ISO 9001 - 2015

ISSN 2349 - 4891

Monthly

IJRRAS

IF
4.665

Volume 4,Issue 3, March 2017

International Journal of

Recent Research and Applied Studies

SURRAGH PUBLICATIONS

ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

A Study to Develop Prewriting Skill Performa for Children with Multiple Disabilities

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Received 5th February 2017, Accepted 1st March 2017

Abstract

The purpose of the study was to develop Prewriting Skill Performa (PSP) for children with multiple disabilities. The thirty participants were taken for this study. The participants were selected through Non -probability convenient sampling procedure with the age range of 3 to 6 years. Initially the PSP test was developed and given to the ten experts working in the field of Multiple Disabilities and included their feedback when formation of test tool. Then children were initially assessed with Prewriting Skills Performa-I (PSP-I) by the occupational therapist and Prewriting Skills Performa (PSP)-II assessment was done by their class teacher and the results were recorded. The children underwent training in class room activities. The post test was conducted at end of three months and the results were recorded. The paired t -test was used to compare pre and post test score within the group. The study concluded that the PSP-I and PSP-II can be used to assess prewriting skills for children with MD. This test tool need to be used in large group of children and should be validated in future study.

Keywords: Prewriting, Children, Multiple Disabilities.

Introduction

Many children begin to scribble on paper shortly after they are able to grasp a writing tool. They will write on any available surface if they are not supervised. As the child grows their scribbling becomes meaningful and their writing skill will also improve. Young children from three to five years of age use their hands to explore and learn about the environment and themselves. By developing good hand skills, the gross motor aspect of the pre-writing skills also prepares for the next step of writing. Working on hand skills will also assist older children who are experiencing writing difficulties. *(*Dianne Saunders-2009). The same task for children with Multiple Disabilities is very challenging due to many implications of disabilities. Multiple Disabilities refers to a combination of two or more disabilities (National Trust Act, 1999). Hence before integrating them in regular school (Inclusive Education), writing skill has to be developed. They may face variety of difficulties before learning to write. Hand skills (fine motor) refers to the strength and the dexterity (how well can handle small objects) of hands. Both depend on how to use the small muscles of the hands and the muscles of the forearm to provide strength and stability. And also important to develop strength, stability and control in the upper body and shoulders. It gives the freedom to use the hands to manipulate and control objects in a very precise manner. So that the child can coordinate and use both types of muscles to do things such as holding and using a pencil, etc. The thumb, index and middle fingers carry out the skilled movements to provide stability and increase strength while doing Prewriting skill.

Good sensory information is also important to develop the prewriting skills. It informs the brain about how the child feels, how the child moves and where their hands are while doing a task. The brain must coordinate these sensations with what the child sees and the child will make small changes for precise coordination and muscle control during prewriting activity. Children need to receive and coordinate accurate sensory information when developing pre-writing skills. Children learn better when they enjoy what they are doing. Teach specific skills that promote readiness for reading, writing, and mathematic (Town Mouse & Country Mouse, EDCON Publishing Group, 2007). Cahil et al., 2009, acquisition of handwriting skill early in the educational process is fundamental to future academic success across many domains. Author has given the importance of handwriting for academic achievement and he found that the abilities contribute to the early acquisition of this fundamental skill. Handwriting was typically taught through letter and word copying tasks (Huber & Headrick, 1999) and reading, depends upon the integrated functioning of a suite of motor, perceptual, cognitive and linguistic abilities.

Stevenson et al., 2014, found that the children have control of the fine movement, force of the fingers and hand when copying shapes and letters during writing. But when the children attempt to write, using

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their working memory the target to be copied, coordinate the visual, manual movements, and integrate their perceptual and motor information.

This present study considered the learning process of prewriting skills for young children with multiple disabilities, how they will write, and begin to coordinate. Specifically, it focuses on how they incorporate prewriting process when performing the prewriting skill. Based on the research evidence the present study was to develop Prewriting Skill Performa (PSP) for children with Multiple Disabilities to assess the prewriting skills.

Aim of the Study

To develop the Prewriting Skill Performa for assessing the prewriting skills of children with Multiple Disabilities

Objective of the Study

1. To indentify children who are significantly behind their peer in gross and fine motor development in prewriting skills
2. To plan a program in gross and fine motor development of prewriting
3. To assess the individual progress in gross and fine motor development for readiness for writing
4. To evaluate the success of the prewriting development
5. To serve as a measurement instrument in research involving motor development for prewriting skills

Method

Participant

The present study was aimed to find the result of Prewriting skills of children studying at NIEPMD Model School. The thirty participants were taken for this study. The participants were selected through Non - probability convenient sampling procedure with the age range of 3 to 6 years. The assessment and diagnosis of MD was done by rehabilitation professionals previously.

