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The Relationship Between Self-Esteem and Academic Achievement of Girls with Hearing Impairments in Secondary Schools for the Deaf in Kenya

Beatrice Bunyasi Awori, M.Ed

Dr John K. Mugo

Dr. John A. Orodho

Dr G. K. Karugu, Ph.D

Kenyatta University

Abstract

Several factors had been cited as contributing to the perpetually dismal academic achievement of girls with hearing impairment in Kenya. Personal esteem factors had not been adequately explored. The study used Carl Roger's client-centered theory and an Ex-post facto design. Rosenberg self-esteem scale was used to measure self-esteem dimensions. School academic scores were used to measure academic achievement. A sample of fifty-three girls was drawn. Data were collected through questionnaires and interviews. The results: girls with hearing impairment possessed positive/high self-esteem but academic achievement was low. It was concluded that girls with hearing impairment placed more value on relational aspects (grooming), music and dance. They lagged behind due to lack of specialized technological devices. The study recommended: teachers to make deliberate use of positive reinforcement; principals to initiate active collaborations with interested partners; the government to make the curriculum more flexible and curriculum developers to reconsider curricula adaptation. Kenya National Examination Council to focus on practical assessment and/or use of sign language interpreters. The government to increase disability fund and provide opportunities for capacity building for assistive-devices-technicians. Further research in the area of teachers' proficiency in Kenya Sign Language to be conducted.

The Relationship Between Self-Esteem and Academic Achievement of Girls with Hearing Impairments in Secondary Schools for the Deaf in Kenya

Kenya has made concerted effort to bridge the gender gap in education of girls on the understanding that gender disparities lead to more inequalities in meaningful lifelong education. As a country, it recognizes that education is a human right and has put in place

both legislative and long-term policy frameworks to ensure that basic education is available and free for all. To meet the national goals of education, recent policy initiatives have focused on dealing with key challenges such as access, participation, retention, equity, quality, relevance, transition and efficiency that consider gender and geographical disparities. Women are recognized for their crucial role in society, namely, giving birth to children and playing a major role in the implementation of any family planning programmes. They bear the main responsibility for nutrition and health of their families, particularly children. They also play a predominant part as educators for future generation (Juma, 1994).

Numerous studies have shown the impact of maternal education, which plays a major role in determining the level of infant and child mortality. Juma (1994) reveals that educating women to acquire information, knowledge and skills, increases their self-confidence and raises their status as full participating members of the society. In Kenya, women are said to constitute 50 percent of the country's population yet the poorest strata of the society. According to UNESCO estimates, nearly half of the women in developing countries do not know how to read and write (UNESCO, 1988). Nonetheless, it has been established that countries that have the highest rate of women illiteracy have also low enrolment rates for girls at primary to secondary education. But with the introduction of Universal Primary Education (UPE) and Free Primary Education (FPE) in Kenya and in many other countries, some countries have succeeded in reducing their female illiteracy rates significantly.

In spite of the efforts to increase female educational opportunities, enrolment ratio in secondary school and university admissions for girls is lower than for boys in Kenya. It is worse for the girls with hearing impairment. A report by UNICEF (2001) reveals that with only two secondary schools for children with hearing impairment available to graduates of primary schools in Kenya, relatively few move to secondary schools and post-secondary education. Among the few who manage to reach this level, the number of girls is dismal as revealed in Table 1.

Table 1: Enrolment in special needs institutions by category in 1999 and 2003

Category	1999			2003		
	Boys	Girls	Total	Boys	Girls	Total
Special Primary	3,716	2,796	6,512	13,353	10,106	23,459
Special Secondary	492	388	880	6490	536	7,026
Special Tech/Vocational	305	246	551	1,286	1,114	2,400
Primary Units/Integrated	3,323	2,417	5,740	53,112	75,828	128,940
Total	7,836	5,847	13,683	74,241	87,584	162,825

Source: Special Education Section and Statistics Section, MoE (2007)

The table shows the enrolment pattern in Special Needs Education (SNE) institutions by category in 1999 and 2003 in Kenya. Indeed, this table reveals a gap in access of girls with hearing impairment to post-secondary education and likewise to professional training and career upward mobility. In addition, the Kenya National Examination Council (KNEC), which is a body mandated with the responsibility of assessment and evaluation of academic standards (Table 2) shows that the performance of girls with hearing impairment is low in Kenya Certificate of Secondary Education (KCSE) examinations in special sampled schools between 2003 and 2006. Particularly, the reflection on performance for girls with hearing impairment is relatively low as compared to boys with similar impairment or other girls with different disabilities. Table 2 reveals a gap that exists in academic achievement particularly for girls with hearing impairment.

Table 2: Kenya Certificate of Secondary Education performances in special schools from 2003 to 2006

Centre Name	Gender	2003		2004		2005		2006	
		Entry	Mean Score	Entry	Mean Score	Entry	Mean Score	Entry	Mean Score
Rev. Muhoro for the Deaf (HI)	Female	33	2.7	19	2.2	26	2.8	26	2.5
	Male	17	2.0	27	2.7	17	3.4	19	2.6
Joytown (PH)	Female	14	4.9	10	4.9	21	5.0	23	4.7
	Male	14	6.3	10	6.4	20	5.2	9	4.6
Thika Sch. For Blind	Female	13	5.2	20	4.8	25	5.4	18	6.1
	Male	31	5.0	28	5.1	28	6.0	36	5.8
St. Angela Mumias for Deaf girls (HI)	Female	7	3.7	14	2.2	16	1.5	16	1.4
	Male	-	-	8	2.6	9	2.3	-	-

Source: Kenya National Examinations Council (2003-2006).

It was on this premise that the need arose to focus on the individual girls' competencies and experiences. The fact that several factors such as school environment, lack of resources, family status and communication barriers had been observed, little was known concerning personal self-esteem. It was evident that parental socio-economic status, teachers' attitude and lack of learning resources in the school environment affected provision of basic physiological needs (Mwathi,1998). However, the Kenya government through its initiative to provide free education has enabled parents to send their children to school without much strain. Great sensitization on change of attitude towards persons with disabilities through media, workshops and policy frameworks, had also brought about attitudinal change that had led to the realization of inclusive education, which was a great celebration in the schools. With all these measures in place, performance of girls with hearing impairment was low hence the need to investigate the underlying factors of which the search for individual self-rating was to be considered. Self-esteem was viewed as the affective or evaluated counterpart to cognitive representations of the self (Brown, 1998). It was widely acknowledged as having a strong influence on psychological orientation of the individual, including motivation to engage in efficacious behavior.

According to Brown (1998), the experience of being competent to cope with the basic challenges of life and of being worthy of happiness, results from one's self-esteem. This consists of two components: the first is self-efficacy which is confidence in one's ability to think, learn, choose and make appropriate decisions and self-respect, which is confidence in one's right to be happy and by extension, confidence that achievement, success, friendship, respect, love and fulfillment are appropriate to oneself (Brown, 1998).

Branden (1969) points out that people acquire experience differently and this affects their existence. Their self-evaluation is the basic context in which they act and react, choose their values, set their goals and meet the challenges of life. Their responses to events are shaped in part by who and what they think they are, that is, how competent and worthy they perceive themselves to be. In other words, self-esteem is a basic human need just as other needs mentioned earlier. These differences in how peoples' perceptions are have important implications for other elaborate behaviours including such areas like academic achievement (Cloninger, 2004).

