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After School Programmes and the Development of Motor Abilities by Children with Dyspraxia in Buea of the South West Region of Cameroon

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Abstract: This study sought to examine the effect of After school programmes and the development of motor abilities by children with dyspraxia in Buea of the South West Region of Cameroon. The research design adopted for this study was the experimental design and the type was the quasi-experimental since the participants of the study were not randomised. The type of quasi-experimental design adopted for the study was a comparative pre-test post-test design with non-randomized experimental and control groups. The purposive sampling technique was also used to select the sample for the study. The sample size was twenty-four (24) class four pupils with dyspraxia between ages 8-10 selected from two schools (Presbyterian School (P.S) Bomaka and Catholic School (C.S) Bolifamba) in the Buea Municipality. Both quantitative (motor ability test for pupils) and qualitative (interview guide for teachers) methodologies were used to collect data for the study. Descriptive statistical techniques were used to analyse the data collected from the field. Qualitative data were analysed using thematic approach whereby ideas or viewpoints were grouped under umbrella terms of key concepts. The quantitative data were subjected to inferential statistical analysis using Statistical Package of the Social Sciences (SPSS) version 21.0. The major results obtained were that the use of after school programmes for pupils with dyspraxia enhanced the development of their motor abilities (in areas of strength, balance, coordination (gross motor skills) and fine motor skills (writing, drawing, cutting, lacing, buttoning, clapping and bouncing). Hence it is recommended that there should be a connection between teachers and parents (school and home) in order to facilitate afterschool programs for pupils with dyspraxia.

Keywords: After school programmes; motor abilities; dyspraxia.

INTRODUCTION

Motor developments involve an individual's ability to carry out or do age appropriate tasks that involve the use of both fine and gross motor movements with flexibility and ease. Motor development however requires complex brain networking. The window of opportunity begins

before children are even born as these growing infants engage in movements while in the stomach. At 5-6 weeks after conception, a fetal movement appears shortly after nerves from the spinal cord establish functional synapses with muscle fibers (de Vries, Visser, & Prechtl, 1982). Fetuses in the first trimester while still resembling a doll with foreshortened limbs and a disproportionately large head exhibit a variety of movements and postures (de Vriesand Hopkins, 2005). Generalized movements occur that ripple through the entire body such as sideways bending of head and trunk, startles, hiccups, twitches, limb, finger movements, breathing movements, skipping movements, somersaults, and facial movements such as mouth openings, tongue protrusions, and yawns. The young child brings hand to face, suck fingers and thumb, touch the umbilical cord and uterine wall and move freely through the amniotic fluid (Sparling & Chescheir, 1999). By the second trimester, fetuses produce smiles and other facial movements that comprise adult-like expressions of laughter, crying, and pain (Azumendi & Kurjak, 2003; Reissland, Francis and Mason, 2013). Hand-to-face contacts, kicks, hiccups and other movements also occur. Body and limb movements generally increase over development. Up to 30% of each day is spent actively moving until the fetus growing body becomes cramped by lack of space then movements decrease until birth (de Vries &Hopkins, 2005).

The term dyspraxia comes from the Greek words: Dys meaning ‘difficulty’ and Praxis meaning ‘control of movement’ (WHO, 2011). Dyspraxia is a developmental disorder affecting motor abilities in normal healthy children. The term has been in use for over 60 years and indicates that the problem lies with “praxis” (the ability to plan and execute movements is impaired). Children with dyspraxia appear clumsy or awkward (Wright & Sugden, 1996). Definitions have varied over time according to context and professional viewpoints. However, research carried out in the 1970s and 1980s, such as that of Gordon and McKinlay (1980) truly began to advance clinical understanding of this condition. In the mid1970s, work on the phenomenon of the “clumsy child” by Gubbay, defined dyspraxia broadly as an impairment of movement ability in mentally normal children (Gubbay, 1975).

The term teacher support refers to a wide variety of instructional methods, educational services or school resources provided to students in an effort to help them accelerate their learning progress, catch up with their peers, meet living standards or generally succeed in school (Lynch & Cicchetti, 1997). In practice, teacher support encompasses a broad array of educational strategies including tutoring sessions, supplemental courses, after school programs, teaching advisors and volunteer mentors as well as alternative ways of grouping, counseling and instructing students. Teacher support can be provided to individual students, specific student populations (for instance students with disabilities) or all students in a school (Murray and Greenberg, 2000). Lynch andCicchetti, (1997) further adds that, teacher support may also refer to services provided to underperforming students as well as enrichment programs and more advanced learning opportunities provided to higher- archiving students.

