoken "rules" of social interactions (Mesibov & Handlan, 1997; Volkmar, Carter, Grossman, & Klin, 1997). As noted previously, the DSM-IV does not differentiate between AD and AspD with regarding to social interaction impairments.

Restricted Interests and Activities

In addition to socialization, AD and AspD also affect behavior and play, which is atypical for age, repetitive, stereotyped, and rigid in nature. Children with AD often engage in unusual and repetitive motor mannerisms such hand-flapping or spinning. In addition, they commonly have difficulty adjusting to changes in their schedule or routine and may engage in severe behavioral outbursts when such changes are implemented or insisted upon. Unusual play patterns include a preoccupation with lining up their toys or playing with a toy in a repetitive and atypical manner (e.g. spinning a toy car repetitively rather than engaging in more typical imaginative play). Parents commonly report that their young children with AD do not engage in imaginative play typical for their age (American Psychiatric Association, 1994; Stone, 1997). As these youngsters grow older, they may concentrate on one topic or interest to the exclusion of all others and exhibit difficulty shifting their attention to other activities. They may be described as "long-winded" as they perseverate on a favorite topic (American Psychiatric Association, 1994; Loveland & Tunali-Kotoski,, 1997; Mayes & Calhoun, 1999). The DSM-IV does not differentiate AD from AspD in this symptom domain.

Impairments in Communication

As with the continuum of manifestations of social impairment present among youngsters with AD and AspD, the communication impairment, necessary for a diagnosis for AD, lies on a continuum from relatively mild to severe (Loveland & Tunali-Kotoski, 1997). One of the most common early symptoms of AD is delayed language development. Some preschoolers with AD remain mute or develop very limited communication skills while other children with AD develop speech, but it is noncommunicative and characterized by pronoun reversals, unusual intonation, echolalia or scripts from movies, television, or family members (American Psychiatric Association, 1994; Loveland & Tunali-Kotoski, 1997; Mayes & Calhoun, 1999).

In still other cases, children's language seems to "catch up" to that of his or her peers. However, even among highly verbal children with AD, communication impairments remain

into adolescence and adulthood (American Psychiatric Association, 1994; Lord & Paul, 1997; Mesibov & Handlan, 1997). These difficulties are exemplified by difficulty initiating or sustaining a conversation. Voice tone and volume may be poorly modulated. In addition, highly verbal adolescents and adults with AD are often excessively concrete and literal in their use of language (Mesibov & Handlan, 1997). As noted previously, according to the DSM-IV, children with AspD have no impairment in their language and communication skills. However, because communication is, by nature, a social act, the distinction between communication and social interaction impairments can be ambiguous.

The distinctions between autism and Asperger's syndrome are in terms of the developmental course, qualitative characteristics of the criteria and in severity, with autism being more severe. Some (Tanguay, Robertson, & Derrick, 1998; Tryon, Mayes, Rhodes, & Waldo, 2006) have argued against the necessity of a separate diagnostic classification for Asperger's, arguing that Asperger's is really a milder form of autism that is poorly handled by the current DSM classification. Others go so far as to say that a DSM–IV (APA, 1994) diagnosis of Asperger's disorder is unlikely (Mayes, Calhoun, & Crites, 2001) or "virtually impossible" (Szatmari, Archer, et al., 1995, p. 1669).

Due to substantial overlap of *DSM– IV* (APA, 1994) criteria in the autism spectrum and lack of uniform acceptance of its differentiating diagnostic criteria, clinicians have been found to utilize the formal criteria plus additional factors when differentiating these disorders (Eisenmajer et al., 1996; Sciutto & Cantwell, 2005). Neuropsychological profile, brain imaging and lateralization studies suggest that there may be differences in brain functioning between AS and AU (Dawson et al., 1995; Rinehart, Bellgrove, et al., 2006; Rinehart, Bradshaw, Brereton, & Tonge, 2002a, 2002b; Rinehart, Bradshaw, Moss, Brereton, & Tonge, 2001; M. Thompson et al., 2009). Many diagnostic mistakes have been reported between Asperger and autism cases. So, it has become a necessity to use the systematic and direct observation through using time sampling method which helps in presenting a psychological profile that has the ability of discriminating and differentiating between Asperger cases and autism cases. The current study tries to answer the following question:

Are there statistically significant differences between the behavioral characteristic of autistic cases and Asperger cases according to the items of the checklist of the behavioral characteristics (prepared by the current researcher) which consisted of the following dimensions (stereotypic motor responses – social responses – language responses – emotional responses – and the total score) ?

Method and Procedures

Sample

The sample of the current study consisted of 18 children who are divided into 9 autistic children and 9 Asperger children. Age range was 5-7 years who are placed in AlAmir AlSaghir (the young king) center for children with special needs and Eshraqa (Shine) center for children with special needs in Alharm district.

Criteria of selection

The researcher reviews the documents of the children to make sure that they are eligible for the current study. The researcher also holds meetings with the supervisors and workers in the two centers to get information about the intervention programs presented to the

children which cannot be stopped or postponed. Thus the researcher specifies a period to collect data from 9-12 daily.

Instruments

Behavioral characteristics observation checklist.

The researcher uses the systematic observation because it is considered the most available technique that observes spontaneous behavior in real situations. Beaty, J, (1994)stated that there are two basic kinds of observation which are:

1- *Event sampling*. In this kind of observation, the observers are waiting for the appearance of a specific behavior
2- *Time sampling.* Observation is done to a specific behavior of an individual or a group. This specific behavior is frequented and easy to be seen and recorded in short periods that is limited by time limit. The researcher sets up observation periods and defines the observed behavior. So the time sampling is useful in determining the number of frequencies of the target behavior in a specific period.

The researcher uses the systematic observation by using time sampling method due to its scientific accuracy and control in the processes of recording responses. This method is also preferred due to the easiness of validation.

Development of the checklist

The steps of the development of the checklist may be summarized as follows:

1- Defining the target behavior

2- The researcher carried out many visits to the centers chosen for carrying out the study. The researcher recorded many observations and notes about behaviors of both autistic and Asperger children. The researcher also attended the procedures of diagnosis and development used in these centers and the instruments used in this process and the responses of these children to the psychological, social, educational and behavioral interventions and programs presented in these centers.

3- The researcher reviewed the instruments and the observation checklist used in evaluating and diagnosing autistic children.

4- The researcher took a behavioral sample through video recordings to a period not less than three hours for each center.

5- The researcher transcribed the video recordings according to the dimensions of the diagnosis of autism and Asperger in the DSM-IV which are stereotypic motor responses – social responses – language responses – emotional responses. The researcher removed the behaviors repeated in more than one dimensions.

6- The researcher defined the operational definition of the behavioral characteristics under examination. These definitions may be summarized as follows:

- Stereotypic motor responses.This involves the responses of the great and small muscles. These responses were 18 responses: permanent seating, swinging, rocks his/her head back , moves his/her fingers, shakes his/her hands, shakes his/her body, screaming without reason, throwing things, wraps things in a similar method, flapping his/her hands, plays repetitively, moves without purpose, irritates if any attempts to prevent him/her of performing stereotypical movements, hits his/her head with his/her

hand, hits his/her head with table, crabs others with fingernails, body permanent movement.

- Social Reponses .This involved the responses that describe the forms of interaction between the child and his peers or others around him (trainers, teachers, professionals) either in solitary, collectively, or cooperatively. The items of social responses are: Communicates visually with others, looks in others' faces for short periods, plays alone, play make-believe or pretend play activities, participates in social activities, accepts hugging and touching from others, cooperates with others, imitates others, show concern for things, aware of others in different situations, shows curiosity, waits for his/her turn, seeks help from others, prefers group situations, perceives others in situations
- Linguistic responses. This involved the responses that reflect all forms of verbal and non verbal communication and the ability to use language in interaction and communicating with others. The items for linguistic responses are: Seems not to hear, shows repetitive sounds, uses gestures, starts communication, very sensitive for high sounds, unable to read, uses face and hands expressions , unable to speak, has the ability of continuing talking , understands simple orders, uses pronouns appropriately , pronounces or speaks with unknown words and sentences , repeats sounds or speech, pronounces one word , pronounces clear sentences, stretches speech.
- Emotional responses. This involved the responses that may be accompanied with emotions that are directed towards self or others. The items for emotional responses are: Hurts himself/herself, irritates for unknown reasons, passive; showing no attention, resists play activities, destroys things, sucks his/her fingers, bites and hits others , has a smiling face , express his emotions, consider others' emotions, laugh or cry without reason, estimates risks , irritates when prevented from some actions.

7-The checklist contains 66 items on five subscales: (a) Stereotypic responses(19 Items), (b) Social responses(15 items), and (c) Linguistic responses(17 items), (d) Emotional responses(15 items).

8-Determining the observation period. The researcher determined a 45 minutes time period that is divided into 9 periods (every period 5 minutes) three times daily. The observation period continued three inconsecutive days according to the time table prepared by the researcher in coordination with the management of both centers.

9 The method of recording the frequency of response. The observers put true √ sign before the response observed (stereotypic, social, linguistic, or emotional responses. The researcher designed an independent form for each child (9 forms for each child). The researcher uses the systematic shared observation. The observers were permitted to participate with the children in the activities.

10- The researcher uses four teachers of special needs (graduates of faculty of kindergarten and attained special diploma of exceptional children. Those teachers were trained for five days on using the checklist. The procedures of the study didn't begin before the correlation coefficient between the observers reached 0.85. The process of recording observations were individually made and in special forms for each child. Internal consistency reliabilities ranged from .96 to .97 for the two scale totals and from .81 to .95 for the subscales.

Results and discussion

There are statistically significant differences between the total score of frequencies of behavioral responses of autistic children and Asperger children in the subscales of the observation checklist of the behavioral characteristics (stereotypic motor responses – social responses – language responses – emotional responses – and the total score) in favor of Asperger children.

Table 1. *The results of the differences between the frequencies of the behavioral responses of autism cases and Asperger cases on the subscales of the observation checklist.*

Subscales	Autistic cases	Asperger cases	Number of items	Freedom scores	Value	Significance level	Direction of Significance
stereotypic motor responses	373.5	367,5	19	1/2	0.08	Not sig.	
Social responses	305	130	15	1/2	3.49	0.01	Asperger cases
Linguistic responses	365.5	264.5	17	1/2	1.37	0.05	Asperger cases
Emotional responses	213.5	251.5	15	1/2	0.14	Not sig.	
Total score	4894.5	3883.5	66	1/2	2.3	0.05	Asperger cases

The results showed that there are statistically significant differences between the total score of frequencies of behavioral responses of autistic children and Asperger children in the dimensions of the observation checklist of the behavioral characteristics (social responses – language responses) and total score in favor of Asperger children. There are no statistically significant differences between the two samples in stereotypic responses and emotional responses. These results refer to the partial validation of the hypothesis.

These results reflect the extent of similarity between these two samples which make a kind of overlap and misdiagnosis between these two samples. These results also shed light upon the extent of differences between these two samples which give us a better view and more effective and exact results.

These results are consistent with the results of the previous studies and the theoretical literature about the differential diagnosis between autistic and Asperger children (Crites, Calhoun, and Mayes. 2001; Klin et al, 2005) which pointed out that there are statistically significant differences between the linguistic and social responses. There are no statistically significant differences between the two groups in both emotional and stereotypic responses.

The researcher considers that agreement is not enough for discriminating between these disabilities which are so similar. This similarity is reflected in results which were so varied in the dimensions of the checklist. These symptoms are differing either in qualitative or quantitative aspects. There were no cases that have been reported to have all symptoms of the disorder. So the researcher suggests that there must be a new diagnosis that depends upon the difference between these two samples within the same subscales.