Educational achievement on the other hand has great value to human beings and the society in which they belong. That is the reason for every nation to monitor the progress of its citizens through organizations or bodies like KNEC, to keep track of educational performances or achievements irrespective of gender, disability, colour and religion. For instance, in Kenya, the KNEC records (Table 2) reveal the gap that exists in the performance of girls with hearing impairment, which was the focus for this study. Despite the fact that several studies have been carried out to investigate factors affecting educational development of children with disabilities in general such as social, economical, school factors (resources in terms of materials and personnel), (Murugami, 2002; Mwathi, 1998; & Oliwa, 1998), no study has investigated the personal or rather the intrinsic factors which the present study focused on, that is the self-evaluation.

Purpose and Objectives of the Study

The purpose of this study was to establish the relationship between self-esteem and academic achievement for girls with hearing impairment in Kenya. Girls with hearing impairment achieve considerably lower in the academic arena compared to hearing girls or even girls with visual or physical impairments. The study set out to establish whether low self-esteem was linked to low academic achievement. The specific objectives of the study were to:

- Determine the relationship between self-esteem level and academic achievement scores of girls with hearing impairment in secondary schools.
- Establish the nature of social relationships among girls with hearing impairment in secondary schools.

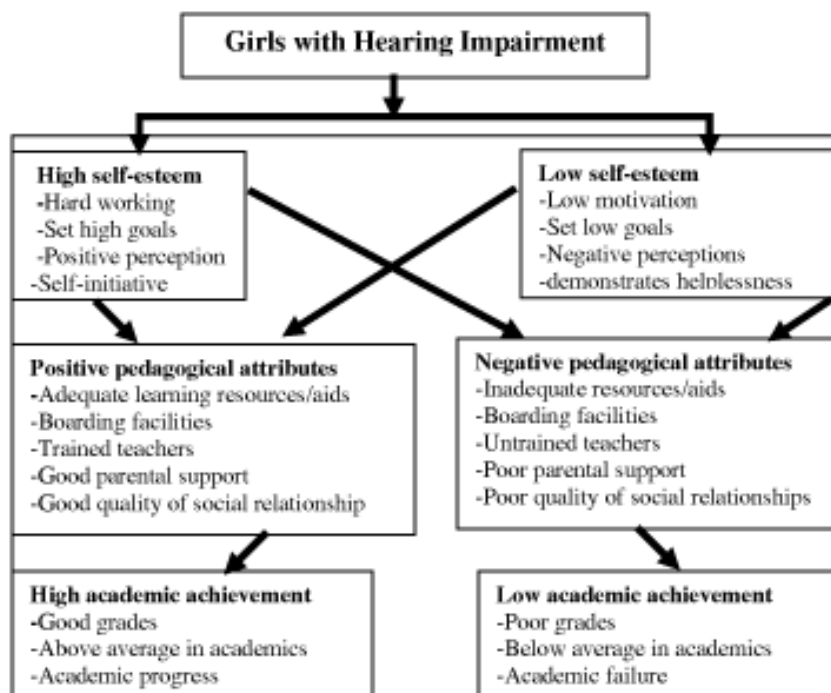
Theoretical Framework

Rogers (1951) developed the person-centered or client-centered theory as it is known to many people. He investigates an internal influence, the child's self-understanding or self-insights that enable an individual to have personal assessment. He also investigates children's behaviour in relation to external factors which include family environment, economic and cultural influences as well as social and educational background. The findings of his study indicate that the factor which most accurately predicted later behaviour is self-understanding. Rogers (1951) states that the basic nature of human being when functioning fully is constructive and trustworthy. When one is freed of defensiveness and is open to experience, his/her reactions are bound to be trusted as positive, forward moving and constructive. He argues that one needs to maintain and enhance the self, in order to become a fully functioning person which is the main goal of all human beings. He adds that a child's self-understanding encompassed the acceptance of self and reality as well as responsibility for the self.

Rogers (1951) posits that each person has a private experiential world, which includes the present experiences and memories of past experiences that actively guide the person's perception of the moment. He suggests that higher levels of development sharpen and define experiential world and they lead to the formation of the self. Rogers further notes that the development of the "self" emerges as the child interacts with other people and learns to distinguish what is direct and immediate to oneself and what is external to oneself. As the self emerges, the child develops a need for positive regard which includes acceptance, love and approval from other people notably the mother or caregiver during infancy. If the mother or caregiver does not bestow positive stimulation, an infant's tendency towards actualization and enhancement of self is hampered. This marks the beginning of internalization of the attitudes and behaviour of others and the feedback received refines the child's self-esteem.

Conceptual Framework of the Study

In developing the conceptual framework of this study, an attempt was made to investigate the possible nature of relationship between self-esteem dimension and school academic achievement of girls with hearing impairment. Figure 1 exhibits the conceptual framework which encompasses the major variables that is self-esteem and the possible pattern of influence on academic achievement for girls with hearing impairment.



Source: Self adopted conceptual framework of the study

Figure 1: Correlates of self-esteem and its influence on academic achievement

The researcher's own adaptation of the conceptual model shown in Figure 1 demonstrates the influence of self-esteem (independent variable) on academic achievement (dependent variable) or vice versa as shown by the arrows. For instance, self-esteem manifests as high leading to hard-work, setting high goals and having positive perception or as low leading to setting low goals, negative perception and low motivation that will affect academic achievement. The resultant effect is to be either high academic scores or low as shown by the arrows in figure 1. The framework also shows the trend of possible other pedagogical attributes that could as well affect the academic achievement positively such as availability of learning resources, provision of hearing aids, boarding facilities, trained teachers in manual communication or negatively by lack of all those attributes. All these effects have great influence on educational developments of girls with hearing impairment hence the need for investigation.

Research Methodology

The study used a quantitative approach and a correlational design. The decision to use this design was due to the fact that a correlational design enabled the researcher to discover the relationship between variables through the use of correlational statistics (Gall, Borg & Gall 1996; Orodho, 2005). Fraenkel and Wallen (2000) note that in a correlational research, relationships among two or more variables are studied without any attempt to influence them. They contend that a major purpose of correlational research is to clarify our understanding of important phenomena through the identification of relationships among variables. This study attempted to determine the relationships that

occur between self-esteem and academic achievement for girls with hearing impairment in secondary schools for the deaf in Kenya.

Target Population

Target population comprised of all girls with hearing impairment in secondary schools for persons with hearing impairment in Kenya. A total population of about 300 girls with hearing impairment in secondary schools was targeted however only about 140 girls from those schools were found to be covering the academic curriculum. The rest were provided with technical and vocational curriculum.

Rationale for Sample Selection

The two schools were purposively sampled since they were the only secondary schools for girls with hearing impairment that provided an academic secondary school curriculum in Kenya. The other girls' secondary schools with hearing impairment provided an integrated curriculum or technical and vocational training. These were Kambui in Central Province and Nyang'oma and Kuja in Nyanza Province. Karen Technical College in Nairobi Province only provided technical and vocational training for girls and boys with hearing impairment. The two principals of the sampled schools were as well purposively sampled since they were the administrators who would provide necessary rich information for the study.

In every school forms ones being new to the school at the time of study were excluded because they knew very little about the schools. Simple random sampling technique was used to sample girls from forms two, three and four. Unfortunately, the number of girls in every class was not adequate for this technique. Therefore, all girls in every class participated in the study but still they were not the expected number. For instance, at secondary school **B**, the expected number for participants was 32 yet only 30 girls were found who were doing the academic curriculum. Others were taking vocational courses. So the technique was not applicable as it could not work. At secondary school **A**, it was also not possible to find eight girls per class in forms two, three and four as expected. A sample of 23 girls with hearing impairment from school A and 30 girls with hearing impairment from secondary school B participated in the study. In total, a sample of 53 girls with hearing impairment participated in the study constituting a 40% out of the total population of 132 girls with hearing impairment as shown (Table 3). It was hoped that the selected sample from the two schools could provide adequate data for the study. The study only focused on relationship between self-esteem and academic achievement of girls with hearing impairment.