Some of the support strategies used by teachers include; a) School-Based Strategies: where schools can create academic support opportunities during the school day, such as learning labs to increase the instructional time that academically struggling students receive, while also varying the way that instruction is delivered (for example, place students in a large or small group such that they all work at the same pace while students in other support programs might work one-on-one with a teacher and be given more time to practice skills or learn complex concepts; b) After-Hours Strategies: Schools may provide after school or before school programs usually within the school building that provide students with tutoring or mentoring or that help students prepare for class or acquire study skills; c) Relationship-Based Support: In schools, teachers may use strategies such as teaming or advisories to build stronger and more understanding relationship between them and students. Thus, students will be better served and more effectively taught if teachers know students well and understand their distinct learning needs interest and aspirations; d) Skill-Based Support: Teachers may also decide to create a literacy program that provides all

students with more concentrated instruction, practice and guidance in reading, writing and communicating. The support may be provided during regular classes, during the school day or after regular school hours. Support that focuses on physical or technical skills should also be considered.

The current paper focuses on after school programmes and how these can enhance the development of motor abilities by children with dyspraxia. The prevalence of dyspraxia varies according to setting and author, with most placing the figure between 5% and 10%. In general, estimates of 5% to 6% are more likely (American Psychiatric Association, 2000). In the UK it is estimated that dyspraxia affects approximately one child in twenty, and research has suggested that around 6% of all children have difficulties severe enough to require intervention (Portwood, 1996).This means that, on average, there will be at least one child with dyspraxia in every school class. Estimates suggest that it affects four times more males than females a ratio of 4:1 (Holsti, Grunau & Whitfield 2002). The American Psychiatric Association (2000) holds that symptoms and severity vary from child to child and they suggest that around 2% of dyspraxic children worldwide are severely affected.

Conceptual and theoretical considerations

Dyspraxia in preschool and school age children

In the Pre-school Child: A history of lateness in reaching developmental milestones such as sitting, walking, speaking. Physical co-ordination is so poor that the child cannot run, hop, jump and play with a ball in an age appropriate manner. Inability to dress or use a knife and fork properly, poor pencil grip, significant difficulties with jigsaws, shape sorting games, construction toys, very immature art work, no understanding of positional concepts such as in/on/behind/in front of to name a few, tendency to be anxious, excitable and easily distracted, difficulty in keeping friends or judging how to behave in company (Mercuri, et al, 1996).

In the School-age Child: Persistence of pre-school problems with little or no improvement, avoids or is poor at P.E, does badly in class but significantly better on a one-to-one basis, Poor attention span, difficulty in following/remembering verbal instruction or in following more than one instruction at a time, reacts to stimuli without discrimination, problems with math's, spelling and reading• Handwriting is slow, laborious and immature as well as major difficulties in copying from the blackboard. Although many "normal" children will show some of these signs at some time in their lives, in dyspraxic children the pattern will be pervasive, persistent and severe (Mercuri, et al, 1996)..

Children with dyspraxia tend to experience problems across the whole range of motor activity. However, some dyspraxic children have a high level of control over fine motor tasks but have difficulty with the gross motor skills required for school P.E. or vice versa. Many of their difficulties appear to lie in planning or sequencing the movements required by a particular action. They may try to correct earlier mistakes at an inappropriate point in the movement sequence, leading to confusion and loss of fluency. Problems may be exacerbated when the child is put under time pressure. Mildly dyspraxic children who perform well at home and during play often start to experience problems when they enter school and are increasingly expected to complete tasks within set time limits (Mercuri, et al, 1996).

Portwood (1996) reviewed that, when a child with dyspraxia carries out a motor task, associated movements are sometimes observed in limbs not directly involved in the action being performed. For instance, jumping or hopping might be accompanied by unnecessary arm movements or when the right hand throws or catches a ball, the left hand may make similar gestures. Associated movements of the legs and feet such as swinging or tapping may be observed as the child is seated at a table performing fine motor tasks (example playing with constructional toys). This indicates that the brain messages governing movement are not travelling correctly along the optimum

neural pathways. Hand dominance in many dyspraxic children remains undecided to a comparatively late age and posture tends to be poor. There may be problems with visual perception (example difficulties in judging distances; a tendency to write letters and numbers backwards so that pairs like “d” and “b” are confused).

After-school programs

Schools have not demonstrated academic progress because students continue to struggle educationally in their classrooms. This signals that schools are in need of additional help with their struggling students (Afterschool Alliance, 2011).This brings awareness to the growing demand for enrichment opportunities in schools (de Kanter, 2001) and afterschool programs are possible ways students can gain valuable educational assistance. Students have to attend afterschool programs consistently and engage in most activities in order to see some academic progress. For this to be possible, the afterschool program environment must be warm, inviting, and structured for students to willingly participate in them. Afterschool experiences that are different than those found previously in schools boost students interest to participate in them. Effective afterschool programs as such would have a link to the school day but in a very different format. Students need additional educational time but at the same time, prefer enrichment and relationships with peers and adults. Students continue to attend afterschool program because they feel safe and valued. After-school programs offer tremendous opportunities to extend the school day for students who need academic support in areas such as homework and reading and for students who want to participate in cultural and technological enrichment programs as well as recreational activities (de Kanter, 2001). Afterschool participation will increase academic achievement, student motivation, student confidence and improve student attitudes about learning.