Table 2. *The results of the differences between the frequencies of stereotypic responses of autism and Asperger cases in the frequencies of the items of the stereotypic responses subscale.*

Items	**Autistic cases**	**Asperger cases**	**Chi square**	**Level of significance**	**Direction**
Seats permanently	218	86	27.6	0.01	Autistic cases
Swinging	108	121	0.8	Not sig.	
Rocks his/her head back and forth	111	98	0.7	Not sig.	
moves his/her fingers	305	288	0.5	Not sig.	
Claps his/her hands	265	273	0.12	Not sig.	
Rolls around him/herself	411	365	2.6	Not sig.	
Shakes his hands	99	121	2.2	Not sig.	
Shakes his/her body	86	70	3.2	Not sig.	
Screaming without reason	94	81	3.4	Not sig.	
Throws things	149	166	3.9	0.05	Asperger
Wraps things in a similar method	312	279	3.8	0.05	Autistic cases
Flaps his/her hands	475	501	2.7	Not sig.	
Plays repetitively	199	217	3.8	0.05	Asperger
Moves without purpose	175	288	7.3	0.01	Asperger
Irritates if any attempts to prevent him/her of performing stereotypical movements	28	98	5.1	0.05	Asperger
Hits his/her head with his/her hand	22	18	1.2	Not sig.	
Hits his/her head with table	19	7	3.9	0.05	Autistic cases
Crabs others with fingernails	8	3	3.1	Not sig.	
Moves body permanently	45	215	26.2	0.01	Asperger

The results indicated that there were no statistically significant differences in some items of the stereotypic dimension between autistic and Asperger cases which are: Swinging, rocks his/her head back and forth, moves his/her fingers, claps his/her hands, rolls around him/herself, shakes his hands, shakes his/her body, screaming without reason, flaps his/her hands, hits his/her head with his/her hand. These items (which related with the stereotypic motor behaviour such as rolling around self or rocking, and resisting any efforts to stop these stereotypic behaviours) didn't have any discriminative value between these two samples.

The results also pointed out that there were statistically significant differences between the two samples in some items of the stereotypic dimension in favor of autistic children: Seats permanently, Wraps things in a similar method, Hits his/her head in table, Hits his/her head in table. This means that these items have discriminative value between the two samples. Some items also were in favour of Asperger children: Throwing things, playing repetitively, moving without purpose, Irritates if any attempts to prevent him/her of performing stereotypical movements, Moving body permanently. These responses can be used in discriminating between autistic and Asperger cases. These results are consistent with the results of (Miller & Ozonoff, 1997); (Klin et al., 2005). These studies have pointed out that there are statistically significant differences between autism and Asperger cases in the stereotypic motor responses dimension. Autistic cases are in essence more severe in symptoms and the factors of developmental deficit. Despite the results revealed no statistically significant differences

between autistic and Asperger cases on the total score of stereotypic motor dimension, the analysis of the items of this dimension revealed some similarities and differences between autistic and Asperger cases.

Table 3. *The results of the differences of the frequencies of social responses of autism and Asperger cases in the frequencies of the items of the social responses subscale.*

Items	**Autistic cases**	**Asperger cases**	**Chi square**	**Level of significance**	**Direction of significance**
Communicates visually with others	6	85	16.2	0.01	Asperger
Looks in others' faces for short periods	18	109	15.4	0.01	Asperger
Plays alone	86	98	2.6	Not sig.	
Play make-believe or pretend play activities	1	5	1.3	Not sig.	
Participates in social activities	23	131	4.6	0.05	Asperger
Accepts hugging and touching from others	6	87	5.3	0.05	Asperger
Cooperates with others	2	66	6.7	0.01	Asperger
Imitates others	14	61	5.8	0.05	Asperger
Show concern for things	9	118	7.2	0.01	Asperger
Aware of others in different situations	4	45	6.5	0.05	Asperger
Shows curiosity	7	154	7.8	0.01	Asperger
Waits for his/her turn	16	193	9.1	0.01	Asperger
Seeks help from others	2	91	8.3	0.01	Asperger
Prefers group situations	19	172	9.4	0.01	Asperger
Perceives others in social situations	29	208	7.6	0.01	Asperger

The results shown above revealed the superiority of Asperger cases in the items of the social responses subscale and the total score of the subscale. The most exciting result is that no items were in favor of autistic cases. These results pointed out that there were statistically significant differences between the two samples on the social responses dimension which asserts that the social responses are considered one of the most basic differences between these two samples. More focus should be given to these social responses in diagnosing both autistic and Asperger cases.

The results revealed that there were no statistically significant differences between autistic and Asperger case on only two items: Playing alone, playing make-believe or pretend play. This may explain that both samples have a great difficulty in playing due to the solitary nature of their playing .their playing is lacking pretending. The rest of the items in this subscale are in favor of Asperger children: Communicates visually with others, looking in others' faces for short periods, participating in social activities, accepting hugging and

touching from others, cooperates with others, imitates others, showing concern for things, aware of others in different situations, shows curiosity, waits for his/her turn, seeks help from others, prefers group situations, perceives others in social situations.

Thus the Asperger child is aware of others in social situations, and prefers being in groups cooperates with others, imitates them, accepts others. The Asperger child seems to be more interested in the social milieu and is interested in others especially his family. The autistic child is lacking these characteristics, as he is not aware of others because he is indulgent in absolute isolation which makes him unable to imitate others or participates with others. These results are consistent also with the results of Crites, Calhoun, and Mayes, (2001); Klin et al, (2005). These studies revealed the presence of statistically significant differences between autistic and Asperger children.

Table 4. *The results of the differences of the frequencies of linguistic responses of autism and Asperger cases in the frequencies of the items of the linguistic responses subscale*

Items	**Autistic cases**	**Asperger cases**	**Chi square**	**Level of significance**	**Direction of significance**
Seems not to hear	92	9	68.1	0.01	Autistic cases
Shows repetitive sounds	111	125	0.82	Not sig.	
Uses gestures	6	68	50.5	0.01	Asperger
Starts communication	0	39	39	0.01	Asperger
Very sensitive for high sounds	119	96	2.46	Not sig.	
Unable to read	45	23	7.1	0.01	Autistic cases
Uses face and hands expressions	7	41	24.1	0.01	Asperger
Unable to speak	18	1	15.1	0.01	Autistic cases
Has the ability of continuing talking	11	89	60.8	0.01	Asperger
Understands simple orders	64	149	33.9	0.01	Asperger
Uses pronouns appropriately	21	30	1.58	Not sig.	
Pronounces or speaks with unknown words and sentences	197	218	1.06	Not sig.	
Requests things.	109	217	35.76	0.01	Asperger
Repeats sounds or speech	141	163	1.58	Not sig.	
Pronounces one word	77	108	5.18	0.05	Asperger
Pronounces clear sentences	31	109	43.44	0.01	Asperger
Stretches speech.	6	94	46.24	0.01	Asperger

These results revealed that there were statistically significant differences between autistic children and Asperger children in the linguistic dimension in favor of Asperger children. The results in the above table showed that there were statistically significant differences in many items of the linguistic responses dimension: using gestures, starting communication, using face and hands expressions, has the ability of continuing talking, understanding simple orders, requests things, Pronouncing one word, Pronouncing clear sentences , stretching speech. These items assert that Asperger children have the ability to use gestures and starting speech, understanding others. These explain that linguistic responses are considered the most important differentiating characteristics between autistic and Asperger children because these responses facilitate the verbal communication and building relationships and social interaction.

The results also revealed that there were statistically significant differences between autistic and Asperger cases in favor autistic children in the following items: Seems not to hear, inability to speak, inability to read. The results showed also that there were no statistically significant differences between these two samples in the following items: Showing repetitive sounds, sensitivity for high sounds, using pronouns appropriately, pronounces or speaks with unknown words and sentences, repeating sounds or speech. These results point out that the language of both samples. These results lead us to accept the hypothesis.

The researcher considers that the essence of differences between the two groups comes out from the period of normal development of the Asperger child compared by the autistic child. This period which estimated 4-6 years before the emergence of symptoms is regarded as the most essential period in the life of children in which they learn and acquire linguistic ability and be more able to enter in social interactions with others. Compared with the autistic child, the Asperger child can answer questions that express his awareness of time, place, persons, and events. These results are consistent with the results of (Volkmar &Klin, 1998) which revealed the presence of statistically significant differences between these two groups in linguistic responses.

Table 5. *The results of the differences of the frequencies of emotional responses of autism and Asperger cases in the frequencies of the items of the emotional responses sunscale.*

items	**Autistic cases**	**Asperger cases**	**Chi square**	**Level of significance**	**Direction of significance**
Hurts himself/herself	23	17	0.09	Not sig.	
irritates for unknown reasons	53	47	0.09	Not sig.	
passive; showing no attention	59	11	32.9	0.01	autistic
resists play activities	23	18	0.6	Not sig.	
Permanently silent	208	37	119.3	0.01	autistic
Doesn't move from his place.	133	27	70.2	0.01	autistic
destroys things	18	11	1.68	Not sig.	
sucks his/her fingers	7	12	1.3	Not sig.	
bites and hits others	27	19	0.32	Not sig.	
has a smiling face	32	117	48.4	0.01	Asperger
express his emotions	4	37	26.5	0.01	Asperger
consider others' emotions	2	121	115.1	0.01	Asperger
laugh or cry without reason	411	389	0.6	Not sig.	
estimates risks	12	19	1.58	Not sig.	
irritates when prevented from some actions	28	98	5.1	0.05	Asperger

The results showed that there were no statistically significant differences between the two groups in the following items of the emotional responses subscale: Hurting self, irritates for unknown reasons, resists play activities, destroying things, sucking his/her fingers, biting and hits others, laughing or crying without reason estimating risks. These results refer to the degree of similarity between these two groups in emotional responses. Both of them is not interested in play and irritates and laugh or cry for unknown or not understood reasons. Both of them also don't estimate risks.

The results also revealed that there were statistically significant differences between these two groups in favor of Asperger children in the following items: has a smiling face, expressing emotions, considering others' emotions, irritates when prevented from some actions. These responses are emotional features of social responses as these responses are

correlated with others. On the other hand, some items were in favor of autistic children. These items are: passivity, silence, not moving. These responses relates to the autistic case. These results are consistent with the results of Wilkinson(2005) which showed differences in the nature of emotional responses of these two groups. Compared with autistic children, the Asperger children are more effective, resilient and interactive

Conclusion

The results revealed that systematic observation could be used in the differential diagnosis between autistic and Asperger children. Systematic observation could be more effective than the reports of fathers and teachers through tests, inventories, or checklists. The results also pointed out many items and characteristics might be used to discriminate autistic and Asperger cases. The author also shed light upon the characteristics of Asperger children and the psychological, educational and intervention services presented to them.

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The Relationship between Servant leadership and Organizational Citizenship Behavior of Faculty Members

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Abstract
This study examined the relationship between Servant leadership with Organizational Citizenship Behavior (OCB) of staff members. Servant leadership: a leadership behavior that emphasizes personal growth of followers. Organizational Citizenship Behavior (OCB) is an organizational construct that describes non-contractual behaviors of staff members that contributes to the success of the organization. The climate of a faculty is defined as the working environment as perceived by the staff members within faculty. The people-centered behaviors of a servant leader promote positive social reciprocal interactions between the members within the organization. These relationships in turn foster organizational citizenship behaviors within a faculty and provide an open/healthy faculty environment.This study utilized data gathered from 332 participants within a random sample of staff members in faculties (Science, Engineering, Arts, Education) at Assuit university, in the South of Egypt. Two reliable instruments were used in this study: Servant Leadership Survey (SLS), Organizational Citizenship Behavior Scale (OCB Scale). Results showed that faculties staff members 'perceptions of Servant leadership were high. It was found also that there were relationship between servant leadership and organizational citizenship behaviors.

Key words. Servant leadership, Organizational Citizenship Behavior, Faculty Members

Introduction

Recently, organizational citizenship behaviors became an important research focus on studies in educational organizations, as witnessed by the increase in the number of publications on the subject. Organizational citizenship behaviors include voluntary behaviors of employees without any official pressure (Organ, 1988).

Employees are not obliged to display such behaviors. Furthermore, they do not get punished when they do not display these behaviors. However, organizations might award such behaviors, because organizational citizenship behaviors make significant contributions, such as extra efforts by employees for successful task fulfillment, help and collaboration with others, reasonable organizational rule and procedure following, and maintenance, support and confirmation of organizational goals (Borman, 2004). The organizational citizenship behaviors of employees play an important role in analyzing and understanding individual attitudes and behaviors in organizations. In this context, the relationship between organizational citizenship behaviors and various variables has been widely studied. Servant leadership is such prominent variables. However, to the best of our knowledge, no study has been conducted to examine the effect of Servant leadership on the organizational citizenship behaviors of employees. This study aims to examine the effect.