Table 3: Target population and study sample

School	Number of girls	Sample selected	Percentage
Secondary School A	60	23	40%
Secondary School B	72	30	40%
Total	132	53	40%

Research Instruments

The research instruments for the study were three types of questionnaires with an additional complementary interview. One questionnaire was an adaptation from Rosenberg's self-esteem scale to suit the situation on the ground that is, girls with hearing impairment in Kenya. Rosenberg's scale had been used in the United States of America and on different culture hence the need to adapt it. The scale had also been used on regular students without any disabilities. This data-collection instrument typically inquired about the feelings, motivations, attitudes, accomplishments and experiences of individuals (Gall, Borg and Gall, 1996). The other two questionnaires were self-made. One sought for demographic information from the respondents and the other sought for other school attributes from school principals. Such information was quite important since it enabled the researcher to understand various factors that were personal, such as, aspirations for higher learning and pedagogical attributes like learning resources/methods that were being used if they had an effect on the subject coverage. Examination grades for the last four terms for each participating girl were recorded and analyzed. Grade range was as follows: **E** 0-39 (Very poor), **D** 40-49 (Poor), **C** 50-59 (Average), **B** 60-69 (Good) and **A** 70-100 (Very good).

Pilot Study

It was important to conduct a pilot study before embarking on the main study. Robson (1993) argues that piloting provides opportunity for the researcher to test his/her confidence in identifying difficulties and obstacles that could affect the actual collection of useful data. The pilot study helped to evaluate the effectiveness and validity of the instruments. The pilot study was conducted in Kambui Secondary School which had an integrated programme for girls with hearing impairment. Kambui is located in Central Province of Kenya. The school served as a secondary school with an academic programme and also had a technical and vocational section. It was hoped that simple random sampling technique would be applied to sample the girls but unfortunately, the number of girls was quite small. A sample of six girls with hearing impairment who were the only ones integrated in Kambui secondary school participated in the pilot study. The six girls were explained the purpose of the study and then requested to participate. They were provided with questionnaires to fill. With the assistance of one of their class teachers, they filled the questionnaires. The researcher analyzed the data collected with the help of the supervisors. The findings from Kambui School helped to guide the researcher to adjust the instruments where possible. The piloted school was not used in the main study.

Data Collection and Analysis

Data for this study were collected by the researcher herself with assistance of class teachers. The researcher made visits to the schools as a familiarization exercise and was also able to introduce the purpose and nature of the study to the concerned authorities. The visits helped the researcher to understand well the schools' schedules. The researcher then made appropriate appointments with the school administrators to fix the most

appropriate times for the administration of the questionnaires. Finally, the researcher administered the questionnaires and also carried out observations of school academic records for the same participants involved in the study.

The data for this study were computer analyzed using the Statistical Package for Social Sciences (SPSS) programme. The descriptive statistics, that is, frequency distributions and percentages were used to describe and summarize the data in reference to demographic variables such as age, gender, education level, among others. The statistical hypothesis was tested using Pearson's Product Moment Correlation. Qualitative data collected from the two principals through complementary interviews were presented descriptively and analyzed appropriately.

Major Findings of the Study

1. Majority of the respondent (60%) were aged between 17-19 years, 24% were between 20-22 years. Those who were 14-16 and years of age and above 23 years were 4% each. Eight percent were non-committal on revealing their age. The findings revealed that approximately 30% of girls with hearing impairment in the two secondary schools were actually above secondary school age for hearing students which was usually between 15-18 years.
2. It was established that 55% of the respondents came from Secondary School **B** which was a boarding school for the girls, while 45% were from School **A** which was a mixed secondary school.
3. It was found that the two secondary schools offered boarding facilities to the students with hearing impairment. However, one school was open for both boarders and day-scholars on condition that all girls with hearing impairment were boarders.
4. The findings showed that majority of girls with hearing impairment attended girls secondary school which was also a boarding school.
5. The study established that 51% of the students wished to attain university education and 28% wished to train in teacher training colleges. Fifteen percent of the girls wanted to finish secondary education as their highest and perhaps engage into other activities like dressmaking, saloon work and beauty therapy profession.
6. Majority (56%) of girls with hearing impairment felt that they had the ability to do things as well as most other people according to their self-esteem ratings.
7. Majority of girls (86.5%) denied the fact that they were useless.
8. Many girls (93%) expressed the need for self-value and admired to be what they were irrespective of their hearing impairment.
9. Most of girls (98%) wished to be respected by other people.

Results and Discussion

Girls with hearing impairment in my study were happy, sociable and no clue to use of drugs was expressed. They were less likely vulnerable to depression yet their academic achievement was low. The correlation between academic achievement and self-esteem was positive although quite insignificant. The information regarding the nature of social

relationships among girls with hearing impairment was provided by the principals of the schools visited. Generally, they indicated a positive cordial relationship between and among teachers and students. One principal remarked, "Our girls are very friendly particularly if you engage them in a conversation." She added, "They become quite inquisitive about the mood you portray to them." That was an illustration how girls with hearing impairment were caring and could take great concern for other people. In addition, students were reported to engage in social activities that fostered their socialization at school such as good grooming, music and movement, dance and drama. For purposes of recreation and entertainment, particularly for girls with hearing impairment, they enjoyed being entertained by other people in activities that they could observe or watch. Since their lead sense is sight, it can be concluded that they benefited or were stimulated most through watching other peoples' plays or theatre acts.

However, at some occasions where music and movement competitions are held and persons with hearing impairment participate, most of them become stimulated through vibro-tactile sensations that they receive from the beats of the drums on the ground. The vibrations stimulate and guide them to make and change steps or advance any necessary movement in accordance to the rhythm of the music. They are enabled to participate in extra-ordinary performances that baffle the hearing audience and leave them unbelieving. The principal of school "B" acknowledged that girls in her school had made outstanding performances in "Scottish dance" and had won several trophies in the National Music Festival competitions for secondary schools. Indeed, she had a display of the trophies in her office as evidence of the girls' participations in social activities. In a complementary interview with the two principals carried out by the researcher as a follow-up activity, one principal revealed that girls with hearing impairment had high value for good-grooming. She said,

Our girls like modeling and fashion show activities where they can demonstrate beauty, fashions and catwalk. In fact we organize for inter-house beauty and fashion shows once in a while to promote their interest in this area as part of recreational activity.

The findings showed that majority of the students, (49%) found the boarding facilities to be good, 30% experienced the facilities as very good while 15% viewed them to be bad with only 6% of students finding the facilities to be very bad. This finding suggests that most girls with hearing impairment in secondary boarding schools found boarding facilities to be adequate for their use. With the understanding that the girls had a safe place to live and learn, there was no doubt that they were psychologically aware of the protection they enjoyed and could forge ahead to embark on academic pursuits to higher levels. It was evident that both secondary schools had permanent infrastructure furnished with beds and mattresses for girls' boarding use. Despite the fact that girls with hearing impairment received good accommodation to enable them to embark on studies uninterrupted, their academic performance was dismal. They were not able to achieve to the expected levels yet they were all boarders with all necessary boarding provisions. The finding of my study is supported by Harter, Whitesell and Junkin (1998); Kloomok and Cosden (1994) who reveal that if a student considers his/her ability to be low in the

particular area of academic functioning (low self-esteem in the domain of academic self-concept), less importance may be attached to academic success in order to preserve overall or global self-esteem.