Improved student outcomes:

Improved student outcomes are the goal of most afterschool programs. Roth, Malone and Brooks-Gunn (2010) states “participation in supervised, organized activitiesoften results in increased educational attainment and achievement”. Students enjoy attending afterschool programs because they are able to socialize with friends, learn new concepts and get additional help on homework. Students who are actively engaged with afterschool program experience positive outcomes socially, educationally, behaviorally, and academically. According to Fredricks, Hackett & Bregman (2010), participation in school-based and community-based after-school programs is associated with a variety of positive developmental outcomes, including higher motivation and academic performance, lower incidence of problem behavior, enhanced social competence, and improved mental health. Regular attendance in afterschool programs have led to improvements in students’ test scores, school behavior, attendance, and graduation rates (Hall, Williams, and Daniel, 2010).

Students in afterschool programs have constant access to feedback from the adults/instructors directing the program. In educational afterschool programs, students are receiving constant feedback from the afterschool teachers about homework. In most cases, students do not have the traditional wait time as in a traditional classroom setting. Since feedback is ongoing and participants have access to the activities and strategies of more expert participants, teaching and learning become ingrained as a natural part of the process of participation (Nashir, 2008). Balancing academic support with a variety of engaging, fun, and structured extracurricular or co-curricular activities that promote youth development of real-world contexts appear to support and improve academic performance (Harvard Family Research Project, 2008).

According to Dietel (2009), students with high after-school attendance were more likely to attend school and spend more time on homework. After-school programs can help students obtain the additional time needed to learn concepts taught during their regular school day. As student’s progress from upper elementary grades into middle school, instruction must become replete with

content-rich classes that incorporate higher level thinking skills, writing skills, real-life skills and active learning strategies (Kidwell, 2010). Tremendous educational success can occur if afterschool programs work with the day schools to work with students to understand difficult concepts taught in school. After-school programs that are aligned with the school day curriculum will support students learning and narrow the achievement gap by offering additional supports to struggling students that complement and reinforce learning that takes place in the classroom in new and exciting ways (Afterschool Alliance, 2011). Most afterschool programs share a common activity structure; a mix of homework help, snacks, free time, arts, crafts, table games, gym or playground time, cultural awareness activities, and field trips" (Halpern, 1999). After school programs thus helps the student to gain the necessary skills to move forward and beyond their current level of understanding to full self-autonomy and academic success.

Bandura's Social Learning Theory

Bandura (1976) propounded his learning theory based on the fact that people learn while watching or observing what others do. His theory postulates that, social and cognitive factor as well as behavior plays an important role to learning. According to Bandura (1977), children learn a lot of what they do and say by observing the behavior of adults or other peers. Observational learning occurs when an organisms responds is influenced by the behavior of others who are called models. The theories central concept is reciprocal learning whereby the increasing factors in learning are cognitive and environmental acting on the learner's behavior (Bandura, 1977). This implies that the learner is not a passive recipient of information but is an active recipient in the learning process. Hence, the learners behavior affects the environment and vice versa. These determine not only the learners emotional reaction, but also the learners believes, expectations and behavioral manifestations. To him, learning is copying, modeling, observing and imitating but with some awareness of what is involved. This requires continuous reciprocal interaction between cognitive, behavioral and environmental factors.

This implies that children develop motor skills by watching others perform a task. They learn many things when shown what to do and later try to practice the actions they watched earlier. When teachers and peers 'show' rather than 'tell' children to pack up toys, throw or kick a ball, it engages them in action movements that improves their motor abilities. Again children with motor difficulties will learn and grasp new skills better when activities are modeled to them. This is in a sense that these children can watch actions and behaviors modeled to them by a teacher, peer or significant other rather than their faces when they tell them what to do. Practicing a skill will improve mastery rather than explaining them in words. Modeling is most successful when; the modeler has the child's full attention, gets the child to watch first and then move slowly so the child can clearly see what the teacher is doing and when tasks are broken down into smeller steps and taught one step at a time to ease mastery. When the child with motor difficulty has learned the first step, the teacher then introduces the next step, and then the next step and so on until the child can do the whole task on his own. This in turn boosts feelings of self-confidence, self-esteem, self-efficiency and autonomy in children.