Servant leadership

Greenleaf (1977) was the first to introduce the idea of servant leadership in the article ‘‘the servant as leaders’’. He proposed that a leader should see himself as a servant at first. Servant leadership can be broadly defined as a desire from leaders to motivate, guide, offer hope, and provide an experience by establishing a quality relationship with the followers and subordinates (Greenleaf & Spears, 2002).

Despite the universally acceptance to the definition of servant leadership, the servant-leadership construct has gained considerable popularity mainly over the past 50 years, as an evidence by a large number of practitioner-oriented, servant-leadership articles about this subject (Barbuto & Wheeler, 2006; Dannhauser & Boshoff, 2007; Liden et al., 2008; Parolini, Patterson & Winston, 2009; Sun & Wang, 2009; Van Dierendonck, 2011).

Most of the studies have focused on how servant leadership influences work behavior, on the theoretical development, and measurement of the servant leadership construct (Barbuto & Wheeler, 2006; Sendjaya & Sarros, 2002; Van Dierendonck, 2011, Ali, Syed & Arshad, 2013, Bright M., Amos S., 2014)

Servant leadership can be concisely defined by the slogan: "First to serve, then to lead" (Crippen, 2006). Sendjaya &Sarros (2002) pointed out the similar character of servant leadership: The motivational element of servant leadership (i.e. to serve first) portrays a fundamental presupposition which distinguishes the concept from other leadership thoughts. This presupposition forms the mental model of the servant leader that is "I serve"as opposed to"I lead mentality. The primary reason why leaders exist to serve first, not to lead first. To put it differently, the servant leader operates on the assumption that "I am the leader, therefore I serve" rather than "I am the leader, therefore I lead".

However, the detail definition needs to be traced back to its origin and characteristics such as: "follower-centric, altruistic, moral/ethical and spiritual values" (Pekerti &Sendjaya,2010; Sendjaya &Sarros, 2002). There are two main constructs of servant leadership .

(1) Ethical behavior

(2) Concern for subordinates (Ehrhart, 2004). Contee-Borders(2003) found that servant leaders are dedicated toward the growth and welfare of people.

Altruism, simplicity, and consciousness is a servant leader's characteristic (Johnson, 2001). A servant leader has a moral differentiation from transformational leader in sacrifices and altruistic services toward followers high priority needs (Parolini, 2007).

Service appears to be a natural activity of the highly evolved persons who have come to a realization that too much ego and self-focus can stifle and eventually suffocate the best of human nature (Jacobsen, 1999). It is more than an urge to contribute to the progress and well-being of another fellow human being out of a sense of obligation or guilt or an appeal to the ego. It is simply a response to an increasing awareness that there is a genuine human need to give (Jacobsen, 1999), to help and to serve. In other words, the "true leadership emerges when one's primary motivation is to help others" (Hughes et al., 2009).

Drawn from Greenleaf's works, ten characteristics of a servant leader can be identified as follows: listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of others and building community (Crippen, 2006). With these attributes, the leader has moral authority to drive leadership practice. The leader is a "follower of ideas, minister of values, and servant to the staff membership (Sergiovanni, 2006)". The patterns of behavior are typical of:

. Having the desire to serve the organization and the members;

. Using the position to reward good performance;

. Creating an environment for staff members' personal growth; and persuading rather than coercing.

To serve is an attitude as well as a choice. According to (Greenleaf ,1991), the servant leader is described as to be servant first and is different from those leaders who act as "leader" first. This is equally important to the servant leader who should be equipped with moral courage. As (Yukl, 2006) puts it, servant leaders stand against the social injustice and inequality, although it is not in the financial interest of the organization.

Moreover, servant leadership is effective in situations where there is mutual understanding and aligned efforts towards the realization of the shared goals or subordinates that are professionally mature and do not take advantage of such a leader who plays a low profile. (Hunter, 2004) names the servant leadership as "The most powerful leadership principle in the world."

Laub(1999) defined servant leadership in terms of six key characteristics: valuing and listening to people; building a collective community whilst displaying personal authenticity; and being able to share and provide leadership as appropriate. On the other hand, this definition is differentiated from other types of leadership in vision. Instead of the vision originating with the charismatic leader figure and being projected onto the followership, in servant leadership it is the leader who supports the vision enunciated by staff members.

Russell and Stone(2002) mentioned nine functional characteristics (vision, honesty, integrity, trust, service, modeling, pioneering, appreciation of others, empowerment) and eleven additional characteristics of servant leadership. Finally, Patterson's (2003) model includes seven dimensions (agapao love, humility, altruism, vision, trust, empowerment, service).This study used three dimensions (humility- vision- service) from Patterson's (2003) model.

Patterson (2003), posited that "humility opens the door to vision, but not only vision; it also allows an environment of trust to exist". (Winston,2002) stated that humility is "a peaceful virtue that rejects self-glorification and is an almost social reversal in that it purports the idea of serving". Patterson referenced several authors who came to the conclusion that humility is a virtue which allows servant leaders to connect with their followers by not overestimating their own merits (see Bagger, 2002; Hare, 1996; Harrison, 2002; Lawrence, 2002). Sandage &Wiens(2001) also looked at humility as being focused on others which equates with the primary emphasis of the servant leader as a follower-focused leadership style.

Patterson (2003), stated, "vision for the servant leader refers to the idea that the leader can see a person as a viable and worthy person, believes in their future state, and thus seeks to serve them as such". Winston (2003), while suggesting that the term vision may be the wrong one to use in this context, explained its use by Patterson as the leader need "to find out what the follower wants to do with regard to meeting the follower's needs within the context of the organization".This is more of a concept of getting people in the organization aligned with the values of the organization.

The final dimension is service. Farling, Stone, and Winston (1999); Russell and Stone(2002); Buchen (1998); Wis (2002) and Guillen &Gonzalez (2001) have agreed that service is the core of servant leadership and should be a primary function of leadership. Patterson stated that "the very idea of service is at the heart of servant leadership theory and occurs as the leader serves others, mainly the followers".

Winston(2003) noted that this serving is out of a focus on serving rather than the sense of servitude or requirement to serve. This service by the servant leader is to provide the follower with what he or she needs to accomplish their tasks, visions, or goals.

Organizational Citizenship

The concept of organizational citizenship was first used in the literature by (Bateman and Organ, 1983). According to (Bateman and Organ ,1983), organization citizenship entails behaviors like helping colleagues solve job related problems; accepting orders without any resistance; performing unexpected tasks that pop up at inconvenient times without

complaining; keeping the working environment clean and tidy; talking positively about the business, organization, and managers when having conversations with people outside the organization; creating a work environment where conflicts and distractions are kept to be a minimum, and protecting organizational resources (Bateman & Organ, 1983).

In later studies, Organ (1988) defines organizational citizenship behaviors as those voluntary individual behaviors that are not specifically mentioned by the formal reward system of the organization, but without support the efficient functioning of the organization. Organ's (1988) definition is the one that has gained the most widespread acceptance in the literature, because it captures the essence of the concept of organizational citizenship by covering all voluntary behavior that are not officially sanctioned and not specifically ordered.

According to Organ (1988), organizational citizenship behaviors have three basic characteristics: (1) The behaviors in question are voluntary, (2) they are not directly or explicitly rewarded by the formal reward system of the organization, and (3) As a whole, they contribute to the effective functioning of the organization. To sum up, organizational citizenship behaviors are those behaviors that benefit the organization and that the employees willingly do without any expectation of formal rewards (Yılmaz & C- okluk-Bo¨ keog˘ lu, 2008).

Early conceptualizations about organizational citizenship (Smith et al., 1983) tended to study organizational citizenship behaviors under the two headings of ''altruism'' and ''generalized compliance,'' whereas later studies (Organ, 1988) examined the concept under five separate headings: altruism, conscientiousness, sportsmanship, courtesy, and civic virtue. However, there does not seem to be match the literature on the definitions and sub dimensions of organizational citizenship behaviors, and different studies (Van Dyne, Graham, & Dienesch, 1994; Graham, 1991) provide different classifications. Still, Organ's (1988) classification, briefly explained in what follows, the one which is the most commonly used.

Altruism refers to all direct or indirect voluntary behaviors displayed by employees with the purpose of assisting colleges in organization-related Conscientiousness dimension involves what can be termed personal effort as well. Conscientiousness is the case when employees show extra effort exceeding what is expected of them to perform certain roles. It means going beyond what is required, and respecting and internalizing the rules of the organization.

Sportsmanship refers to avoid making complaints or expressing discontent when facing problems. It means to avoid displaying negative behaviors.

Courtesy is the case when the employee is in constant communication with people who are likely to be affected by his/her decisions and acts. It is about accepting responsibility and acting responsibly when working in cooperation with colleagues.

Civic virtue refers to taking an interest in what is going on within the organization, in new developments and new policies, and making an effort to improve oneself in these respects. Civic virtue is a measure of employee reactions that lead the organization management to take the right course of action.

Although organizational citizenship behaviors are being studied under these headings, some studies report encountering problems in trying to use these dimensions, failing to identify them as separate dimensions (DiPaola & Hoy, 2005). In DiPaola and Tschannen-Moran's (2001) study, which is the first study applying the concept of organizational citizenship in the context of schools, these dimensions were not observed and the concept was treated as a one-dimension. DiPaola and Hoy (2005) attribute this to two factors: The first:

organizational citizenship behaviors have a specific content. The second: state-run faculties are very different from private sector faculties.

The present study also employs a one-dimensional perspective in examining organizational citizenship behaviors.

Aims of the study

This study examined the relationships between Servant leadership and the organizational citizenship behaviors of staff members. Specifically, the study has been conducted to examine the effect of Servant leadership on the organizational citizenship behaviors of staff members.It seeks to give answer to the following questions .

Q1. What are the views of the participants on Servant leadership and organizational citizenship behaviors?

Q2. Is Servant leadership significant predictor of organizational citizenship behaviors?

Methods

A survey research methodology was employed in the study. A common goal of survey research is to collect data representative of a population. Survey research is a non-experimental, descriptive research method. Surveys can be useful when a researcher wants to collect data on phenomena that cannot be directly observed. Surveys are used extensively to assess attitudes and characteristics on a wide range of subjects.

Participants

participants were 332 staff members in faculties (science, Engineering, Arts, Education) at Assuit university, in the south of Egypt. A total of 410 staff members in these faculties are employed in Assuit University in the south of Egypt. Because of contacting all staff members who constitute the population of the study was not an issue, no sampling was used in the study, and the questionnaire was sent to all staff members who constitute the population. Among these, 382 (93%) were returned.

Scales that were not filled out in line with the instructions provided were also left out, which left 332 (80%) forms to be considered. Among the participants, 25% were female (n=83) and 75% were male (n=249). The age of the participants range from 24 to 54, and their professional experience range from 1 to 30 years. The study aimed to include staff members from different types of faculties (Science, Engineering, Arts, Education).

Tools

The data gathering instrument of the study was represented in the Organizational Citizenship Behavior Scale (DiPaola, Tarter, & Hoy, 2005). The reliability of the scale is consistently high-range = .86 to .93 (DiPaola, Tarter, & Hoy, 2005).

The original scale for Organizational Citizenship Behavior consists of 12 Likert-type items. The total score is calculated by adding up the scores for individual items. In its original, the scale consists of a single strong dimension. The Cronbach's alpha reliability coefficient of the scale is a=0.88. Items on the scale have the following response types: 1 – strongly disagree to 5 – strongly agree. The higher the score received from the scale, the more positive Organizational Citizenship Behavior perception is. The scale contains statements such as ''Speak in a positive way about the faculty in front of others,'' and ''Feel with satisfaction for belonging to the profession university teaching''.

The data gathering instrument of the study was represented in the Servant leadership Scale (Patterson, 2003). (Dennis and Winston, 2003) conducted a factor analysis of the SLP and developed a 23-item servant leadership scale that measures three servant leadership attributes of vision, service and humility. The reliability of the scale is consistently high-range = .82 to .92 (Dennis and Winston, 2003).