The findings revealed that the preferred mode of communication by girls with hearing impairment at secondary schools was Total Communication. The current trend in the education of persons with hearing impairment emphasize the use of Total Communication which is a philosophy that encourages incorporation of manual communication, oral communication and component such as gestures, body language, writing, pointing, drawing, pantomime and mimicry.

It was established that school A which had student population of about 240 had 20 teachers. Out of this number, one teacher had a Masters degree in Special Needs Education, 14 had Bachelor of Education degrees, 3 teachers had diploma in Special Needs Education, 1 teacher was S1(secondary one), while only 1 was untrained. From school B which had a population of 189 students, there were 34 teachers. Two teachers had Masters degrees in Special Needs Education, 15 had Bachelor of Education degrees, 9 teachers had diploma in Special Needs Education, 1 was S1, 1 was P1 (primary one), and 4 were untrained. This finding is a proof that teachers for student with disabilities in the two secondary schools that participated in the study were highly qualified and possessed knowledge and skills to work favourably with those students. However, the findings of my study revealed that despite the high qualifications teachers in the two schools possessed, girls' academic achievement was low and self-esteem high. This depicts a situation whereby teachers in the two schools have to search for possibilities that could arouse girl's interest in academic work. The finding of my study corroborates with Ardail (2005) who claims that women lack strong expectations of their own personal efficacy in a number of occupations particularly in natural sciences, engineering and mathematics.

Seventy-two percent of the students said that they used hearing aids while 28% did not. There is high possibility that the high percentage of girls were hard-of-hearing since they admitted to possess the aids. However, the percentage that reported failure to use the hearing aids could be as a result of inability to purchase one. Indeed, hearing aids are very expensive equipment and it could be impossible for the ordinary parent to afford. They cost at a tune of between Kenya shillings (Ksh 25,000 – 35,000) and above. Many families/parents however, find it a great financial challenge to acquire one for their daughters. So the girls with hearing impairment may be forced to survive without a hearing aid. Whenever a student has been advised to use a hearing aid and cannot afford to purchase one, she stands to be disadvantaged and miss a lot of information in class. This would result in lack of interaction with the teacher, poor communication with peers in class and generally poor performance as concerns academic achievement. The findings revealed lack of adequate assistive devices for students with hearing impairment in secondary schools thus creating a gap in terms of provision for appropriate learning resources.

However, the two schools depended on donations from well-wishers, churches and Non-Governmental Organizations. The principal of school A admitted that the school received great support as concerns donation of hearing aids from Seaford and Seven Oaks of United Kingdom as Presbyterian Church of East Africa was their major sponsor for the school development. The principal of school B reported to receive great financial help from well-wishers and friends from abroad while the Ministry of Education, Science and Technology gave grants for construction of physical facilities.

It was noted that parents paid fees for their daughters although majority never paid on time and they ran into arrears. The issue was a great setback that led to challenging monetary deficits in school administration budget. One principal revealed that sometimes students took a long time to report back to school from holiday due to lack of school fees and therefore missed quite a lot in their studies. Such a factor could contribute towards low performance in academics because of missing curriculum coverage during her absenteeism and could also lead to low morale towards learning.

Conclusions of the Study

1. It was concluded that self-esteem of girls with hearing impairment was positive but the academic achievement was low.
2. Students performing poorly in academic education approved highly of themselves presenting deviation in literature.
3. Girls with hearing impairment placed more value on rational aspects (grooming) as well as music and dance, much more than the will to score high in academic work despite the help they received from teachers and support from schools.
4. Students with hearing impairment were not catered for adequately as concerns provision of learning and teaching resources in schools.

Recommendations

1. Teachers should make deliberate use of positive reinforcement that will encourage girls' participation and promote their esteem towards academic performance. They should ensure that they put in place all necessary learning and teaching devices that would support each girl to receive information in the simplest and easy way without many difficulties.
2. The principals of secondary schools for girls with hearing impairment should collaborate with parents, teachers, students and other interested partners in initiating constructive projects that will actively engage girls' participation and bring change in attitude towards their education outcomes. Projects such as beauty therapy, modeling, dance performances, grooming among others would go way ahead in promoting girls' potentials and exposure to the outside world.
3. Educators/teachers, counselors, parents, hearing peers and other stakeholders to encourage girls and give moral support so that they work hard to improve on academic work at school on the understanding that education is key to upward mobility and job security.

4. The government should make curriculum flexible to give girls more time for syllabus coverage since they require proficiency in a skill area before transiting to the next higher level. It was proved from the findings that as level of classes increased, the academic performance decreased. So girls with hearing impairment would require more time in every class to polish up before proceeding to a higher level.
5. The curriculum developers that is, Kenya Institute of Education to reconsider curricula adaptation to suit the potentials and abilities of girls with hearing impairment. Provision for a diversified curriculum that gives alternative choices should be available at all times in schools in order to motivate low achievers in academics who may prove to be higher achievers in other areas of proficiency.
6. The Kenya National Examinations Council should rethink practical assessment whereby candidates with hearing impairment could be exposed to strategies like observations and demonstrations on concrete aspects as opposed to applications and synthesis on theory or abstract work which may require too much reading and cramming notes for purposes of passing examinations.
7. Further intensive research should be carried out to investigate the crucial emerging issues that could contribute to the positive yet weak correlation that occurred because girls with hearing impairment need empowerment to perform adequately in academics.
8. Further research should be carried out in the area of communication proficiency in Kenya Sign Language by teachers who teach in schools for students with hearing impairment to determine the required levels of proficiency and also put in place intervention measures such as constant in-service courses for improvement.

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Special Education and at-Risk Kindergarteners as Authors

Louisa Kramer-Vida, Ed. D.

&

Roberta Levitt, Ph. D.

C. W. Post Campus, Long Island University

Susan P. Kelly, Ph. D.

Director of Curriculum and Instruction
Island Trees UFSD

Abstract

Special Education and at-risk kindergarteners can be outstanding authors given the appropriate educational opportunity. In a small, suburban public school district, two university professors collaboratively met with experienced special and general education teachers to introduce them to writing workshop methodology. This year-long series of monthly meetings and in-class demonstrations by the consultants supported the kindergarten educators as they taught writing to all children. The special and general education teachers shifted from an emphasis on student products to focusing on children's abilities and needs as the kindergarteners composed their pieces during writing workshop. According to the teachers, student work "far exceeded their expectations." Pictures of youngsters' compositions, samples of topics used, and some teacher developed tools are included in this article to show that writing workshop was a positive experience for all. The workshop approach motivated the children to see themselves as authors and honored everyone's attempts and accomplishments.

Special Education and at-Risk Kindergarteners as Authors

In the 1990's researchers debated whether "whole language" was a good way to teach writing to special education and remedial students (Smith-Burke, Deegan, & Jaggar 1991). Replicating emergent literacy studies, Katims (1991) found that early writing behaviors of students with special needs increased in complexity, variety, and structure when the children were exposed to numerous planned literacy activities on a daily basis. Whole language is based on constructivism where all students benefit from frequent and meaningful composing, support of self-regulated learning, and the integrative nature of literacy development.