The social learning theory of Bandura emphasizes the importance of observing and modeling the behaviors, attitudes and emotional reaction of others. Bandura (1977) states "learning will be exceedingly laborious not to mention hazardous if people have to really solely on the effect of their action to inform them on what to do. Fortunately, most human behavior is learnt observationally through modeling; from observing others, one forms an idea on how new behaviors are performed and on later occasions this coded information serve as a guide for action". The social cognitive theory therefore revolves around the observation of role models in learning. These role models could be media sources or peers. The following stages are involved in the modeling process;

Attention: In other to learn, individuals need to pay attention. Anything that distracts your attention is going to have a negative effect on observational learning. If the model is interesting or there is a novel aspect to the situation, you are far more likely to dedicate full attention to learning.

Retention: The ability to store information is also an important part of the learning process. Retention can be affected by a number of factors, but the ability to pull up information later and act on it is vital to observational learning.

Reproduction: Once you have paid attention to the model and retained the information, it is time to actually perform the behavior you observed. Further practice of the learned behavior leads to improvement and skill advancement.

Motivation: Finally, in other for observational learning to be successful, learners have to be motivated to imitate the behavior that has been modeled. Motivation entails self-reinforcement to be able to get initiatives or drives to do a particular activity again and again.

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Methodology

Research design

The research design adopted for this study was the experimental design and the type is quasi-experimental since the participants of the study were not randomised. The type of quasi-experimental design adopted for the study was a comparative pre-test post-test design with non-randomized experimental and control groups. The quasi-experimental design identified a control (comparison) group that is as similar as possible to the experimental (treatment) group in terms of baseline or pre-intervention characteristics. In this study, participants were shared into the experimental and control groups based on teacher nomination. There was a pre-test and post-test plan, for both experimental and control groups.

Study area

The study was carried out in the Buea Municipality located in the South-West Region of Cameroon. Buea is an academic town with so many governments, lay private and confessional schools that range from primary, secondary and higher institutions. The literacy rate is on the rise with some 60-75% of the youths having access to education. Also, this municipality has just few special schools that cater for children with special needs and these schools includes; Borstal Institute, Rehabilitation Institute for the Blind and the Buea School for the Deaf. Due to the limited resources available in these schools, they often admit limited number of students. Hence, most children with special needs are often admitted into regular schools in the Municipality.

Population and sample of the study

From table 1 below, our accessible population was 101 pupils from both schools and our sample was 24 pupils. P.S class 4, accessible population 48, sample 12 and C.S class 4, accessible population 53, sample 12.

Table 1: Accessible population

Name of school	class	Number of pupils	Number of pupils with dyspraxia
Presbyterian School (P.S) Bomaka	4	48	12
Catholic School (C.S) Bolifamba mile 16	4	53	12
Total		101	24

Table 2: Distribution of pupils to experimental and control groups by sex

Groups	Number of boys	Number of girls	Total
Experimental	06	06	12
Control	06	06	12
Total	12	12	24

From table 2 above, 12 pupils were chosen for the experimental group, made up of 6 boys and 6girls. While 12other pupils were chosen for the control group, made up of 6 boys and 6 girls. This made a total sample of 24 pupils, 12 boys and 12 girls.

Instruments for Data Collection

For the purpose of this study, data were collected with the use of a motor ability test for pupils and an interview guide for teachers.

Motor Ability Test: The test was adapted and constructed in order to measure the ability level of pupils in relation to motor skills. The test was divided into two sections. Section A measured gross motor abilities, in relation to aspects of strength, balance, coordination (each having 3 items) and section B measured fine motor control skills, with a total of 7 items.

The test was constructed and self-administered by the researcher with the aid of two trained field agents. These agents were trained for a period of one week on the various items of the test. The researcher practised with the agents on the various roles they will perform during the conducting process. Information results were collected with the use of a camera device and note taking technique.

Interview Guide

An interview guide for teachers was purposefully designed to examine teachers experience on the phenomenon under investigation. The interview guide had 16 structured open ended items dealing with teachers' experiences on the use of support strategies for children with dyspraxia.

The interview was constructed and conducted by the researcher. An audio recording device and note taking technique were used in collecting the responses of the teachers. These were later transcribed for analysis.

Validity of Instruments

Face Validity

After constructing the test and interview guide, the researcher presented them to the supervisor for scrutiny and cross checking. The supervisor then made some corrections which the researcher

effected and made modifications by adjusting some items while some others were eliminate. The instruments were then considered valid to collect relevant information for the study.

Content Validity

The validity of instruments was done using the content validity which sought to measure the extent to which the content of the instruments corresponded with the conceptual understanding and operationalization of variables used in the study.Content validity was mathematically calculated using the Content Validity Index (CVI) whereby the instruments for data collection were checked by the supervisor. To come out with the statements that an instrument is judged valid, the inter-judge coefficient of validity was computed using the following formula: CVI = (No of judges declared item valid) / (total No of judges). According to Nana (2012) if the CVI is above 0.75, then the content validity is satisfactory.