The original scale for Servant leadership consists of 15 Likert-type items. The total score is calculated by adding up the scores for individual items with the responses 1 – never to 5 – always. The scale consists of three dimensions: ‘‘service’’, ‘‘vision’’ and ‘‘humility’’.

The total score received by the respondents from this scale is a measure of their views concerning servant leadership in their faculties. In each factor, higher scores represent higher service, and lower scores represent lower service. Service from the leadership dimension consists of five items and the Cronbach’s alpha reliability coefficient for this dimension is a=0.73.

The vision of Leadership dimension consists of five items and the Cronbach’s alpha reliability coefficient for this dimension is a=0.90. The humility of Leadership dimension consists of five items and the Cronbach’s alpha reliability coefficient for this dimension is a=0.79. The Cronbach’s alpha coefficient for the whole scale is a=0.88.

The scale consists of statements such as ‘‘My Leader is not seeking recognition or rewards in serving others,’’ (service); ‘‘My Leader's demeanor is one of humility (humility); ”My Leader has asked me what I think the future direction of our faculty should be” (vision).

Data Analysis

Descriptive statistics were used to examine participants’ views on Servant leadership and organizational citizenship behavior. To analyze the relationship between Servant leadership and organizational citizenship behaviors, simple regression analysis was used. Similarly, to see Servant Leadership is significant predictor of organizational citizenship behavior, simple regression analysis was used.

Regression analyze is generally used to predict a dependent variable (in this case, organizational citizenship behaviors) on the basis of independent variable (predictor variable, in this case Servant leadership).

Regression analysis allows inferences on the basis of the significance of the explained variance, and the direction of the relationship between predictor variable and the dependent variable. Because it fits the purposes of the present study better, a Simple regression analysis was used in the study. A correlation coefficient, as an absolute value, 0.70–1.00: high correlation, 0.69–0.30: moderate correlation, 0.29–0.00: low correlation.

Results

This section first presents the views of faculties' staff members on Servant leadership and organizational citizenship behavior. Then, it presents findings on whether and to what degree organizational citizenship behavior is predicted by Servant leadership.

Table 1. *Staff members' perceptions of Servant leadership*

Item	Percentage of perception					Mean	Std. dev.
	5	**4**	**3**	**2**	**1**		
X1	32.4	43.2	5.4	16.2	2.7	3.86	1.14
X2	18.9	48.6	18.9	2.7	10.8	3.62	1.16
X3	13.5	45.9	27	2.7	10.8	3.49	1.14
X4	13.5	48.6	21.6	8.1	8.1	3.51	1.1
X5	24.3	48.6	21.6	2.7	2.7	3.89	0.94
X6	29.7	51.4	16.2	2.7	0	4.05	0.86
X7	27	56.8	10.8	5.4	0	4.05	0.79
X8	24.3	51.4	18.9	2.7	2.7	3.92	0.9
X9	18.9	62.2	10.8	0	8.1	3.84	1.01
X10	24.3	56.8	13.5	2.7	2.7	3.97	0.89
X11	27	48.6	16.2	8.1	0	3.95	0.88
X12	8.1	40.5	35.1	8.1	8.1	3.32	1.03
X13	13.5	43.2	35.1	2.7	5.4	3.57	0.98
X14	13.5	45.9	18.9	18.9	2.7	3.49	1.04
X15	16.2	43.2	27	10.8	2.7	3.59	0.99

Staff members' perceptions of Servant leadership are high. The mean score received for this scale (M=3.74, S=0.99) is closest to the ‘‘I agree’’ response. The item most agreed upon by the participants was ‘‘my leader seeks to serve rather than be served’’ (M=4.05, S=0.86), and the item with the lowest level of agreement was ‘my leader is able to learn from subordinates whom he or she serves’’ (M=3.32, S=1.04).

Table 2. *Staff members' perceptions of organizational citizenship behavior*

Item	Percentage of perception					Mean	Std. dev.
	5	4	3	2	1		
X16	29.7	64.9	5.4	0	0	4.24	0.55
X17	40.5	43.2	16.2	0	0	4.24	0.72
X18	40.5	40.5	16.2	0	2.7	4.16	0.90
X19	37.8	43.2	16.2	2.7	0	4.16	0.80
X20	35.1	51.4	8.1	2.7	2.7	4.14	0.89
X21	24.3	67.6	5.4	0	2.7	4.11	0.74
X22	45.9	48.6	5.4	0	0	4.41	0.60
X23	29.7	54.1	13.5	2.7	0	4.11	0.74
X24	18.9	48.6	13.5	13.5	5.4	3.62	1.11
X25	18.9	45.9	16.2	8.1	10.8	3.54	1.22
X26	13.5	29.7	21.6	16.2	18.9	3.03	1.34
X27	16.2	56.8	18.9	2.7	5.4	3.76	0.95
total	78.79		13.05	8.10		3.96	0.88

Staff members' perceptions of organizational citizenship behavior are high. The mean score received for this scale (M=3.96, S=0.88) is closest to the ‘‘I agree’’ response. The item most agreed upon by the participants was ‘‘you Feel Satisfied for your belongings to university teaching profession’’ (M=4.41, S=0.60), and the item with the lowest level of agreement was ‘Make suggestions to improve the academic performance’’ (M=3.03, S=1.34).

The second purpose of the study was to find out Relationship between Servant leadership and organizational citizenship behavior.

Table 3.*The relationship between Servant leadership and organizational citizenship behavior*

Servant leadership	**Organizational Citizenship**
Vision	0.47**
Service	0.52**
humility	0.45**
Total	0.54**

(**)Letters included refer to the significant predictor with level the spiritually virtual

Table 3 shows that Relationship between Servant leadership and organizational citizenship behaviors. Positive, moderate level, and significant relationships were found to exist between organizational citizenship behavior on the one hand, and Servant leadership (r=0.54), serve (r=0.52), vision (r=0.47), and humility (r=0.45) on the other. The third purpose of the study analyzing the effect relations among the variables the results of tests will be presented as follows:

A-The relationship of the effect of servant leadership on the organizational behavior of citizenship on the overall level.

Table 4. *The results of the effect servant leadership in the organizational citizenship behaviors on the overall level.*

Dependent variable	**Servant leadership**			**Value F calculated**	**the spiritually level**
Response variable	**B0**	**B1**	**R.^{2}**		
Organizational citizenship	2.44 (5.776)	.55 (3.884)	.30	14.40	.001

Table 4 shows that the dimensions of the Servant leadership as explanative variables which as whole affect together the organizational behavior of citizenship spiritually as responsive variable, and this is indicated by the value "f" which is calculated and reached (14.40), and the significance level of it was (0.05) the defining rate (R2) was (0.30) and which indicates that the change in the organizational behavior of citizenship is explained by the dimensions of the servant leadership by a rate (0.30).

Through following up the B factors and their testing, it was clear that B value was (0.55) and this shows that the increasing of the servant leadership for staff members at faculty administration by only are unit leads to the increasing of the organizational behavior of citizenship by a rate (0.55).

B- The effect relationship between the dimensions of the servant leadership on the organizational behavior of citizenship on the minor variables level.

Table 5 shows the effect of the dimensions of the servant relationship represented in (service-vision-modesty) as explanative variables on the organizational behavior of citizenship as a responsive variable at the faculties of study sample, and this is as follows:

Table 5. *The results of the effect of the dimensions of the servant relationship in the organizational citizenship behaviors*

	Servant leadership					Value F calculated	The spiritually level
	B0	**B1**	**B2**	**B3**	**R.^{2}**		
organizational citizenship	1.93	0.17 (.56)	0.40 (2.56)^x	0.19 (0.64)	.38	6.09	0.002

Table 5 shows that there is a spiritual effect, for the leader's vision as explanative variable on the organizational behavior of citizenship as a responsive variable, as the value of B was (0.17) and it is a weak value but it indicates that there is a role for the leader's vision in fulfilling the organizational behavior of citizenship. it has a measure which is lower than the service of the leader and his humility. The spiritual effect of service on the organizational behavior of citizenship through (B) value was (0.40) and it is also a weak value but it has the highest effect on the organizational behavior of citizenship. This indicates the importance of service for staff members and upon which an amount of the organizational behavior of citizenship toward their faculties is resulted in. the table also shows. That there is a spiritual effect for humility on the behavior organizational behavior of citizenship, as the (B)value was (0.19) and it a weak value, while the faculties of study sample can seek to increase the humility and vision their leader for the sake of increasing the organizational behavior of citizenship, besides their loyalty toward faculties can be achieved. These three values can be supported and indicated by (F) its value which is calculated and reached (6.09), its level of significance (.002), and it less than the virtual spirituality level of study (0.05). Upon the previous results, the third question was answered.

Discussion

At this time this study is still the only one that examines the relationships between the constructs of servant leadership and OCB in faculty setting. Results of this study revealed a robust relationship between servant leadership and OCB (r = .55, p < .01). One possible explanation is that staff members believe that the servant leader principal is truly concerned for their individual well-being in addition to the well-being of the faculty. This perception may be a result of positive interactions between the principal and staff members. Staff members are keenly aware of the behaviors of a servant leader principal (Taylor, et al, 2007), therefore it may be argued that staff member OCB is affected by the behavior of the faculty principal. My study supports the findings of Taylor et al, (2007).

Cerit (2009) argued that the authenticity of a servant leader leads to more interactions between the servant leader and the followers. Both servant leadership and OCB share a foundation of altruism and a need to serve others. Many individuals choose the teaching profession not because of the financial compensation but rather to provide a needed service to students. Both servant leader principals and teachers strive to serve the needs of the faculty as well as those involved with the process.

Ehrhart (2004) found that interactions between a servant leader and a follower would cause the follower to emulate these interactions with others. This “trickle down” approach increases the collective OCB within the interaction. This was confirmed by Van Direndonck and Nuijten (2011) who opined that servant leaders influence the behaviors and attitudes of their followers which in turn may influence the behaviors and attitudes of their followers toward their leader.

According to Tschannen-Moran (2003), trust is an important factor in OCB. Previous studies (Joseph & Winston, 2005; Sendjaya & Perkerti, 2010) argue that servant leadership

results in higher levels in trust between leader and follower. Furthermore, it was found that as servant leader behaviors increased, the level of leader-follower trust increased (Sendjaya & Perkerti, 2010). While trust was not measured in this study the positive social reciprocity between the principal and teacher would build trust, which would in turn promote OCB.

Regression was used to explore the possible relationships between Servant Leadership and OCB. OCB was regressed onto the independent variable of Servant Leadership. Servant leadership had significant and positive effect on organizational citizenship behavior of the staff members and was the strongest predictor of citizenship behaviors of staff members as measured by the OCB Scale ($\beta = .54$, $p < .01$). The effect of the variable explained 30% (Adjusted $R_2 = .302$) for the variance for organizational citizenship behavior, as measured by the OCB Scale.

Conclusion

- The topic of the organizational citizenship behavior occupies a great interest by the researchers as it has a great effect on the school success and its continuity in establishing the competitive work as a result to the servant leadership of institution objectives.

- The servant leadership can not be imitated by others .The servant leadership has three dimensions (service-vision-humility) which contribute in establishing the organizational citizenship behavior and is reflected on the institution performance and its success.

-The results of the descriptive analysis of study variables are:

-The agreement of study sample points of view on the existence of the servant leadership.

-The agreement of the points of view of the individuals' points of view on the organizational citizenship behavior.

-The results of the correlation relationship between the servant leadership and the organizational citizenship behavior showed the following:

A-There is a spiritual correlative relation between the servant leadership and the organizational citizenship behavior on the overall level and on the level of the dimensions of the servant leadership and the organizational citizenship behavior.

B-There is a spiritual effect for the servant leadership on the overall level and on the level of its dimensions with every dimensions on its side in the organizational citizenship behavior.

-It is indicated from all the previous results that the servant leadership has the ability to predict the organizational citizenship behavior from the relation and effect. These results came a great to the presentation which the researcher mentioned about the servant leadership and its positive effect on enhancing the organizational citizenship behavior.