Constructivist writing is based on each student's use of his or her prior knowledge and experience. This approach allows every student's voice to be heard. In

constructivism, special education and general education children learn from each other, as well as from the teacher. They learn by doing rather than by watching and listening (Dougiamas 1998). However, constructivism can lead to overreliance on incidental learning and little emphasis on writing mechanics. These factors can be methodological weaknesses for special needs students (Graham & Harris 1994). Yet, special education students achieve in writing process classrooms where cooperative and reciprocal learning, multisensory teaching, and respect for different learning styles are found (Elliott 1995). Even collaborative classrooms that only used weekly language-enriched program interventions showed higher scores on writing subtests that assessed the production of relevant sentences containing correct mechanics and spelling (Garber & Klein 1999).

More recently, interest in process writing has revived. Gentry (2005) indicated that writing conferences, an integral part of writing workshop, can incorporate six instructional techniques that support the writing development of emergent special needs kindergarten authors. These techniques are teaching writing in a block, teaching on the individual student's level, supporting each student's efforts, using verbalization, using concrete objects, and assessing the student's developmental spelling stage.

Some researchers, however, promote more traditional methodology to accomplish the same objectives. The Center on Accelerating Student Learning examined the impact of extra spelling and handwriting instruction, as well as explicit teaching of planning and writing strategies, to prevent writing difficulties for young struggling writers (Graham & Harris 2005). On the other hand, Zelkowitz (2009), a practitioner, promotes writers workshop in her collaborative team teaching (CT) classroom. She uses a daily brief mini-lesson and guided, interactive, peer and independent writing. She also confers with individual students during writing time and has students share their work daily.

Writing workshop is based on the writing process (pre-writing, drafting, revising, editing, and publishing). Workshop contains an interactive pattern of writing activities that occur daily in the classroom. Classes include teacher directed and student centered mini-lessons and independent, buddy, and group writing. Sharing, an integral part of the process, incorporates both student chosen and teacher directed pieces in different genres and subject areas. Workshop also includes peer-to-peer and teacher-to-peer instruction and small group interaction (Calkins 1991; Fountas & Pinnell 2001; Graves 1994).

Teacher Training

"If we always do what we've always done, we will get what we've always got." – Adam Urbanski

In October of 2008, the Director of Curriculum and Instruction in a suburban school district invited two university professors to introduce the district's experienced special and general education kindergarten teachers to writing workshop. They met as an entire grade at least once a month. The consultants provided background and insight into writing workshop. The goal of this collaborative in-service was to scaffold the teaching skills of the special and regular education professionals as they supported their students in the writing process. The characteristic that distinguishes this type of instruction from other writing programs is that the products originate from the children themselves. Instruction is focused on a teaching point or objective, but the daily agenda primarily encourages students to write. Everyday writing enhances both the students' skills and their belief in themselves as authors.

The teachers' choice of components for kindergarten writing workshop included a five to ten minute mini-lesson with student sharing, followed by 20 to 25 minutes of independent writing. To focus students and keep them on task, teachers periodically reminded them of the mini-lesson's objective. A final sharing of student writing by pairs of students ended each session and reinforced the concept of all students as authors.

Teachers' Initial Feelings Upon Hearing About The Program

"It is what teachers think, what teachers do and what teachers are at the level of the classroom that ultimately shapes the kind of learning that young people get." – Andy Hargreaves and Michael Fullan

When the kindergarten teachers first heard about workshop, they were quite hesitant. The educators felt that they were being asked to add a new system of writing instruction to their existing curriculum. Originally, the self-contained special educator stated, "We already have an established, successful writing program that jells well with our language arts teaching." Additionally, the general education inclusion teachers were uneasy about specific aspects of writing workshop for special populations, particularly the idea that students produced writing with as little scaffolding from the teacher as possible. The teachers did not think that this independence would be possible. Further, the instructional focal point shifts from product to process. The teachers needed to accept the idea that whatever the students can do individually is acceptable. If one student can only draw pictures or write letters, while another can write full sentences, that is permissible. The entire class no longer attempts to try to produce the same product at the same time.

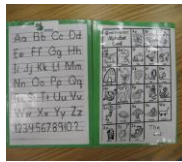
After a short while, the teachers realized that they needed to release some control over their students' writing. These educators felt that they needed to exit their comfort zone so that the students would feel like authors. The instructors came to believe that they had to adapt the way they had been teaching writing in the past and open their minds to this new approach.

Writing Workshop Implementation

“What a child can do today with assistance, she will be able to do by herself tomorrow.” –Lev Vygotsky

Many special and general educators have students in their classes who struggle with writing. The kindergarten teachers in this district developed and implemented the following tools to enable all their children to take the risks that are necessary to become successful writers. Some of the teaching tools they used are listed and illustrated below:

- 1) Student folders with alphabet and sound sheets on the front



- 2) A classroom word wall that students used



- 3) A copy of this word wall in individual writing folders



- 4) “Spacemen” or craft sticks for spacing between words



- 5) Dashes to demonstrate how many words are in a given sentence



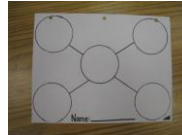
- 6) Checklists for self editing



- 7) Sticky notes to label students' writing and illustrations



- 8) Graphic organizers and



- 9) Physical objects



These teaching tools provided ways for instruction to be scaffolded and assisted all the special education, English language learner, and general education kindergarteners. Particularly, handling physical objects from the classroom and home motivated the students to write. The items activated the children's prior knowledge and helped them to clarify ideas. Additionally, taking walks, going on field trips, and flying a kite on the school field, for example, enabled students to experience topics about which they could write. Teachers began with concrete examples whenever possible to help the children build a substantial pool of information for writing. Webs and other graphic organizers were especially

effective in facilitating students' organization of learned or remembered information. Brainstorming was also used to generate further ideas. Partnering strong students with special needs and English Language Learners fostered good communication and helped everyone write interesting pieces. Physically donning name tags, such as, "Author John" and "Writer Mary", identified the beginning of writing workshop and motivated the students to do their best during the writing block.



A Sample Writing Unit

"It doesn't happen all at once. You become. It takes a long time." –Margery Williams

The teachers taught many units throughout the year during writing workshop. In one unit, entitled Purposeful Writing, students ultimately created their own lost posters. The teachers initiated the unit by reading *The Three Little Kittens* (Galdone 1986) and *Corduroy* (Freeman 1968). In the stories, mittens and a button are lost. The teachers and the children interactively completed lost posters for each book with the students describing the lost items. Next, the educators reviewed how to make the posters. Then the children made their own poster for a lost Corduroy.

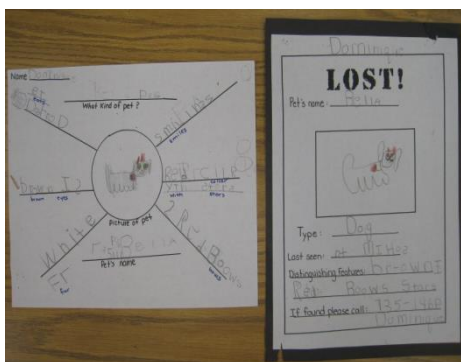


The classes then made more lost posters for things that they had actually lost, like hats and jackets. As a culminating project for this theme, the teachers asked the children to bring in a stuffed animal pet from home. The pet wore a name tag and was kept in the classroom for an entire week. When the children came into school with their toys, they received a blank web to describe the toy pet. The following

day, they used their web to make a lost poster for their stuffed pets. Teachers also took pictures of the children pretending to be sad when their pet was lost. Then they took happy pictures of them reunited with their stuffed animals with big smiles on their faces.



When the students completed their lost posters, the teachers invited another class to visit and share the products. All the pets were displayed in the front of the classroom. The students read each poster and called on their guests to find their pets. The children really enjoyed this activity and understood how writing can help them in real life. One special education child even took it a step further because he actually did lose one of his toys that he had brought to school. In his spare time, he made his own poster for his lost toy and hung it in the kindergarten hallway. Another student saw the poster, found the toy, and returned it to him. Both children were incredibly delighted by this authentic example of purposeful writing.