Reliability of Instruments

The reliability of the instrument was achieved through a pilot test using the test and retest method. To ensure this, the test and retest was used whereby, the instrument was administered to 6 pupils (3 control and 3 experimental) in Government School (G.S) Muea who were not part of the sample population and after a week, the same test was administered to the same respondents. A comparison was made between the responses of the two tests. The coefficient of reliability was calculated as 0.95 that is the data collected method was tested for reliability using the Cronbach Alpha Coefficient. The values were considered high enough to justify that the instrument is reliable and satisfactory for use in the research.

Table 4: Reliability analysis

Intervention type	Reliability coefficient	N_{cases}	N_{item}
After school programmes			
Strength	0.931	12	3
Balance	0.893	12	3
Coordination	0.897	12	3
Fine motor task	0.962	12	7

The reliability from table 3 above was very satisfactory for all the components including the IVM with coefficient yielded by the parallel test ranging from 0.893 to 0.962. This therefore indicates that the instrument was satisfactorily consistent in the measuring.

Comparing Between Pre-test and Post-test

Here we are faced with two related samples and the non-parametric test used in this context is Wilcoxon Sign-Rank test as to compare the situation before and after within group. This test will be supported by the progression results that estimates the number of children that have improved as explained earlier.

Statistics were discussed at the 95% Confidence Level (CL), that is Alpha=0.05. That is, depending on the assumption or the hypothesis under discussion, this was to be accepted or rejected if P-Value is greater or less than Alpha. For instance, for the difference between the control and the experimental groups to be significant, the calculated P-Value shall be <0.05.

Ethical Considerations

The researcher obtained a research authorisation from the Head of Department of Educational Psychology, Faculty of Education, University of Buea. Permission to administer the interview and motor ability test was sought from the school administrator (Head Teacher), the class teacher and the parents of the pupils. Participants were informed that their participation was free and voluntary and they could withdraw from the study at any time without any consequence. They were also

assured that their time will not be wasted. Finally, participants were guaranteed anonymity and that the information gathered from them will be kept confidential and only be used for purposes of the study.

Findings

This section presents findings (strength, balance, coordination, fine and gross motor tasks) that were used in measuring aspects of motor abilities for pupils with dyspraxia.

Quantitative findings

A. After-school programs and the strength of pupils with dyspraxia

Table 5: The effect of after-school programs on the strength of pupils with dyspraxia within test level and between groups

Scale	Stats	Pre-test		KS test (P-Value)	Post-test		KS test (P-Value)	WSR test (P-value)	WSR test (P-value)
		Experimental	Control	Comparing between experimental and control group	Experimental	Control	Comparing between experimental and control group	Comparing within experimental group (Pre-test Vs. Post-test)	Comparing within control group (Pre-test Vs. Post-test)
Strength at after school programs	N	6	6	0.699	6	6	0.003	0.027	0.157
	Mean	3.7	3.5		8.3	3.8			
	SEM	0.2	0.2		0.4	0.2			
	Median	4.0	3.5		8.0	4.0			
	SD	0.5	0.5		1.0	0.4			

*Kolmogorov-Smirnov Z test

** Wilcoxon Signed Rank test

As concerned strength at after-schoolprogrammesfrom table 5 above, at the pre-test, the experimental and the control groups had almost the same average score and though the average was slightly higher in the experimental group with 3.7 points as compared to 3.5 points in the control group, this difference was not statistically significant (P>0.05). At the post-test however, the experimental group improved from 3.7 points to 8.3 points while in the control group there was a slight change in score from 3.5 points to 3.8 points. This difference at the post-test between the control and the experimental group was significant (P<0.05). This therefore implies that after-school programs significantly improved pupils' strength.

B. After-school programs and the Balance of pupils with dyspraxia

Table 6: The effect of after-school programs on the balance of pupils with dyspraxia within test level and between groups

Scale	Stats	Pre-test	KS test (P-Value)	Post-test	KS test (P-Value)	WSR test (P-value)	WSR test (P-

									value)
		Experimental	Control	Comparing between experimental and control group	Experimental	Control	Comparing between experimental and control group	Comparing within experimental group (Pre-test Vs. Post-test)	Comparing within control group (Pre-test Vs. Post-test)
Balance at after school program	N	6	6	0.937	6	6	0.003	0.026	1.000
	Mean	4.2	4.3		10.3	4.3			
	SEM	0.3	0.3		0.2	0.3			
	Median	4.0	4.0		10.0	4.5			
	SD	0.8	0.8		0.5	0.8			

*Kolmogorov-Smirnov Z test
** Wilcoxon Signed Rank test

From table 6 above, as far as balance at after-school programswas concerned, at the pre-test, the experimental and the control groups had almost the same average score and although the average was a bit higher in the control group with 4.3 points as compared to 4.2 points in the experimental group, this difference was not statistically significant (P>0.05). However at the post-test, the experimental group improved to 10.3 points while in the control group there was no change in score. This difference at the post-test between the control and the experimental group was significant (P<0.05). This shows therefore that after-school programs improved pupils' balance significantly.