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Appendix A: SLQ (Servant Leadership Questionnaire)

Using a 5 point scale rate how much you agree or disagree with the following statements (1 being strongly disagree and 5 being strongly agree).
The Servant Leadership Questionnaire Items:

Service

-My leader is not seeking recognition or rewards in serving others.
-My leader is willing to make personal sacrifices in serving others.
-My leader seeks to serve rather than be served.
-My leader is committed to the concept that leadership is more of responsibility than position.
-My leader is able to learn from subordinates whom he or she serves.

Vision

-My leader has sought my vision regarding the faculty's vision
-My leader has shown that he or she wants to include employees' vision into the firm's goals and objectives

-My leader seeks my commitment concerning the shared vision of our faculty
-My leader has asked me what I think the future direction of our faculty should be
-My leader and I have written a clear and concise vision statement for our faculty

Humility

-My leader does not overestimate her or his merits
-My leader is not interested in self-glorification
-My leader is humble enough to consult others in the faculty when he or she may not have all the answers
-My leader does not center attention on his or her own accomplishments
-My leader's demeanor is one of humility

Appendix B: OCB (Organizational Citizenship Behavior Questionnaire)

- Speak in a positive way about the faculty in front of others.
- Be discipline to rules and procedures of university work.
- Feel with satisfaction for belonging to the profession university teaching.
- Encourages your colleagues not to be absent from university work except if it is necessary.
- Present suggestions to improve university performance.
- Keep on the public prosperities of your faculty.
- Help your colleagues at their university work.
- Present direction and care for the new staff members at faculty.
- Develop within your colleagues love and brotherhood between one another and university society.
- Accept changes at university work with a good way.
- Do not follow mistakes of your colleagues during work.

The Effect of A Phonological Awareness Intervention Program on Phonological Memory ,Phonological Sensitivity, and Metaphonological Abilities of Preschool Children at-Risk for Reading Disabilities

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Abstract

The Purpose of this study was to explore the effect of a phonological awareness intervention program on phonological memory ,phonological sensitivity, and metaphonological abilities of preschool children at-risk for reading disabilities.. The participants in this study were 40 preschool children selected from three preschools located within three elementary schools in Baltim Educational Edara. A pre- post design was used to examine the effectiveness of the phonological awareness intervention program on phonological memory, phonological sensitivity, and metaphonological abilities of the target children. Findings from this study indicated the effectiveness of the phonological awareness intervention program on phonological memory, phonological sensitivity, and metaphonological abilities of the target children. On the basis of the findings, the study advocated for the effectiveness of the phonological awareness intervention program employed on phonological memory, phonological sensitivity, and metaphonological abilities of the target children.

***Keywords*:** phonological awareness, phonological memory, phonological sensitivity, metaphonological abilities preschool children at-risk for reading disabilities.

Introduction

Understanding the instructional needs of children with specific reading disabilities is Still a major concern of educators and researchers. During the 1st years, significant progress has been made in our understanding of specific reading disabilities. Reading problems are often the major concern in educating students because reading is the prerequisite skill for success in all other academic areas. The failure of children to develop early reading skills that contribute to academic and social success has turned out to be a national concern. Poor reading skills result in lower overall academic achievement. Lerner (2003) further emphasized the importance of reading by saying "children must learn to read so that later they can read to learn (p.396)". Adams (1990) indicated that reading is a reliable predictor for children to succeed in school and become productive members of society. For example, the ability to read the text is critical for daily life, such as reading medical information, work-related reading materials, newspaper, filling out various applications, understanding the written information to use high-technological instruments, etc. People without the ability to read quickly, effortlessly, and automatically are ill-equipped to function well in today's society.

However, according to Putman (2005), reading is the most fundamental but difficult skill for children to learn. Nowadays, the number of students who have reading difficulties is alarming. Study indicated that more than 70% poor readers have difficulties in phonological awareness when they are in kindergarten (Catts, Fey, Zhang, & Tomblin, 2001). There is widespread agreement in the literature that phonological awareness, the ability to analyze the sound structure of language, lays the foundation for successful literacy development (Al Otaiba, Puranic, Ziolkowski, & Montgomery, 2009).

McDonald and Cornwell (1995) reported that the phonological awareness scores in kindergarten were highly related to the performance in word identification and spelling 11 years later. 88% of children with reading deficits in the first grade will continue to experience reading problems at the end of the fourth grade (Juel, 1988). The majority of fourth graders with poor reading performance continued to experience difficulty in decoding monosyllabic nonsense words. Also, lack of appropriate reading instruction and early reading interventions may deteriorate the gap between low-achieving children and typically developing children,

and this concern may deteriorate the minority overrepresentation in special education (Reschly, 2002).

Literature Review

Definition of Phonological Awareness

Phonological processing refers to various linguistic operations that make use of information about the sound (Le., phonological) structure of language. It is a set of mental activities or skills that are required in reading or learning to read. Phonological process involves accessing, storing, or manipulating phonological information (Mourad Ali, 2007).Phonological awareness can be defined as the ability to define and manipulate the sound structure of oral language(Layton & Deeny,2002). Phonological awareness acquisition involves the learning of two things. First, it involves learning that words can be divided into segments of sound smaller than a syllable. Second, it involves learning about individual phonemes themselves (Torgesen, 2000). The awareness of phonological structure of a word helps children to draw connections between the spoken form of a word and its written representation (Gillon, 2004).

Rationale for Teaching Phonological Awareness

Researchers have called for earlier identification and effective programming for children who may be at risk for reading difficulties (Snow et al., 1998). It has been argued that early identification of those at risk for reading diffi culties would enable professionals to limit the development of these problems and put at risk children back on the path toward normal reading development (Hurford & Schauf, 1994; Justice, Invernizzi & Meier, 2002; Lyon et al., 2001; Torgesen, Wagner & Rashotte, 1994). Over the past decade there has been a great deal of research focused on establishing kindergarten predictors of reading disabilities. For instance, Vervaeke, McNamara, and Scissons (2007) conducted a four-year longitudinal study following 650 children from Kindergarten to Grade 3 and found that letter identification and phonological awareness in Kindergarten were significant predictors of reading in Grade 3. However, Snow et al. (1998) suggest that children who are at risk for reading difficulties can be identified in the preschool years, prior to their entry into formal schooling.

Since the 1980s, researchers have identified problems in phonological processing are a major factor for reading difficulties. In addition, numerous studies have demonstrated that understanding of phonological awareness is a strong predictor of later reading success (Catts, et al., 2001). In the longitudinal study Catts and his colleagues tracked reading achievement of 604 young children and reported more than 70% of poor readers had a history of deficits in phonological awareness or oral language in kindergarten.

Many researchers studied the effects and role of phonological awareness training on pre –reading skills of preschool children at- risk for reading failure (Rehab Al Sayed Al Sawi, 2013),Word recognition ability of children with autism spectrum disorder(Adel Abdulla & Amal Mostafa, 2012) , pre reading skills of children with mental retardation (Mourad Ali, 2013) ,and some reading skills in students with learning disabilities(Mourad Ali,2007),and indicated the effectiveness of phonological awareness training.

Phonological Memory

Phonological memory has been of interest to investigators of word learning because of its key role in the temporary storage and manipulation of information for complex cognitive tasks, including speech and language. The functioning of the working memory system has been implicated in groups of children with marked learning difficulties, such as learning disabilities (e.g., Alloway et al., 2005; Swanson & Saez, 2003), reading impairments (Gathercole, Alloway, Willis & Adams, 2006), and specific language impairment (SLI; e.g., Archibald & Gathercole, 2006).

The term working memory has evolved from its ancestor term, short-term memory, which refers to the passive storage of information such as storing a list of names or digits. This store, as the name implies, has been conceptualized as a temporary register of incoming information. The more modern concept of working memory expands the early idea of short term memory beyond a passive register of information. The label "working" has been applied to highlight the current belief that active processing of information takes place in this temporary store. Working memory performs the function of temporary storage of incoming information, holding it long enough so that it can be processed in long term memory can come into play. This capability is required for language comprehension and production, problem solving, executive functioning, reasoning, and other complex cognitive functions (Andrade, 2001).

Nonword repetition tasks have been used to test the phonological memory capacity. Baddeley and colleagues (e.g., Gathercole and Baddeley 1989, 1990) have construed that nonword repetition involves the activation of pure phonological processes such as encoding, storage, and retrieval, independently from lexical knowledge (although others have challenged this assertion–see Snowling et al. 1991; Metsala 1999; Bowey 1996, 2001).

Studies have shown that phonological awareness and working memory are inter-related and associated with cognitive activities(Gindri et al., 2007; Santos & Siqueira, 2002).As phonological awareness develops, the performance level of working memory also increases and vice versa. The higher the levels of phonological awareness and working memory, the more advanced the literacy phase of a child will be. This means that these are directly proportional measures.(Andreia Martins de Souza Cardoso et al., 2013).

Phonological Sensitivity

Research with elementary school children has identified three interrelated phonological processing abilities: phonological sensitivity, phonological working memory, and phonological access to lexical storage (for review see Wagner & Torgesen, 1987). These three phonological processing abilities are strongly related to subsequent word decoding abilities, and, in the absence of intervention, they are highly stable individual differences from the late preschool period forward (Lonigan, Burgess, & Anthony, 2000; Torgesen & Burgess, 1998; Wagner et al., 1997).

Stanovich (1992) first used the term phonological sensitivity to describe the array of skills addressed within the research literature when he suggested to the reading research community a need to more accurately define the phonological processing ability related to the manipulation of speech sounds. He stated that the term "phonological sensitivity should be viewed as a continuum ranging from 'deep' sensitivity to 'shallow' sensitivity. Tasks indicating deeper levels of sensitivity require more explicit reports of smaller sized units"(p.317)(e.g., phonemes vs. syllables).

Therefore phonological sensitivity was proposed as the broad term encompassing both phonological and phonemic awareness. Scarborough and Brady (2002) supported Stanovich's appeal for more consistent use of the "phon" words, suggesting that inaccurate use of terminology and misapplication in assessment and instructional materials may cause confusion for early intervention practitioners. The term phonological awareness has typically been used to refer to the ability to detect and manipulate the sound segments of spoken words. Other terms (e.g., phonologic awareness, phonemic awareness, phoneme awareness) have historically been used interchangeably (Ball, 1993; Lewkowicz, 1980).

Metaphonological Abilities

Metaphonological ability refers to the ability to segment speech into increasingly smaller units—phrases, words, syllables, and finally phonemes as well as recognize rhyme (Adrian, et al., 1995). Another similar term which is common found in studies of phonemic awareness is metalinguistic ability. This comprises all aspects of linguistic analytical competence: segmenting sentences into words, words into syllables, syllables into phonemes, phoneme manipulation, and judgment of rhyme (Kurvers, et al., 2006). *Phonemic awareness* is an awareness of the smallest unit of sound in a language that can affect meaning, and the ability to isolate it from other sounds. This is at times referred to as *phonological awareness* which also describes awareness of sound patterns (Adrian, et al. 1995; Durgunoğlu & Öney, 2002). *Phonetic discrimination* or *detection*, or *phonological sensitivity* is the ability to simply identify distinct sounds. In this study this is referred to as *phonemic identification.*

The Purpose of this study is to explore the effect of a phonological awareness intervention program on phonological memory ,phonological sensitivity, and metaphonological abilities of preschool children at-risk for reading disabilities. It seeks to give answers to the following questions.

1- Are there differences in post – test scores mean between control and experimental groups on Phonological Memory Test?
2- Are there differences in post – test scores mean between control and experimental groups on Phonological Sensitivity Test?
3- Are there differences in post – test scores mean between control and experimental groups on Metaphonological Abilities Test?

Method

Participants

The participants in this study were 40 preschool children selected from three preschools located within three elementary schools in Baltim Educational Edara . Three participants were selected based on the results of teacher(female) nominations, screening for reading achievement, school attendance, and parental consent. Screening procedures of the participants included these steps:

Teacher nominations. The teacher was asked to nominate students who exhibited poor pre-reading skills and might benefit from additional instruction.

Screening for reading achievement. All children were assessed using The Dynamic Indicators of Basic Early Literacy Skills. Based on the results of these assessments, children exhibiting poor pre-reading skills were identified as at-risk for reading disabilities and possible participants for this study.