Another Sample Writing Project



The teachers implemented a “How To” unit during the latter part of the school year. With many examples, they emphasized how to create a piece of writing that describes doing or making something. Initially, the teachers read *Look Out Kindergarten, Here I Come* (Carlson 1999). In this story, a young mouse follows clear steps to get ready for kindergarten. The students completed a chart to show the steps the mouse followed. Then they charted how they themselves had prepared for the first day of kindergarten. The students wrote on organizers that listed the key words “First”, “Then”, “Next”, “Last”. Then the youngsters repeated this activity many times describing a number of experiences, for example, how to grow a plant.



As an experiential, fun-filled activity to culminate this unit, the entire kindergarten gathered at the school field to learn how to fly a kite. With anticipation, the smiling children eagerly waited to see a teacher send a kite soaring into the sky. After this enjoyable, real life, in-house field trip, the boys and girls returned excitedly to their classrooms to chronicle their own “How to Fly a Kite” stories. Using their organizers, they planned their writing pieces using the “first,” “then,” “next,” and “finally” transition words that they had learned.

“The outcome was beyond anything we could have imagined!” exclaimed a reading specialist as the consultants and the kindergarten teachers debriefed near the end of the school year. “The students are confident, happy writers, producing pieces of writing that not only meet, but exceed, our expectations,” echoed a general education teacher.



Writing workshop was an exciting and positive experience for the special education, English Language Learner, and general education kindergarteners, as well as for their teachers. The simple goal of this professional development was to enhance the educators’ skills in teaching writing and to make children better writers. “When we first began this program we were hesitant to add a new way of writing to our existing curriculum,” said the reading specialist. “There were also specific aspects to this writing program that made us uneasy. For instance, there is a large focus on writing that is rather independently produced by students.”

The teachers learned that they could give input and guidance without detracting from the students’ voices. The instructors’ focal point shifted from product oriented to process oriented. “We needed to get used to the idea that whatever the students could do individually was acceptable,” stated the special education teacher. “If one student could only write letters, while another could write full sentences, it was ok. The entire inclusion and self-contained classes could complete the same assignment to the best of students’ abilities at their own pace.”

A general educator said, “As teachers, we needed to let go and stop directing our students’ writing so closely. We needed to change our comfort zones for the benefit of the children. We had to let go of the way we had taught writing in the past and learn to accept this different style of teaching.”

Another teacher summed up the feelings of the group. “The students’ writing was so much better than what children used to do. They eagerly participated during workshop time and were thrilled to share their writing with their writing partners. By the end of the year, all our students felt like authors.”

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Sensory Integration Used with Children with Asperger's Syndrome

Analisa L. Smith, Ed.D.

Abstract

Sensory Integration Program on Children with Asperger's Syndrome This literature review will document the effects of a parent implemented Sensory Integration Program upon children diagnosed with Asperger's Syndrome in order to discern its influence upon these children's overall ability to attend to learning and social development. The infrequency of research on Asperger's Syndrome and sensory-based programs indicates a need for further study into the potential relationship between evaluation regarding Asperger's Syndrome and sensory-based approaches. The following literature review reflects the findings of current research within the fields of psychology, education, neurology, medicine, and occupational therapy as they pertain to Asperger's Syndrome.

Asperger's Syndrome

Volkmar and Klin (2000) state that Asperger's Syndrome (AS) is a neuro-developmental disability that can be distinguished by limited interests and social deficits. Viennese pediatrician Hans Asperger (1943) identified the features of AS in the early 1940s and Wing (1981) gave further details about the disability's features decades later. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, 2004), Asperger's is classified as a Pervasive Developmental Disorder (PDD). Although, Asperger's differs from other PDDs in that children diagnosed with AS meet normal developmental milestones in the area of language acquisition and cognitive ability. There is a continued need to research Asperger's Syndrome (Bashe, Kirby, & Attwood, 2001). Although an AS diagnosis does not look at sensory processing deficits (DSM-IV-TR, 2004), numerous studies note that sensory deficits are common in people with AS (Barnhill, 2001; Dunn, et. al, 2002; Mailloux, 2001).

Characteristics of Asperger's Syndrome

Hans Kanner published a paper in 1943 that described the characteristics of people diagnosed with autism. Within a year of Kanner's paper, Hans Asperger published his own report on a population of children that he described as

exhibiting difficulties with social interaction and motor skills (Volkmar, Klin, Schultz, Bronen, Marans, & Sparrow, 2000). Wing (1981) described commonly recognized features of AS as: lack of the ability to empathize with peers, limited social skills, limited nonverbal communication skills, poor motor coordination, and/or a rigid absorption in topics requiring rote memorization (Myles and Simpson, 2002; Mailloux, 2001).

Asperger (1968) focused the intent of his studies on the social and learning development of children which displayed the symptoms of Asperger's Syndrome. Mailloux (2001) notes that Asperger focused on the AS child's inability to read facial expressions and understand social concepts. Asperger thought that AS children were not incapable of interacting with the outside world. Instead, Asperger thought that children with Asperger's Syndrome had peculiar methods of interacting with the world around them. Asperger (1991) acknowledged the AS child had sensory processing deficits that limited their access to maximal learning opportunities and delayed their social development (Falk-Ross, Iverson, Gilbert, 2004; Mailloux, 2001; Myles & Simpson, 2001).

Diagnostic Criteria of Asperger's Syndrome

The World Health Organization (WHO) (1993) recognized AS as a separate disability category that fell under the heading of Pervasive Developmental Delays. Three years later, the disorder was recognized by the Diagnostic and Statistical Manual of Mental Disorders-IV Edition (2000; 2004). It took the majority of the medical community (Myles & Simpson, 2002) a while to recognize the disorder as a separate disorder, distinct from autism.

Klin and Volkmar (2000) acknowledged the listing of AS as a separate category disorder, distinct from autism and PDD, as reliable based upon the DSM-IV-TR (2004) criteria. The systematic classification of Asperger characteristics and symptoms developed by Wing was relied upon heavily (Gillberg & Gillberg, 1989; Tantum, 1988) by medical personnel, before the WHO and the DSM-IV recognized the disorder as a distinct disorder. There were attempts made to develop diagnostic scales for diagnosis based on symptoms (Szatmari, 1991; Gillberg & Gillberg, 1989). Attwood (1998) asserts that the criteria set forth by the Gillbergs for diagnosing Asperger's Syndrome (1989) were widely accepted due to the criteria's clarity, conciseness, and comprehensiveness. The International Statistical Classification of Diseases and Related Health Problems-10th edition, Szatmari's Rating Scale, Gillbergs' Asperger's Rating Scale and the DSM-IV-TR criteria are all similar in their basic diagnostic function. Diagnostic rating scales seem to share many of the following criteria:

A. distinctive preoccupation with stereotypic patterns of behavior, such as repetitive body movements or repetitive movement of objects, or distinctive preoccupation with stereotypic patterns of thought processes.

- B. delayed social impairment that is qualitative in nature; or emotional reciprocity; failure to develop relationships with peers; lack of want to share meaningful life moments with others.
- C. no significant delays in oral language acquisition exist.
- D. definitive impairment in social and/or occupational and/or other areas of life functioning (Myles & Simpson, 2002). This is a tendency to perseverate on specific areas of interests to such an extent that the individual's social and/or professional life is adversely affected.