C. After-school programs and the Coordination of pupils with dyspraxia

Table 7: The effect of after-school programs on the coordination of pupils with dyspraxia within test level and between groups

Scale	Stats	Pre-test		KS test (P-Value)	Post-test		KS test (P-Value)	WSR test (P-value)	WSR test (P-value)
		Experimental	Control	Comparing between experimental and control group	Experimental	Control	Comparing between experimental and control group	Comparing within experimental group (Pre-test Vs. Post-test)	Comparing within control group (Pre-test Vs. Post-test)
Coordination at after school program	N	6	6	1.000	6	6	0.003	0.026	1.000
	Mean	4.0	4.0		9.7	4.0			
	SEM	0.3	0.4		0.2	0.3			
	Median	4.0	4.0		10.0	4.0			
	SD	0.6	0.9		0.5	0.6			

*Kolmogorov-Smirnov Z test
** Wilcoxon Signed Rank test

Looking at coordination at after-school programs from table 7 above, at the pre-test, the experimental and the control groups had the same average score of 4.0 points each but this difference was not statistically significant (P>0.05). However at the post-test, the experimental group improved to 9.7 points while in the control group there was no change in score. This difference at the post-test between the control and the experimental group was significant

(P<0.05). This therefore proves that after-school programs significantly improved pupils' coordination.

D. After-school programs and gross motor abilities of pupils with dyspraxia

Table 8: The effect of after-school programs on gross motor abilities of pupils with dyspraxia within test level and between groups

Scale	Stats	Pre-test		KS test (P-Value)	Post-test		KS test (P-Value)	WSR test (P-value)	WSR test (P-value)
		Experimental	Control	Comparing between experimental and control group	Experimental	Control	Comparing between experimental and control group	Comparing within experimental group (Pre-test Vs. Post-test)	Comparing within control group (Pre-test Vs. Post-test)
Gross motor task at after school program	N	6	6	0.818	6	6	0.004	0.027	0.317
	Mean	11.8	11.8		28.3	12.2			
	SEM	0.3	0.4		0.5	0.4			
	Median	12.0	12.0		28.5	12.5			
	SD	0.8	1.0		1.2	1.0			

*Kolmogorov-Smirnov Z test

** Wilcoxon Signed Rank test

From table 8 above, as concerned gross motor tasks at after-school programs, at the pre-test, the experimental and the control groups had the same scores with average of 11.18 points each. However at the post-test, the experimental group performed significantly (P>0.05) higher than the control group, with an average score of 28.3 points as against the 12.2 points for the control group. This progression in score observed in the experimental group was significant (P<0.05). This confirms therefore that tutoring session improved pupils' fine motor skills significantly.

E. After-school programs on fine motor abilities of pupils with dyspraxia

Table 9: The effect of after-school programs on fine motor abilities of pupils with dyspraxia within test level and between groups

Scale	Stats	Pre-test	KS test	Post-test	KS test	WSR test	WSR test

				(P-Value)			(P-Value)	(P-value)	(P-value)
		Experimental	Control	Comparing between experimental and control group	Experimental	Control	Comparing between experimental and control group	Comparing within experimental group (Pre-test Vs. Post-test)	Comparing within control group (Pre-test Vs. Post-test)
Fine motor task at after school program	N	6	6	0.240	6	6	0.001	0.024	0.83
	Mean	10.0	10.5		23.0	10.0			
	SEM	0.3	0.2		0.0	0.0			
	Median	10.0	10.5		23.0	10.0			
	SD	0.6	0.5		0.0	0.0			

*Kolmogorov-Smirnov Z test
** Wilcoxon Signed Rank test

Concerning fine motor tasks at after school programs from table 9 above, at pre-test, the control group had a higher average score of 10.5 points as against 10.0 points for the experimental group but this difference was not significant (P>0.05). At the post-test however, the experimental group performed significantly (P>0.05) higher than the control group, with an average score of 23.0 points as against the 10.0 points for the control group. This progression in scores observed in the experimental group was significant (P<0.05). This further shows that tutoring session improved pupils' fine motor skills significantly.

Hypothesis: There is no significant relationship between after-school programs and the development of motor abilities by pupils with dyspraxia.