Inclusion Criteria

1. Children with Multiple Disabilities
2. Age group 3 to 6 years

Exclusion Criteria

1. Children with single disabilities
2. Children with blindness
3. Children with severe and profound motor problems

Instrument and Grading of the Test

The Prewriting Skills Performa (PSP) is a test that measures gross and fine motor abilities for writing readiness in children with Multiple Disabilities in early life. The test is used to indentify children who are significantly behind their peer in gross and fine motor development in prewriting skills, plan a program in gross and fine motor development, assess the individual progress in gross and fine motor development for readiness for writing, Evaluate the success of the prewriting development, Serve as a measurement instrument in research involving motor development for prewriting skills. The PSP test was grouped into two test, that are Prewriting Skill Performa –I (PSP-I) and Prewriting Skill Performa – II (PSP-II). Each test assessing different aspects of Prewriting skills. The test takes 20-30 minutes to administer per child and also may take an additional 10 minutes. Usually only one session is required to get through the test, but to provide favourable circumstances so that the evaluation is optimal, few sessions may be needed for certain children.

Prewriting Skill Performa-I (PSP-I)

The PSP-I test was used to measure the various sub components that are motor, sensory perceptual, cognitive and Psychosocial components. This assessment was done by occupational Therapist. Star rating scale are used to assess the PSP-I skills and the grading are * - Poor, ** – Fair, *** – Good.

Prewriting Skills Performa-II (PSP-II)

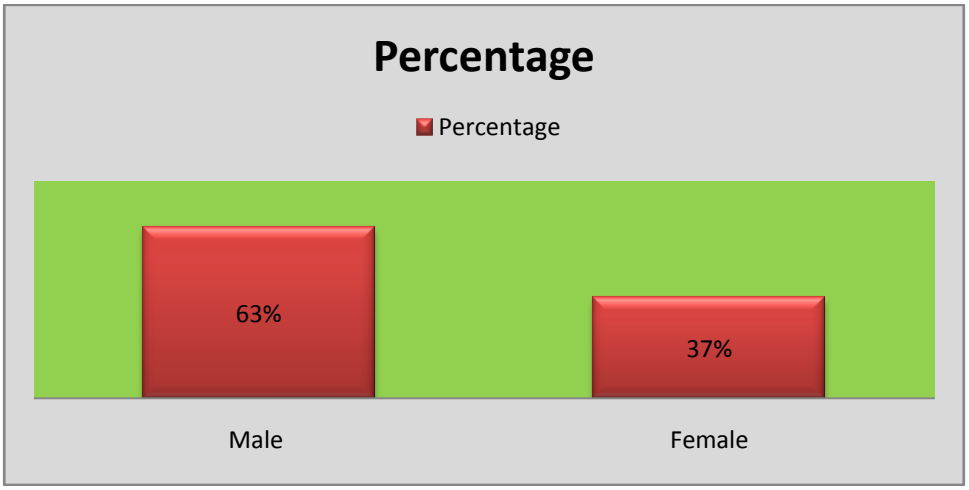
It is used to assess the prewriting skills of the children. This assessment is done by the class teacher. This Performa consist of 30 numbers of skills and it can be used to identify the prewriting pattern for the child age group of 3 to 6 years. Star point rating scale was used that are * -Poor, ** - Fair, *** -Good, **** - Verygood, ***** -Excellent.

Procedure

Initially the PSP test was developed and given to ten experts working in the field of Multiple Disabilities, the feedback received from the experts were incorporated and made changes while formation of test tool. Then children were initially assessed with Prewriting Skills Performa-I (PSP-I) by the occupational therapist and it was done to find out the basic requirement area of prewriting to the children. The result of (PSP)–I was recorded (Pretest-1). The Prewriting Skills Performa (PSP)-II assessment was done by their class teacher and the results were recorded (pretest-2).The children underwent training in class room activities. The post test was conducted at end of three months and the results were recorded. The paired t -test was used to compare pre and post test score within the group. Data were analysed statistically and displayed in tabular and graphic formats

Result and discussion

The aim of the study was to develop Prewriting Skill Performa for assessing the prewriting skills for children with Multiple Disabilities. For this study the graph1 showed the percentage of 30 subjects from multiple Disabilities, male are 63% and female are 37% were participated.



Graph 1
Comparison of gender difference in children with Multiple Disabilities

Table 1 showed the value of comparison of pre and post test score of PSP-I and PSP-II. The result have been analysed in various components of motor, sensory perceptual, cognitive and psychosocial performance in children with MD. The mean value of pre test score of PSP-I is 25.9 and post test score is 32.63 and the t value is 15.05. In PSP-I pre test score, the children mean performance was 43.17% and the post test performance was 54.38%. The results indicated that there was a significant difference found in pre and post test score of prewriting skill performance of PSP-I. The present result was to support the previous study done by Maldarelli JE et al., 2015 that the development of early handwriting: Visual- Motor control during letter copying, there was a coordination of perceptual, motor, cognitive processes contributes to development of letter writing skills.