Prevalence of Asperger's Syndrome

Asperger's Syndrome has a prevalence rate in children of 9 out of 2500 births (Cumine, Leach, & Levinson, 1998), according to the most recent research. In other studies, prevalence rates were shown to be at 0.024 to 0.36 percent (NAMI, 2004). The ratio of boys to girls is found to be at 9:1. Kadesjö, Gillberg, and Hagberg completed a study in 1999 that surprisingly found that a higher amount of children are diagnosed as having AS by using Szatmari's scale than when using the Gillbergs' scale.

In a study conducted by Ehlers and Gillberg (1993), the prevalence of children with Asperger's Syndrome in Sweden were 3.6:1,000. According to Ehlers and Gillberg the male to female ratio was 4:1. The study's authors concluded that the prevalence of AS would be higher if all possible instances of AS could have been included. Ehlers and Gillberg think the prevalence rate is actually at 7:1,000. Ehlers, Gillberg, and Wing (1999) believe the prevalence of AS is higher than they can estimate. Once a diagnostic rating scale for Asperger's Syndrome can be universally agreed upon (Attwood, 1998) there will be a more uniform prevalence rate.

Etiology of Asperger's Syndrome

The exact cause of Asperger's is not known (Ozbayrak, 2004). Asperger's Syndrome is a neuro-developmental disability (Volkmar & Klin, 2000) that can be distinguished by social deficits and a rigid absorption in topics that require rote memorization (Mailloux, 2001). Lincoln and colleagues (1998), report that Asperger's Syndrome is caused by abnormal brain development and function. Autopsy studies conducted by Courchesne and Pierce (2000) revealed abnormalities of the brain. Lincoln et al. (1998) compared the results of studies conducted that utilized magnetic resonance imaging (MRI) and noted that Asperger patients have severe neurological abnormalities of the brain, such as an enlarged brain volume in the frontal and cerebellar regions of the brain. Brain abnormalities and anomalies have been linked to the Asperger child's prenatal,

perinatal, and neonatal development (Tsai, Jacoby, Stewart, & Beisler, 1982).

Hans Asperger (1944) first noted a genetic link in his patients occurring between the male members of families. Asperger recorded that the male family members of his patients had strikingly similar characteristics. As AS research has progressed, researchers have continued to suggest that there is a genetic link in Asperger cases (DeLong & Dwyer, 1988; Gillberg, 1989; Kranowitz, 2006).

DeLong and Dwyer conducted a study, in 1988, on the family history of autistic patients and concluded that almost seventy-percent of the autistic subjects had a close relative that was diagnosed with Asperger's Syndrome. Kerbeshian and Burd found in their 1986 study that fifty-percent of their Asperger diagnosed subjects had family members that had characteristics that were similar to AS symptoms. Wing and Burgoine studied triplets, in 1983, which were diagnosed with AS and reported findings that yield to a genetic link. Volkmar and Klin (2000) reported that a study on monozygotic twins supports genetic links in Asperger's. With the research done, the possibility of genetic transmission of Asperger's Syndrome is plausible.

Co-occurrence of Asperger's Syndrome

Children who are diagnosed with Asperger's often are diagnosed with multiple disabilities or disorders at the same time (Ozbayrak, 2004). Volkmar and Klin (2000) related the co-occurrence of AS with obsessive-compulsive disorder. There has also been a noted association between AS and schizophrenia (Tantum, 1988) and AS with nonverbal learning disorders (Raja, et al., 1998). Green, et al. found in 2000 that children with Asperger's are at high-risk of developing depression, oppositional-defiant disorders, and anxiety disorders (Fonseca & Perrin, 2001). In 1944, Asperger reflected that patients with AS are subject to affective disorders. Other researchers have noticed a link between Tourette's Syndrome and AS (Kerbershian & Burd, 1986). It does appear that a large number of children diagnosed with Asperger's Syndrome are diagnosed with other disabilities (Ozbayrak, 2004), though no general assumptions can be made at this time.

Misdiagnosis of Asperger's Syndrome

Asperger's Syndrome had been misdiagnosed throughout the 1940s, and for several decades thereafter, as early infantile autism and schizophrenia (Frith, 1991). At other times, the AS child is first diagnosed with a nonverbal learning disability (McKelvey, Lambert, Mottson, & Shevell, 1995; Ozbayrak, 2004), a pragmatic language disorder (Attwood, 1998; Myles & Simpson, 2002), or a

semantic language disorder (Bishop, 1989; Brook & Bowler, 1992), or both. Some medical professionals have diagnosed the AS child with a personality disorder (Frith, 1991).

Wing (1981) was the first to publish a clinical report of the Asperger characteristics. Bowler (1992) felt that Wing's account of the disorder gave the first systematic description of a child diagnosed with AS. It is due to the clinical report Wing published in England that the medical community began to accept Asperger's Syndrome as a distinct diagnosis and sought to learn more about the characteristics of the disorder.

Sensory Processing Difficulties and Asperger's Syndrome

Many researchers have identified that children with Asperger's Syndrome have sensory processing difficulties as a specific characteristic (Asperger, 1944; Attwood, 1998; Barnhill, 2001; Gillberg & Gillberg, 1989; Mailloux, 2001). Though many researchers identify sensory processing difficulties as a major characteristic (Dunn, et. al, 2002; Falk-Ross, et. al, 2004; Iwanaga, et. al, 2000), it is still not used as a criterion for diagnosing the disorder. Klin, et al. (2000) discovered that subjects with AS had significantly impaired sensory processes.

Children with Asperger's are particularly susceptible to having sensory responses that would not be perceived as normal (Attwood, 1998; Iwanaga, 2000). They are either hypersensitive or hyposensitive. AS children can have an extremely high pain tolerance (Attwood, 1998; Ayers, et. al, 2004) or express a need for the feeling of particular textures (Grandin, 1988; Ayers, et. al, 2004). As well, the AS child may only want to eat particular foods (Barron & Barron, 1992; Grandin, 1988) or shy away from certain smells and odors (Cesaroni & Garber, 1991; Grandin, 1988). Smith-Myles, Cook, Miller, Rinner, and, Robbins (2000) reflect that the child with Asperger's also engages in self-stimulatory behaviors that limit him in his developmental skills. It is the limitations in sensory processing (Ayers, et. al, 2004; Grandin, 1990) of an AS child that does not allow the child to access maximal learning opportunities and delays the social development of the child.

Sensory Integration

Sensory Integration (SI) involves the stimulation of the neuronal response mechanisms of an individual to sensory stimuli with the expressed intent of maturizing this aspect of brain function (Ayers, et. al, 2004; Bundy, et. al, 2002). Neuronal responses can be processed through the five senses of the body or through the proprioceptive, vestibular, or tactile senses (Ackerman, 1990). Kranowitz, Sava, Haber, Martin, and Szklut (2001) explain the proprioception

sense involves position of the joints and contraction of the muscles. The vestibular sense involves the awareness of gravity and its force upon the body and the movements of the head (Kranowitz, et. al, 2001). The tactile sense involves sensory stimulations received through the skin (Barnhill, 2001; Dunn, et. al, 2002). Most often the senses work together to allow a person to function (Miller & Summers, 2001).

Proprioceptive Sense

Kranowitz and colleagues (2001) explains the proprioceptive sense involves position of the joints and contraction of the muscles. It is this sensory system that allows an individual to maintain his balance. This system is automatic for most individuals. For the majority of children diagnosed with AS, the proprioceptive sense does not occur automatically, but has to be taught (Anderson, 1998).