Table 10: The effect of after-school programs on the development of motor abilities by pupils with dyspraxia within test level and between groups

Scale	Stats	Pre-test		KS test (P-Value)	Post-test		KS test (P-Value)	WSR test (P-value)	WSR test (P-value)
		Experimental	Control	Comparing between experimental and control group	Experimental	Control	Comparing between experimental and control group	Comparing within experimental group (Pre-test Vs. Post-test)	Comparing within control group (Pre-test Vs. Post-test)
Overall score after-school program	N	6	6	0.394	6	6	0.004	0.026	0.564
	Mean	21.8	22.3		51.3	22.1			
	SEM	0.5	0.5		0.5	0.4			
	Median	21.5	23.0		51.5	22.5			
	SD	1.2	1.2		1.2	1.0			

*Kolmogorov-Smirnov Z test
** Wilcoxon Signed Rank test

For the overall score for after-school programs, at the pre-test, the control group had a higher average score of 22.3 points as against 21.8 points for the experimental group but this difference was not significant (P>0.05). However at the post-test, the experimental group performed significantly (P>0.05) higher than the control group, with an average score of 51.3 points as

against the 22.1 points for the control group. This progression in scores observed in the experimental group was significant (P<0.05). This trend is further supported by the progression table below;

Table 1i: Progression rate on the development of motor abilities by pupils with dyspraxia at after-school programs.

Group	Stats	Progression after school programs		Total
		Progression	No progression	
Experimental	N	6	0	6
	%	100.0%	0.0%	100.0%
Control	N	1	5	6
	%	16.7%	83.3%	100.0%
Total	N	7	5	12
	%	58.3%	41.7%	100.0%

Cramer's V: V=0.845; P=0.003.

From table 18 above, the progression was 100% in the experimental group and 16.7% in the control group and this gap was significant (P<0.05). Based on the tablesabove, the hypothesis here stated is therefore rejected thus implying that after-school programs significantly influenced the development of motor abilities of pupils with dyspraxia. This assertion is equally supported by the descriptive results from teachers' interview as presented below;

Qualitative Findings

The activities that teachers engaged children in after-school hours as depicted by thematic analysis were:

Writing and drawing lessons: They are exercises that teachers engage children in to help them improves their pen/ pencil grip and to meet up with learning. Teachers explain that they *"engage children in drawing and writing exercises to improve their pen/pencil grips, finger dexterity and fine motor skills movements. These exercises keep pupils busy and active as well as improve their fine motor development and make them meet up with learning with their other peers"*.

Arts and craft classes: They are activities that involve fine motor skills. Arts activities involve coloring drawings or painting diagrams and craft activities involve needing duster or weaving brooms. Teachers say they *"give more practical exercises to pupils after school in subjects like arts (painting or coloring drawings) and craft activities like needing a duster, weaving (making of fans using grass) and broom making to help them use their arms more frequently. These exercises helps improves their motor skills".*

Drama lessons: These are short acting exercises that involve fine, gross motor and whole body movements to enable pupils be active and flexible, ease task performance and to help them socialize. Teachers again use after school hours to *"demonstrate and practice tasks one on one with pupils and engaging them in active drama plays. This activity keeps pupils engaged and busy after school hours and through this means, they are able to interact, master tasks easily, learn social clues and improve on their fine motor skills in general".*

Games: They are activities or exercises that involve fine, gross motor and whole body movements that enhance pupil's finger dexterity and body flexibility. According to teachers after school hours is a good time to *"demonstrate and practice tasks one on one with pupils in a form of games. Game like molding (molding in sand or mud), blind folds, rope jumps are practiced. Participating in such games improves pupil's dexterity and body flexibility as well as boost health conditions".*

The extra classes that teachers organize for pupils with motor problems as depicted by thematic analysis were:

Writing and drawing lessons: They are exercises that teachers engage children in to help them improves their pen/ pencil grip and to meet up with activities that were earlier taught in class. Teachers explain that they *"engage children in drawing and writing exercises to improve their pen/pencil grips, finger flexibility and fine motor skills movements. These exercises keep pupils active, improve their fine motor skills and help them meet up with learning with their other peers".*

Arts and craft classes: They are activities that involve fine motor skills. Arts activities involve coloring drawings or painting diagrams and craft activities involve needing duster or weaving brooms. Teachers say they *"give more practical exercises to pupils after school in subjects like arts (painting or coloring drawings) and craft activities like needing a duster, weaving (making of fans using grass) and broom making to help them use their arms more frequently. These exercises helps improves their motor efficiency".*

Drama lessons: These are acting exercises that involve fine, gross motor and whole body movements to enable pupils to be active and flexible, interact amongst them and to perform task easily. Teachers again use after school hours to *"demonstrate and practice tasks one on one with pupils in the form of drama. These activities keep pupils engaged and busy after school hours and through this means, they are able to master tasks easily, learn social clues and improve on their fine motor skill movements".*

Games: They are activities or exercises that involve fine, gross motor and whole body movements that enhance pupil's finger dexterity and body flexibility. According to teachers after school hours is a good time to *"demonstrate and practice tasks one on one with pupils in a form of games. Game like molding (molding in sand or mud), blind folds, rope jumps are encouraged. Participating in such games improves pupil's dexterity and body flexibility and improves pupils' body image".*