Table 1
Comparison of pre and post test score of PSP-I and PSP-II of children with Multiple Disabilities

Variable	Number	Test	Mean	Std Deviation	Paired t Test	*P* value
PSP-I	30	Pretest	25.9	3.08	15.05	0.0001
		Posttest	32.63	2.17		
PSP-II	30	Pretest	34.5	2.81	15.32	0.0001
		Posttest	43.57	2.51		

Note: Prewriting Skill Performa (PSP)

The result of PSP-II is in table1, showed that the comparison of pre and post test score and the result was analysed the developmental pattern of prewriting skill. The mean value of pre test score is 34.5 and post test score is 43.57 and their developmental pattern of prewriting skills in pre test is 23% and post test is 29.05%. This result revealed that there was a significant difference found in prewriting skill pattern in PSP-II. The result is also supported by Pienaar et al., 2013 conducted study about relationships between academic performance, SES school type and perceptual- motor skills in first grade South African learner. The authors were concluded that motor integration and motor developmental pattern are closely related to basic academic skills required in first formal school year. The present study showed that the PSP tool test was more effective for assessing the prewriting skills for children with Multiple Disabilities.

Conclusion

The study concluded that the PSP-I and PSP-II can be used to assess prewriting skills for children with MD. This test tool will give scope to find the difference in prewriting skill in academic activities of children with MD.

Implication of the study

- PSP can be used to assess the individual progress in gross and fine motor development for readiness for writing and also used to evaluate the success of the prewriting development.

- This test tool will be used as a measurement instrument in research involving motor development for prewriting skills.

Limitation of the study

- Small sample size and convenient sampling

Recommendation

- This test tool need to be used in large group of children and should be validated in future study.

Reference

1. Cahill SM. Where does handwriting fit in? Strategies to support academic achievement. Intervention in School and Clinic. 2009;44:223–228.doi: 10.1177/1053451208328826
2. Deborah Tiersch-Allen, 2010, Learning with Literature: Town Mouse and Country Mouse, Pre-Writing Skills and Lower-Case Letters, Grade Pre-K/Kindergarten. Learning with Literature (Edcon)
3. Dianne Saunders, 2009, Pre-writing skills for children under five.
4. Huber RA, Headrick AM. Handwriting Identification: Facts and Fundamentals.CRC
5. Press; Boca Raton, FL: 1999.
6. Maldarelli JE et al., Relationships between academic performances, SES school type and perceptual-motor skills in first grade South African learners: NW-CHILD study. Child Care Health Dev. 2014 May;40(3):370-8. doi: 10.1111/cch.12059. Epub 2013 Apr 17.
7. National Trust act, Multiple Disabilities, 1999.
8. Pienaar AE, Development of early handwriting: Visual-motor control during letter copying. Dev Psychol. 2015 Jul;51(7):879-88. doi: 10.1037/a0039424. Epub 2015 Jun1
9. Stevenson N, Just C. In early education, why teach handwriting before keyboarding? Early Childhood Education Journal. 2014;42:49–56.doi:10.1007/s 10643-012-0565-2.

Annexure-I

Prewriting Skills Performa (PSP) – 1

Star points rating scale:
☆ – Poor
☆☆ – Fair
☆☆☆ Good

S. No.	Skills	*	**	***
1. <u>Motor Component</u>:				
a.	U/E Stability			
c.	Holding Pencil / Crayon			
d.	Eye-Hand Co-Ordination			
e.	Object Manipulation			
f.	Crossing the Midline			
g.	Postural control in sitting			
2. <u>Sensory Perceptual Component</u>:				
a.	Proprioception			
b.	Kinesthesia			
e.	Depth Perception			
f.	Figure Ground Perception			
g.	Position in Space			
h.	Right left discrimination			
3. <u>Cognitive Components</u>:				
a.	Attention span			
b.	Initiation of Activity			
c.	Termination of Activity			
4. <u>Psychosocial Component</u>:				
a.	Interest			
b.	Self Management			
c.	Interpersonal Skills			
	Total scores			

Annexure-II

Prewriting Skills Performa (PSP) – 2

Star points rating scale:

– Poor
– Fair
– Good
– Very Good
Excellent

S. No.	Skills	*	**	***	****	*****
1.	Holds vegetable (carrot, radish, ladys finger) appropriately in dominant hand for stamping					
2.	Make dots on plain paper					
3.	Static movement of wrist when making dots					
4.	Dynamic movement of wrist when making dots					
5.	Makes dots within the picture					
6.	Holds pencil / crayon / chalk / pen appropriately (Lateral Tripoid)					
7.	Scribble the plain paper with crayon / pencil appropriately					
8.	Scribbles within picture vertically					
9.	Colours picture horizontally					
10.	Colours picture					
11.	Traces horizontal line					
12.	Forms horizontal line by joining dots					
13.	Draws a horizontal line independently					
14.	Draws a horizontal line appropriately within picture					
15.	Traces vertical line					
16.	Forms vertical line by joining dots					
17.	Draws a vertical line independently					
18.	Draws a vertical line appropriately within picture					
19.	Traces curves					
20.	Forms curves by joining dots					
21.	Draws a curves independently					
22.	Draws a curves appropriately within picture					
23.	Traces chain curves line					
24.	Forms chain curved line by joining dots					
25.	Draws a chain curved line independently					
26.	S a chain curved line appropriately within picture					
27.	Traces circle					
28.	Forms circle by joining dots					
29.	Draws a circle independently(clock or anticlock wise)					
30.	Draws a circle appropriately within picture					
Total score						