School attendance. Regular attendance was one of the eligibility requirements to participate in this study. Previous school attendance records were reviewed, and children with potentially poor attendance were excluded from the study.

Parent consent. A letter introducing the purpose of the study and a consent form were sent to parents of the potential participants. Written consent was obtained before beginning of the study. In addition, an oral solicitation using understandable sentences was read to the preschool children by the researcher. Children without written consent were also excluded from the study.

Children were randomly classified into two groups: experimental(n= 20 , 16 boys , 4 girls) and control (n= 20 , 18 boys and 2 girls). The two groups were matched by age, IQ, phonological memory ,phonological sensitivity, and metaphonological abilities . Table 1. shows means, standard deviations, t- value, and significance level for experimental and control groups on age (by month) ,IQ, phonological memory, phonological sensitivity, and metaphonological abilities.

Table 1. *Pre-test Means, standard deviations, t- value, and significance level for experimental and control groups on age (by month), IQ, phonological memory, phonological sensitivity, and metaphonological abilities* .

Variable	**Group**	**N**	**M**	**SD**	**T**	**Sig.**
Age	Experimental	20	61.35	2.25	-.735	-
	Control	20	61.95	2.76		
IQ	Experimental	20	114.15	4.68	-.816	-
	Control	20	115.25	3.79		
Phonological	Experimental	20	8.75	2.00	-.980	-
Memory	Control	20	9.35	1.87		
Phonological	Experimental	20	11.65	1.46	-.865	-
Sensitivity	Control	20	12.15	2.13		
Metaphonological	Experimental	20	15.50	2.48	-.656	-
Abilities	Control	20	16.15	3.67		

Table 1. shows that al t- values did not reach significance level .This indicated that the two groups did not differ in age, IQ ,phonological memory ,phonological sensitivity, and metaphonological abilities (pre-test) .

Measures

Nonword repetition test. Phonological working memory skills were measured using the children's test of nonword repetition test . The test consists of 22 nonwords, with items each containing 2–4 syllables. The 22 nonwords were recorded on a portable cassette recorder by a female speaker and separated by a 4 second interval. All participants were presented with a common random sequence of the 22 stimulus items. Interjudge reliability was calculated for the total number of correct responses using an "agreement reliability" formula (i.e. (number of agreements/number of agreements + disagreements)×100). Mean interjudge agreement reliability for *Nonword repetition test* scoring was 88.3% (range = 78.3–96.7%).

Phonological sensitivity measures. Six measures were used to assess children's phonological sensitivity: Rhyme Recognition, Rhyme Application, Blending Body-Coda, Blending Onset-Rimes, Blending Phonemes, and Phoneme Deletion. Each of the measures included one practice item that was followed by correction, explanation, and readministration if the child gave an incorrect answer or confirmation and explanation if the child gave the correct answer.

All 5 test trials within each measure were administered to all children . The rationale behind this test design was to guarantee that the full spectrum of children's phonological sensitivity was assessed, as some measures tapped more than one level of linguistic complexity. Indiscriminant positive feedback was offered on test trials. All correct responses were real words.

Metaphonological Abilities Measures. Eight measures were used to assess children's metaphonological abilities: Oddity Tasks—Beginning Sounds, Oddity Tasks—Ending Sounds, Oddity Tasks—Middle Sounds, Blending Onset-Rimes, Blending Phonemes, Segmenting Onset-Rimes, Segmenting Phonemes, Phoneme substitution—Beginning Sounds, Phoneme Substitution—Ending Sounds, and Phoneme Substitution—Middle Sounds. Each of the measures included one practice item that was followed by correction, explanation, and readministration if the child gave an incorrect answer or confirmation and explanation if the child gave the correct answer. All 5 test trials within each measure were administered to all children . The rationale behind this test design was to guarantee that the full spectrum of children's metaphonological abilities was assessed, as some measures tapped more than one level of linguistic complexity. Indiscriminant positive feedback was offered on test trials. All correct responses were real words.

Procedure

Participants were selected, then pretest data were collected using phonological memory, phonological sensitivity, and metaphonological abilities(pre-test). The classroom PA training program was conducted by the author with the experimental class in one large group for 10 weeks with 20 minute sessions conducted three times a week. A variety of fun, play-based phonological activities were used with the class that incorporated the spectrum of PA skills (e.g. rhyming, sound/syllable matching, sound/syllable isolation, sound/syllable blending, sound/syllable addition or substitution, and sound/syllable segmentation).

The children participated by singing, listening, answering questions, and following directions. The following is a list of the PA activities addressed during training:

1. Sound Matching/Sound Identification

2. Rhyming Activities

3. Sound Addition or Substitution Activities

4. Sound/Syllable Blending Activities

5. Sound/Syllable Segmentation Activities.

The author started with the earlier developing PA skills, such as matching and rhyming, and moved throughout the continuum of PA skills. These activities were rotated from easiest to hardest throughout the 5 week training period. At the end of the study, the posttest data were collected again using the same measures to determine the effectiveness of the PA training.

Results

Table 2. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in phonological memory test scores. The table shows that the (F) value was (96.743) and it was significant value at the level (0.01).

Table 2. *ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in phonological memory test scores*

Source	**Type 111 sum of squares**	**df**	**Mean square**	**F**	**Sig.**
Pre	4.322	1	4.322		
Group	374.363	1	374.363	96.743	0.01
Error	143.178	37	3.870		
Total	544.400	39			

Table 3 shows T. test results for the differences in post- test mean scores between experimental and control groups in phonological memory test. The table shows that (t) vale was (10.112). This value is significant at the level (0.01) in the favor of experimental group . The table also shows that there are differences in post- test mean scores between experimental and control groups in phonological memory test in the favor of experimental group .

Table 3. *T- test results for the differences in post- test mean scores between experimental and control groups in phonological memory test*

Group	**N**	**Mean**	**Std. deviation**	**T**	**Sig.**
Experimental	20	15.95	1.79	10.112	0.01
Control	20	9.65	2.13		

Table 4. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in phonological sensitivity test scores. The table shows that the (F) value was (60.174) and it was significant value at the level (0.01).

Table 4. *ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in phonological sensitivity test scores*

Source	**Type 111 sum of squares**	**df**	**Mean square**	**F**	**Sig.**
Pre	7 .247	1	7 .247		
Group	282.743	1	282.743	66.169	0.01
Error	158.103	37	4.273		
Total	440.975	39			

Table 5. shows T. test results for the differences in post- test mean scores between experimental and control groups in phonological sensitivity test. The table shows that (t) vale was (7.959). This value is significant at the level (0.01) in the favor of experimental group . The table also shows that there are differences in post- test mean scores between experimental and control groups in phonological memory test in the favor of experimental group.

Table 5. *T- test results for the differences in post- test mean scores between experimental and control groups in phonological sensitivity test*

Group	N	Mean	Std. deviation	T	Sig.
Experimental	20	19.65	1.81	7.959	0.01
Control	20	14.40	2.32		

Table 6. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in metaphonological abilities test scores. The table shows that the (F) value was (369.138) and it was significant value at the level (0.01).

Table 6. *ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in metaphonological abilities test scores*

Source	Type 111 sum of squares	df	Mean square	F	Sig.
Pre	20 .033	1	20 .033		
Group	2311.771	1	2311.771	369.138	0.01
Error	231. 717	37	6.263		
Total	2546.975	39			

Table 7. shows T. test results for the differences in post- test mean scores between experimental and control groups in metaphonological abilities test. The table shows that (t) vale was (18.613). This value is significant at the level (0.01) in the favor of experimental group. The table also shows that there are differences in post- test mean scores between experimental and control groups in metaphonological abilities test in the favor of experimental group .

Table 7. *T- test results for the differences in post- test mean scores between experimental and control groups in metaphonological abilities test*

Group	N	Mean	Std. deviation	T	Sig.
Experimental	20	31.35	2.25	18.613	0.01
Control	20	16.20	2.85		

Discussion

The Purpose of this study is to explore the effect of a phonological awareness intervention program on phonological memory, phonological sensitivity, and metaphonological abilities of preschool children at-risk for reading disabilities. Participants were selected, then pretest data were collected using phonological memory, phonological sensitivity, and metaphonological abilities(pre-test). The classroom PA training program was conducted by the author with the experimental class in one large group for 10 weeks with 20 minute sessions conducted three times a week.

The results of this study as revealed in tables 3, 5, 7, show that the phonological awareness training program was effective in improving phonological memory, phonological sensitivity, and metaphonological abilities of preschool children at-risk for reading disabilities

in experimental group, compared to the control group whose individuals were left to be taught in a conventional way.

Participants of this study fall into IQ of 115 or more, nevertheless, they are at -risk for learning disability in reading. Thus IQ score cannot account for learning disabilities. The results of the present study support that conclusion with evidence that students who participated in the study do not fall into the low IQ range, however they are at -risk for learning disability in reading. When designing a program based on phonological awareness, they had statistical increase in phonological memory, phonological sensitivity, and metaphonological abilities. This goes in line with what Mourad Ali et al (2006) notes that there is one problem " students who are identified as learning disabled often cover any special abilities and talents, so their weakness becomes the focus of their teachers and peers, ignoring their abilities. Mourad Ali (2007) , however , notes that " learning disabled , as well as gifted students can master the same contents and school subjects ", but they need to do that in a way that is different from that used in our schools .

Experimental group gained better scores in phonological memory, phonological sensitivity, and metaphonological abilities tests than did control groups in post-tests though there were no statistical differences between the two groups in pre- test. This is due to the program which met the experimental group's needs and interests. On the contrary, the control group was left to be taught traditionally. This goes in line with our adopted perspective which indicates that traditional methods used in our schools do not direct students as individual toward tasks and materials, and do not challenge their abilities. This may lead students to hate all subjects and the school in general. On the contrary, when teachers adopt a strategy (such as phonological awareness intervention) that suits students interests and challenge their abilities with its various modalities.

This indicates that "as we learn more about the scope and complexity of individual differences and how they affect academic progress, we become increasingly convinced that many individuals who do not do well at school do not because the instructional methods used to teach them does not complement preferred styles to learn, thus ,we should seek strategies that help these students and match their strengths.

Future Research Recommendations

Further research is still required to explore the potential benefits of phonological awareness intervention for children at-risk for reading disabilities. Such research may include large scale studies, and a further exploration of the exact influence of student attendance, teacher training, classroom conditions and treatment duration and intensity.

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The Development of Creative Thinking in Preschool Teachers: the Effects of SCAMPER Program

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Abstract
This study aims at revealing the effects of the application of SCAMPER program . on creative thinking skills of preschool female teachers. The question " What is the effectiveness of the SCAMPER program in the development of creative thinking for teachers in the pre-school stage ?" constitutes the problem of the study. For this purpose, the one- group study method was used in the second semester of the academic year 2013-2014. The study group consists of 10 female preschool teachers in total. The data acquired upon the study were analyzed through content analysis. This study provides awareness to the teachers with the instructional design prepared via SCAMPER program. As a result of the study shows that teachers were seen to have performed improvement in creative thinking skills.

***Keywords*:** Creative Thinking, SCAMPER Program, Preschool Teachers

Introduction

Kindergarten's teacher plays numerous and overlapping roles and performs many and varied tasks which require different technical skills which are difficult to identify accurately and in detail. If the teacher in the other stages of education is asked to master a specific scientific curriculum and manage the classroom well, the teacher in the kindergarten will be responsible for all what the children learn, in addition to the task of guiding the process of growth of every one of her children in a sensitive stage in their lives.

The creative teacher tries to make her children more efficient at problem-solving, decision-making, and communication with others. Besides, she does not rely on a single source of learning, but she is seeking to merge and synthesis among various and different sources and experiences.

The character of the teacher has deep impact in pushing forward the educational process for children, providing that she has the ability, motivation, rehabilitation, scientific and academic preparation, and continuous training which can achieve all the roles and tasks that she performs.

Hence the idea of the present study emerged through the use of one of the most important recent programs in the field of developing the creation and imagination for the teachers in order to train them to discover, develop and care about the gifted children in the stage of pre-school – SCAMPER Program for developing the imagination and creative thinking. The cognitive, psychological and vocational support can be achieved via SCAMPER program which concerns with the development of creative thinking for teachers in the pre-school stage.