The benefits of extra classes to pupils with motor problems as depicted by thematic analysis were:

Narrows learning gaps: pupils are able to meet up with learning which they could not during the normal school day. When children attend extra classes, "*they are able to meet up with learning which they could not during the normal school day since teachers have time to explain concepts to them explicitly. This ease learning, improves pupils' participation in the learning process and narrows learning gaps".*

Better understand: Learners better understand and participate in lessons during after school learning. Teachers say *"constant practices with children helps them to better understand and perform tasks which could not do during normal class sessions and this in turn improves academic performance and boost motor skill development".*

Strengthened social ties: pupils bond more with their peers which improves relationship/friendship. Teachers say *"when children interact more, they feel happy, learn social cues, as well as enhance social acceptance. This also positively impacts on learning* and facilitates motor skill acquisition*".*

Improved efficiency: Improved flexibility and efficiency in executing tasks. Teachers say *"Children are able to master and perform task efficiently and this improves motor skill development as well".*

The forms of parental support teachers receive in the organization of after-school programs for pupils with motor problems are as explained below:

Books: Learning materials for pupils. Teachers explain that *"parents try to provide the necessary learning materials like books, arts and craft items so that pupils can better follow up in the after school classes."*

Fees: Payment of extra class fee for pupils. Teachers say *"Parents assist them by way of paying extra class fee for pupils. This motivates and encourages us to teach well and to follow up pupils learning progress".*

Teaching material: Assist in providing teaching materials through donations. Teachers say "*parents also assist in providing some teaching materials for them to facilitate the teaching process through P.T.A contributions".*

Discussions

The results of the present study revealed that after-school programs had a significant effect on the development of motor abilities by pupils with dyspraxia, with a high progression rate for the experimental group. This implies that when teachers engage pupils with motor deficits in repetitive classes on what was taught during normal school hours; these children's motor skills will develop easily as they perform the same tasks over and over. Response from teachers interview also support the above assertion and show that repeating lessons like writing, arts and craft, drama and game activities to children after school hours makes tasks easier for these children and facilitates motor skill development.. According to de Kanter (2001), after-school programs should have a link to the school day but performed in a very different format to boost learner's interest to participate in them.These programs should incorporate higher level thinking skills, writing skills, real-life skills and active learning strategies (Kidwell, 2010).

Vygotsky's (1978) theorization of zone of proximal development and scaffolding are of practical relevance to the findings of the present study. During school hours, there are some learners, especially those with disabilities that may not capture all the skills in an inclusive classroom. Teachers need to engage these pupils in after school programs so as to scaffold them through their zones of proximal development on the skills that they did not completely learn during normal school hours.

In relation to the results of the present study, Boyle (2007) equally found out the use of intervention programs on pupils with dyspraxia for a period of six weeks led to significant level of improvement in the experimental group with regards to the speed of handwriting and also in general gross motor coordination. After school programs are not limited to repetitive formal classes given by teachers to pupils. As was the case with the present study, pupils were equally exposed to other forms of unstructured play out of class. This had great impact on the development of their gross motor activities. The current results fall in line with a study done by Tortella, Haga, Loras, Sigmundsson and Fumagalli (2016), who found out that exposing children with motor deficitson the playground after regular school hours had significant effect on their gross motor skill development. Matvienko and Ahrabi-Fard, (2010) working on a 4-week program consisting daily of a morning walk and an after-school physical activity lesson with an emphasis on motor skill development, nutrition/health lesson, snack, and non-structured active play, witnessed significant improvements on the motor skills of deficient children. Similar findings were recorded by Raudseppn and Päll (2006), whose study revealed that developmental levels of both overhand throwing and jumping were significantly correlated with the skill-specific outside-school physical activity. After school programs/activities are thus beneficial for the academic and motor success of children with dyspraxia.

Conclusion

After-school programs can help students obtain the additional time needed to learn concepts taught during their regular school day. As student's progress from upper elementary grades into

middle school, instruction must become replete with content-rich classes that incorporate higher level thinking skills, writing skills, real-life skills and active learning strategies. Tremendous educational success can occur if afterschool programs work with the day schools to work with students to understand difficult concepts taught in school. After-school programs that are aligned with the school day curriculum will support students learning and narrow the achievement gap by offering additional supports to struggling students that complement and reinforce learning that takes place in the classroom in new and exciting ways. Most afterschool programs share a common activity structure; a mix of homework help, snacks, free time, arts, crafts, table games, gym or playground time, cultural awareness activities, and field trips. After school programs thus helps the student to gain the necessary skills to move forward and beyond their current level of understanding to full self-autonomy and academic success

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