The present study seeks to give answer to the following question:

What is the effectiveness of the SCAMPER program in the development of creative thinking for teachers in the pre-school stage ?

Literature Review

SCAMPER program

SCAMPER program is described as procedural program that helps the development of creative thinking through the imagination, using the method of divergent thinking. It includes a group of twenty games which vary in their contents and focuses on training on creativity via funny style . It depends on playing and providing activities that aim to teach thinking and creative thinking. Thus, it aims to build positive attitudes towards thinking, imagination,

creativity and developing imagination for teachers, and helps divergent thinking. (Roger, 2011;Gladding & Henderson, 2013).

SCAMPER program: A historical overview

Eberle (1996) ,the originator of the program, refers to the most prominent stages of its development as follows:

- At the beginning, Alex Osborne, 1963 introduced a Spurring Checklist which are those key words or phrases that constitute the initial letters of the word SCAMPER, in order to be an assistant strategy during brainstorming sessions.

- Then, Richard de Mille introduced a book entitled *Put your mother on the ceiling* in 1967, which aimed to develop children's imagination.

- After a period of time, especially in 1970, Frank E. Williams and his colleagues, as a director of the national schools project introduced a set of methods aimed at stimulating creative expression for the children. In short, these methods were based on two fundamental dimensions : the cognitive processes: (originality, flexibility, fluency, and a tendency to details) and the emotional or affective processes: (curiosity, willingness to deal with risk, and preferring complexity, and intuition). (Gladding & Henderson, 2013).

Finally, Eberle combined all of these previous experiences and integrate them with each other to build SCAMPER program, which was represented in the efforts of Osborn, especially the Spurring Checklist where he defined every word carefully, and added it to the methods of Williams , so that he has a model called SCAMPER model . It is a three-dimensional cubic. Also, he formulated games and activities according to deMille's style, in the development of creative imagination. Thus, he has the following: (the scientific model, the scientific method, and the activities) and issued his first version: SCAMPER, which contains ten games, then after that, he issued another version: which also, contains ten games.(Matthew, 2010).

Program description

SCAMPER program is described as a procedural program that helps the development of creative thinking through the imagination, using the method of divergent thinking. It includes a collection of twenty games which differ in their content and share the method of their introduction. It focuses on training on innovation via funny style . It depends on playing and provides activities that aim to teach thinking, creativity and creative thinking. Thus, it aims at building positive attitudes among children towards thinking, imagination, creativity ,the development of imagination and thinking in general and creative thinking in particular. It also helps divergent thinking. (Jagiello, 2012,P.7).

The target groups for this program

SCAMPER program targets large segment of society. It is suitable to children's use, starting from the age of three years and up to adults and university students, providing that making few adjustments in its instructions.

[A] SCAMPER Acronym
SCAMPER was developed by Robert F. Eberle. The acronym stands for a series of thinking processes focused on a single objective. SCAMPER stimulates the thought processes and encourages inventiveness.

Substitute. Have a person or thing act as, or take the place of, another. Questions : What might you do instead? What could you do as well or better?
Combine. Bring items together and unite them. Questions : What might work well together? What could be added together?
*Adapt***.** Make an adjustment to suit a purpose or condition. Questions : What could be adjusted to suit a purpose or condition? How could you make it fit?
Modify, magnify, or minify. Take the original item and alter it to change the form, enlarge it and make it greater in form or quantity, or make it smaller, lighter, or less frequent. Questions : What would happen if you change the form or quality? Could you make it larger, greater, stronger etc.?
*Put to other uses***.** Plan for using the item for purposes beyond those originally intended. Questions : How could you use it for a different purpose? What are some new ways to apply it?
*Eliminate***.** Think about omitting all or part of the quality. Questions : What could you subtract or take away? What could you do without?
*Reverse or rearrange***.** Think of a different plan, scheme, or layout. Questions : What would you have if you reversed it? Could you change the parts, order, or layout sequence? (Roger, 2011;Gladding, Henderson, 2013)

[B] Cognitive processes that contribute to the creative expression
1. Originality - depending on originality of ideas and story line.
2. Fluency - depending on the development of ideas. Interconnectedness.
3. Flexibility - depending on the scope of the composition. Flexibility in processing ideas.
4. Elaboration - level of elaboration of initial ideas. Expansion of story line.

[C] Emotional (affective) processes that contribute to the creative expression:

1) *Curiosity*: it is a preliminary exploratory behavior directed towards the acquisition of knowledge. It includes using of all the senses in research, testing, and guesses validation, and rush into the unknown or uncommon, to achieve a strong desire to know the thing It can be expressed in the following points:
- Urgent and strong desire to learn things.
- Questioning and frequent debate and research.
- The ability to think deeply.

2) *Willingness to Take a Calculated Risk*: it is an activity that includes meditation, forecasting, wisdom, insight, and calculate the probability of success and failure before the event. The character that bears the risks is characterized by will, willingness and setting goals for gains and benefits. Also, he has the features of calculating the factors of chance and luck, love of adventure and the unknown and carry anxiety. All of these characteristics are known for each one bears the risks. It can be expressed in the following points:
- Freedom of guessing, and not fear of the error.
- Meditation, forecasting and prediction.
- Love of adventure and the unknown.

3) *Preference for Complexity*: it is a desire and willingness to accept the challenge, and represents the desire to work or deal with the details, and a tendency to scrutiny and search for complex ideas and difficult problems. The challenges can be appeared in the form of complex ideas difficult to solve or difficult problems or drawings and complex designs or complicated theory.
It can be expressed in the following points:
- The desire to organize and arrange chaotic cases.
- The desire to work with many details and complex problems.
- Willingness to accept the challenge.

4) *Intuition***:** it is a perception which requires insight, agility, understanding and direct discrimination of truth or reality independent of the logical operations. Then, it is the perception, the direct and rapid understanding of the worthy uneducated knowledge. (Majid, Tan, Soh, 2009; Roger, 2011).

Method

Participants

10 female pre school teachers participated in this study , all of them had a bachelor degree in education. The age of participants ranged from 23-25 years . They worked as a pre school teachers for five years.

Instruments

Stanford-Binet Intelligence Scale is an individually administered intelligence test that was revised from the original Binet-Simon Scale by Lewis M. Terman, a psychologist at Stanford University. It is a cognitive ability and intelligence test . The test measures five weighted factors and consists of both verbal and nonverbal subtests. The five factors being tested are knowledge, quantitative reasoning, visual-spatial processing, working memory, and fluid reasoning. The test has a strong reliability and validity coefficients.

The Figural Torrance Tests of Creative Thinking. s appropriate at all levels, kindergarten through adult. It uses three picture-based exercises to assess five mental characteristics: fluency, flexibility , originality and originality. The test has a strong reliability and validity coefficients.

Procedures

Participants were selected, then pretest data were collected using The Figural Torrance Tests of Creative Thinking .Then, the SCAMPER program was conducted by the author with the selected teachers for 14 weeks with 50 minute sessions conducted three times a week. The trainer stimulates the trainees to produce original ideas, and practice creative imagination by hearing the texts of the games and interact with them. The trainer introduces the cards for activities to help turning these creative imaginations into behaviors that can be monitored and then provides feedback .

Results

The hypothesis of the study is that there are significant differences among mean rank scores in pre -post testing in creative thinking (fluency, elasticity, originality, elaboration, and total score) in favor of post testing. Table 1. shows Z Value result for the differences in post-test mean rank scores. The table shows that (Z) values were (-2.823) for fluency, (-2.831) for flexibility, (-2.807) for originality, (-2.809) for elaboration and (-2.810) for the composite

score . This value is significant at the level (0.01) .This indicates that use of the SCAMPER program had a positive effect on creative thinking in the target teachers.

Table 1. *Z Values results for the comparison of mean rank at pre- and post intervention in creative thinking*

Variables	**Negative Ranks**		**Positive Ranks**		**Z Value**	**Sig.**
	Mean	Sum	Mean	Sum		
fluency	3	15	Zero	Zero	-2.823	0.01
flexibility	3	15	Zero	Zero	-2.831	0.01
originality	3	15	Zero	Zero	-2.807	0.01
elaboration	3	15	Zero	Zero	-2.809	0.01
Composite	3	15	Zero	Zero	-2.810	0.01

Discussion and conclusion

The present study evaluated the effects of the SCAMPER program on the creative thinking (fluency, elasticity, originality, elaboration) of preschool female teachers. The study results showed that the SCAMPER program was effective in increasing creative thinking (fluency, elasticity, originality, elaboration) of preschool female teachers who participated in this study.

It can be suggested that the SCAMPER technique can ensure cognitive development of the students in the related subjects by providing them with the opportunity to act beyond mental patterns, and encouraging them to think creatively by motivating them to change or combine their opinions.

As also mentioned by Serrat (2009), it can be said that this situation arises from the fact that SCAMPER technique ensures an individual to question a situation, produce solutions for the problem, and enable the individual to carry out individual work, group work and exchange of ideas during the process of producing solutions.

It was found out that teachers actively attended this process and had an increased interest in the activities provided, displaying their creativity .Works performed by Thomas (2000), Coşkun (2004), Aladağ (2005), Çıbık (2006), Yılmaz (2006), and Feyzioğlu et al.,(2012) support this result.

Limitations and Suggestions for Future Research

One limitation of the current study was the limited number of teachers .This research should be replicated as designed but with additional teachers. A second limitation was the design of study as it followed one- group design . It is recommended that future studies should use two-groups design in order to compare the performance of the experimental with the control one.

Further research is still required to explore the potential benefits the SCAMPER program for preschool female teachers. Such research may include large scale studies, and a further exploration of the exact influence of teacher training, classroom conditions and treatment duration and intensity.

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Using Social Stories To Improve Challenging Behaviors In Young Children With Emotional and Behavioral Disabilities

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Abstract
This study explores the effects of social stories on the social skills of children with autism. Participants were 40 children in KG. 2 from two private kindergartens in Matrooh .A pre-post design was used to examine the effectiveness of the social stories Intervention Strategy on the challenging behaviors of the target children . Findings from this study indicated the effectiveness of the social stories intervention employed in improving the challenging behaviors of the target children. On the basis of the findings, the study advocated for the effectiveness of the social stories intervention employed in improving the challenging behaviors of the target children.

***Keywords*:** Social stories, challenging behaviors, children with emotional and behavioral disorders (E/BD)

Introduction

Children with emotional and behavioral disorders (E/BD) have academic, behavioral, and social needs that may impact their ability to be successful in the classroom. Children with emotional and behavioral disorders (E/BD) have a number of maladaptive behaviors that impede their relations with teachers and peers (Kauffman, 2001) as well as their academic success (Wagner & Cameto, 2004). For example, elementary-aged children with E/BD are less academically engaged, display higher rates of disruptive/inappropriate behavior, and have higher rates of course failure than both their typically developing peers and their peers served under other IDEA eligibility criteria (Cullinan, Evans, Epstein, & Ryser, 2003).

These characteristics also were consistent among students with E/BD at the middle and high school levels (Cullinan & Sabornie, 2004; Lane, Carter, Pierson, & Glaeser, 2006). In addition, several recent investigations have demonstrated that these characteristics are stable over time (Hayling, Cook, Gresham, State, & Kern, 2008) regardless of the age at which they are first identified. For example, Bilancia and Rescorla (2010) measured academic, behavioral, and social characteristics of children with E/BD over six years. Regardless of their age at the beginning of the study (two groups: 4 to 5 or 6 to 7), their deficits remained stable over time.

Given the unique learning needs of individuals with emotional and behavioral disorders, social stories may provide an effective strategy to improve challenging behaviors. Carol Gray, a special education teacher, developed social stories in order to enable individuals with an autistic spectrum disorder to “read, interpret, and respond effectively to their social world” (Gray, 1994, p.5). A social story is a concise narrative about a situation, concept, behavior, or social skill that is written and implemented according to specific guidelines. Social stories are designed to bring predictability to a situation by providing specific and relevant social cues as well as defining the appropriate responses to a social situation.(Adel Abdulla & Mourad Ali, 2014).

Behavioral Characteristics of Children with Emotional and Behavioral Disorders

Children with emotional and behavioral disorders (EBD) commonly engage in behaviors (e.g., verbal and physical aggression; social skills acquisition and performance deficits) that negatively influence both their ability to successfully negotiate peer and adult relationships and their educational experience (Cullinan and Sabornie 2004; Gresham et al. 2004; Landrum et al. 2003; Walker et al. 1992;Walker et al. 2004). Many of these children have social skill deficits, often displayed as less mature or inappropriate social behavior (Kauffman, 2005, p. 10). Children may have difficulty engaging in appropriate play or social

interactions and may at times become aggressive. Some children in this population may act out in class, and others may be withdrawn and become socially isolated. The inability to interact with others has a negative impact on academic achievement (Cullinan, 2004, p. 33) and places children at risk for the development of secondary problems (e.g., drug and alcohol abuse).(Delano& Stone, 2008).

Social Stories

Carol Gray is the director of The Gray Center for Social Learning and Understanding. Gray has served as a teacher for students with ASD for over 22 years. Gray developed Social Stories and Comic Strip Conversations (Gray, 1998). These resources are used worldwide with individuals with ASD. According to Gray, Social Stories are designed to share social information in a way that will be easily understood by the audience. A Social Story describes a situation, skill, or concept in a way that is relevant to the student. Information often given in the stories includes: where and when a situation may take place, who is involved in the situation, and why the particular situation may occur. Gray explains that, in the stories, relevant social cues, perspectives of others, and common responses to the situation are given. The stories may also explain what other people know, feel, or believe; Social Stories can also explain concepts that are abstract and often difficult to understand (Gray).

According to Gray (2011), Social Stories should affirm something the individual does well while teaching the target behavior or skill. The goal of a Social Story should not be to change the individual's behavior, but to improve understanding of social situations that may lead to increased appropriate behavior. According to Gray, the understanding a person gains often promotes self-esteem, can calm and create order in a turbulent situation, promote independence, reduce anxiety, and increase social understanding.

A growing body of literature has investigated the effectiveness of Social Stories . Several studies have reported positive effects on the use of Social Stories to reduce challenging behaviors (Adams, Gouvousis, VanLue, & Waldron, 2004; Agosta, Graetz, Mastropieri & Scruggs, 2004; Brownwell, 2002; Crozier & Tincani, 2005, Kuoch & Mirenda, 2003; Kuttler, Myles, & Carlson, 1998; Lorimer et al., 2002; Reynhout & Carter, 2007; Scattone, Wilczynski, Edwards, & Rabian, 2002). A number of studies have also reported positive results on the use of Social Stories to increase appropriate behaviors (Barry & Burlew, 2004; Bledsoe, Smith-Myles,& Simpson, 2003; Crozier & Tincani, 2007; Delano & Snell, 2006; Ivey, Heflin, & Alberto, 2004; Norris & Dattilo, 1999; Sansosti & Powell-Smith, 2006; Swaggart et al., 1995; Thiemann & Goldstein, 2001), decreasing aggressive behavior (Adams, Gouvousis, Van Lue, & Waldron, 2004; Gray & Garand, 1993; Romano, 2002; Rowe, 1999), increasing the use of appropriate social skills (Barry & Burley 2004; Hagiwara, 1999; Pettigrew, 1998), increasing greeting behavior and initiation of play activities (Feinberg, 2001), increasing on-task behavior (Brownell, 2002), increasing appropriate meal-eating behavior (Staley, 2001; Adel Abdulla & Amal Mostafa ,2012) and decreasing precursors of tantrum behaviors (Simpson & Myles, 2002).This research provides preliminary support for the use of Social Stories (Sansosti, Powell-Smith, & Kincaid, 2004) and suggests that the Social Story intervention is a promising practice for supporting appropriate behavior and teaching prosocial skills to students with autism (Simpson et al., 2005, p. 147).

Collectively, these studies showed that social stories can improve a wide range of behavior. Because young children with EBD may benefit from instruction in some of the same skills targeted in previous research on Social Stories (e.g., decreasing challenging behaviors, increasing appropriate social and communication skills), the Social Story intervention may be a useful tool for teachers working with young children with EBD. The purpose of the present study was to examine the extent to which social stories can be used to

improve challenging behaviors of children with Emotional and Behavioral Disorders. The primary research question was, what effects will social stories have on challenging behaviors of children with Emotional and Behavioral Disorders?

Method

Participants

Participants were 40 children in KG. 2 from two private kindergartens in Matrooh . Parental informed consent forms were sent home by the kindergarten's director to parents of potential participants telling them about the study and requesting them to give permission for their children to participate. Through a previous comprehensive psychological evaluation; namely The Behavioral and Emotional Rating Scale–Second Edition (BERS-2) Parent Rating Scale (PRS) each targeted child had received a primary diagnosis of Emotional and Behavioral Disorders.

Dependent Measure

Child's Challenging Behaviour Scale (CCBS). (Bourke-Taylor, Law, Howie & Pallant, 2010) The CCBS is a brief, psychometrically sound in strument that provides clinicians with a new tool that measures a mother's rating of her school aged child's behaviours that are challenging and associated with reduced maternal mental health and caregiving capacity. The CCBS assists professionals to identify mothers and family situations who may be in need of more support and interventions. The CCBS was designed for mothers of school aged children with disabilities, aged 5 through 18 years. A mixed method instrument design model was applied to the research that developed the CCBS. An initial qualitative study generated items (Bourke-Taylor, Howie & Law, 2010), and quantitative data were collected from 152 mothers of a school aged child with a disability in Victoria, Australia. Eleven items were included in the CCBS in the form of statements. Respondents are asked to rate their level of agreement using a five point Likert response scale(1 = strongly agree, 2 = agree, 3 = neither agreeor disagree, 4 = disagree, 5 = strongly disagree). See Appendix(A) for instructions for completing the scale, scale items and response schedule. Prior to scoring, two items must be reverse scored (Item 3: My child aggravates others; andItem 6: My child can be stubborn and uncooperative).This means that a value of 5 = 1; 4 = 2; 3 = 3; 2 = 4; 1 = 5. Following reversal of these two scale items, the total score on the CCBS is calculated by summing the scores, with possible scores ranging from 11 to 55. Higher scores on the CCBS indicate that the child exhibits more challenging behaviours. Psychometric evaluation of the CCBS on the population of Victorian mothers of school aged children with disabilities (N = 152) revealed the following properties. The Cronbach alpha value was high (0.89) indicating excellent internal consistency. Tests of normality on the eleven item scale revealed a slightly skewed normal distribution (-0.279) and kurtosis(-0.226); a non significant Kolmogorov-Smirnov statistic (p= 0.07); a reasonably straight Normal Q-Q plot; and an acceptable Detrended Normal Q-Q plot (Bourke-Taylor, Law, Howie, Pallant, 2010). The CCBS was therefore deemed to be normally distributed with a mean score of 34.4 and standard deviation of 9.3 (range: 11 to 54). Factor analysis supported its unidimensionality. Further information about construct validity has been published (Bourke-Taylor, Law, Howie & Pallant, 2010).

Independent Variable

The independent variable was the use of group social stories. As noted, social stories are short written and pictorial vignettes that are used to help students with Emotional and Behavioral Disorders behave more appropriately and independently. Typically, these stories are written using individuals' specific behaviors and contextual variables as the source of story content. They then use these stories interactively with pupils to improve those particular behaviors in specific contextual situations. Social stories are created using three different sentence types (descriptive, directive, and perspective) that give students information about what is happening, how to behave and how others feel or think about their behavior. Picture cues (e.g., drawings, photographs, or even stick figures) are also used to enhance pupil understanding. Typically, social stories are created using a variety of formats including: (a) illustrations, (b) photographs, (c) symbols (e.g., Picture Exchange Communication System), (d) audio and video-tape, and (e) story boxes. To create social stories, the investigator met initially with the classroom teacher to identify specific target behaviors. Support teacher then photographed children while they were engaged in socially appropriate and inappropriate target behaviors. The investigator then created stories for the four target students using the three primary sentence types. Support teacher was then trained to use social stories. The investigator created each social story based on individual pupil needs. Social stories were read to target children. social stories can be seen in (Appendix B).

Procedure

Challenging behaviors level of each child was measured on The *Child's Challenging Behaviour Scale (CCBS)*. The assessment was done in an environment familiar to the children and during their usual intervention time. Treatment consisted of training using social stories . The pretest scores were analyzed to ensure parity among the children. Children in the experimental group received 23 teaching sessions. The duration of each session would be from 15 minutes to 20 minutes. While treatment group children received the training based on social stories, the control group continued with usual special classroom interventions. At the completion of the treatment session, children from both groups were tested again on The *Child's Challenging Behaviour Scale (CCBS)*.

Results

Social stories and improvement of challenging behaviors

The first objective of the study was to determine if use of social stories would be more effective for the treatment group compared to the control group. For this purpose, the post intervention scores of both treatment and control groups were analyzed. Table 1. shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in The Child's Challenging Behaviour Scale scores. The table shows that the (F) value was (508.767) and it was significant value at the level (0.01).

Table 1. *ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in The Child's Challenging Behaviour Scale scores*

Source	**Type 111 sum of squares**	**df**	**Mean square**	**F**	**Sig.**
Pre	33.229	1	33.229		
Group	8628..479	1	8628..479	508.767	0.01
Error	627.505	37	16.960		
Total	9304. 400	39			

Table 2. shows T. test results for the differences in post- test mean scores between experimental and control groups in *The Child's Challenging Behaviour Scale scores*. The table shows that (t) vale was (9.670). This value is significant at the level (0.01) in the favor of experimental group .The table also shows that there are differences in post- test mean scores between experimental and control groups in *The Child's Challenging Behaviour Scale scores* in the favor of experimental group .

Table 2. *T- test results for the differences in post- test mean scores between experimental and control groups in The Child's Challenging Behaviour Scale*

Group	**N**	**Mean**	**Std. deviation**	**T**	**Sig.**
Experimental	20	13.500	2.01	9.670	0.01
Control	20	42.900	5.54		

The second objective of the study was to determine the effect of social stories on the development of social skills in children with autism. The treatment consisted of training through use of social stories. The children's performance on *Child's Challenging Behaviour* was measured pre and post intervention. Table 3. shows T. test results for the differences in pre-post testing mean scores for the experimental groups *in The Child's Challenging Behaviour Scale*. The table shows that (t) vale was (9.670). This value is significant at the level (0.01) in the favor of post testing. This indicates that use of social stories had a positive effect on improving challenging behaviors of the targeted children.

Table 3. *T-test results for the differences in pre-post test mean scores for the experimental group in The Child's Challenging Behaviour Scale*

Testing	**N**	**Mean**	**Std. deviation**	**T**	**Sig.**
pre	20	42.900	2.66	9.670	0.01
post	20	13.500	2.01		

Discussion

The present study evaluated the effects of social stories intervention on the challenging behaviour of children with Emotional and Behavioral Disorders. The study results showed that the social story intervention was effective in improving challenging behaviors of all children participated in this study. The social stories developed for the study were written according to the Gray's guidelines (1993).

The present study contributes in some ways to the effectiveness of social story literature. First, findings from this study demonstrate the potential benefits of using the social story intervention as an intervention to improve the challenging behaviour of children with Emotional and Behavioral Disorders. The results of this study goes in the same line with Delano & Stone's (2008). Second, pre- post experimental design was used in the present study. Many studies on the effectiveness of social stories have used nonexperimental designs that are plagued by threats to internal and external validity (Kuoch and Mirenda, 2003; Reynhout and Carter, 2006).

In summary, social stories effectively improved the challenging behaviour of children with Emotional and Behavioral Disorders who participated in this study. Overall, results from this study contribute to the social story literature for improving the challenging behaviour. The present study lends empirical support to the notion that children with Emotional and

Behavioral Disorders, specifically young children with Emotional and Behavioral Disorders, can be taught and can learn appropriate social skills and their challenging behaviors can be improved.

Future Research Recommendations

Further research is still required to explore the potential benefits of social story intervention for children with Emotional and Behavioral Disorders. Such research may include large scale studies, and a further exploration of the exact influence of student attendance, teacher training, classroom conditions and treatment duration and intensity.

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