Vestibular Sense

The vestibular sense involves the awareness of gravity and its force upon the body and the movements of the head (Kranowitz, et. al, 2001). Myles and colleagues (2000) noted that most of the AS children they studied experienced dysfunction of the vestibular sense. Myles and colleagues (2000) also noted that the vestibular system “is involved in movement, posture, vision, balance, and coordination on both sides of the body” (p. 28). Individuals who experience vestibular dysfunction can be hyposensitive or hypersensitive in relation to this system (Kranowitz, 2006). Children who experience vestibular hyposensitivity are in a state of constant motion (Kranowitz, 2006). Children who experience vestibular hypersensitivity have difficulty with activities that require or involve movement. Asperger children can be either hyposensitive or hypersensitive in relation to the vestibular sense (Myles, et al., 2000).

Tactile Sense

The tactile sense involves sensory stimulations received through the skin (Barnhill, 2001). Asperger (1944; 1968; 1991) noted that his subjects had particular sensations to tactile stimulations. As with the vestibular sense, AS children can also be hyposensitive or hypersensitive (Koomar & Friedman, 1992; Kranowitz, et. al, 2001) in relation to the tactile sense. The tactile sense is a large sensory system to address, since sensations can be felt along all parts of the human’s skin. Temple Grandin (1990) states she experienced both extremes, being either tactile hyposensitive or tactile hypersensitive. Hyposensitivity and hypersensitivity both have a variety of problems that limit the AS child from being successful in school and socially (Ayers, et. al, 2004; Grandin, 1990; Kranowitz, et. al, 2001).

The AS child, who has tactile hypersensitivity, may actually feel pain when

receiving sensory stimuli (Ayers, et. al, 2004). Ayers and Mailloux (2004) refer to this condition as tactile defensiveness. Tactile hypersensitivity has negative impacts in the school and home setting for the AS child (Dunn, et. al, 2002; Falk-Ross, et. al, 2004; Fondacaro, 2001). The AS child socially isolates himself at school, so he will not have to take part in activities he knows will cause him distress and have other children react with negative social responses (Smith-Myles, et al., 2000). In the home environment, AS children may have preferences that affect their clothing, eating, sleeping, and bathing habits (Ayers, et. al, 2004; Kranowitz, 1998). Tactile defensiveness affects all aspects of the AS child's daily functioning.

The AS child, who is tactile hyposensitive, is slow to respond to tactile stimulation (Grandin, 1990) and has a low tolerance for pain. The child with this specific type of sensory dysfunction may use the sense of touch to familiarize himself with his environment or to be aware of his presence in space. AS children with tactile sensitivity sensory dysfunction often seek tactile sensory stimulation.

Sensory Systems and Sensory Integration Processing

All people have specialized neural cells known as receptors that transport sensory information to the central nervous system (Miller & Summers, 2001). In 1993, Anzalone stated a Sensory Integration Program focuses on the stimulation of the neuronal responses of the tactile, vestibular, proprioceptive senses to stimuli. All behaviors of an individual are generated from the sensory stimuli a person receives and how the brain processes that information (Myles, et al., 2000).

The sensory systems of an individual must process sensory information correctly. All three of the sensory systems: tactile, vestibular, and proprioceptive, must work together for information to be integrated and interpreted (Kranowitz. 2006). Children who can readily process sensory information in an integrated fashion are able to benefit from maximal learning opportunities. Asperger's children are known for displaying varying types of sensory deficits (Dunn, et. al, 2002; Iwanaga, et. al, 2000), thus limiting their access to maximal learning opportunities and delaying their social development.

Sensory Integration Dysfunction

Just as Sensory Integration is the involvement of the stimulation of the neuronal response mechanisms of an individual to sensory stimuli (Ayers, et. al, 2004); Sensory Integration Dysfunction is the opposite of such (Ayers, et. al, 2004; Miller & Summers, 2001). Knanowitz (1998) defines Sensory Integration Dysfunction as "the inability to process information received through the senses"

(p. 8). Dr. Jean Ayers was the first to identify the problem of Sensory Integration Dysfunction. Ayers' research concluded that the dysfunction occurs in the central nervous system when the body's sensory systems do not properly integrate sensory data. A child with Sensory Integration Dysfunction is unable to learn to his full potential and will experience delayed social development (Anderson & Emmons, 1996; Ayers, et. al, 2004). The child diagnosed with Asperger's Syndrome needs to be taught to manipulate his sensory systems (Dunn, et. al, 2002; Falk-Ross, 2004) to maximize his learning potential and social development (Smith-Myles, et al., 2000).

Sensory Integration and Asperger's Syndrome

Sensory processing takes place for an individual when one is able to process and comprehend information received from the senses. A child with Sensory Integration Dysfunction (SID) may have difficulty limiting information extracted from incoming stimuli (Ayers, et. al, 2004; Fondacaro, 2001; Myles & Simpson, 2001). Asperger's children are known for displaying varying types of sensory anomalies (Myles & Simpson, 2002; Williams, 1995). Since all children with Asperger's Syndrome demonstrate some degree of sensory deficits (Myles & Simpson, 2002; Ozbayrack, 2004), it may be assumed that all children with an AS diagnosis will have Sensory Integration Dysfunction. It is due to the sensory deficits that all AS children demonstrate that SI would be beneficial to them (Ayers, et. al, 2004; Miller & Summers, 2001).

Sensory Integration was first defined by Ayers (1972) as the communication and synchronization of two (+) functions in a method that improves the acclimation of the brain. Ayers (1979) was one of the first in the field of autistic studies to note the profound positive effects that Sensory Integration could have on an individual diagnosed with an autism spectrum disorder. Ayers (1989) notes that the reason autistic individuals engage in self-stimulatory behaviors is due to a deficiency in the body's ability to process sensory information. This delay is referred to as SID (Ayers, et. al, 2004). Mailloux (2001) noted stereotyped behaviors as indicative of AS characteristics and a symptom of Sensory Integration Dysfunction.

According to Sensory Integration theorists, sensory events that occur early in life affect the development of advanced level processing abilities of an individual (Ayers, 1972, 1979; Ayers, et. al, 2004; Fisher, Murray, & Bundy, 1991; Knickerbocker, 1980). Therefore, it can be noted that development of the sensory skills affects the entire sequence of normal developmental milestones. Difficulties with SI can impede the development of social skills, learning acquisition, and motor coordination (Dunn, et. al, 2002; Falk-Ross, 2003; Fondacaro, 2001). The delay in these key developmental milestones will impact the degree of a person's involvement in the routine of day-to-day living (Ayers, et. al, 2004; Fondacaro, 2001).

Summary

Asperger's Syndrome is a neuro-developmental disability that is distinguished by limited interests and social deficits (Volkmar & Klin, 2000). It is well documented that children with Asperger's Syndrome display symptoms that are universal to other disabilities (Myles & Simpson, 2002). As a result, children with Asperger's Syndrome are often misdiagnosed. Accordingly, further study to assist accurate diagnosis is necessary.

Sensory Integration (SI) involves the stimulation of the neuronal response mechanisms of an individual to sensory stimuli (Kranowitz, et. al, 2001). Neuronal responses can be processed through the five senses of the body or through the proprioception, vestibular, or tactile senses. All of the body's senses will work together most of the time to allow a person to function.

Since all children with Asperger's Syndrome have sensory deficits (Ayers & Tickle, 1980; Myles & Simpson, 2002), it may be assumed that all children with an AS diagnosis will have Sensory Integration Dysfunction (Ayers, et. al, 2004). Due to the sensory deficits that AS children demonstrate, a Sensory Integration Program would be beneficial to them (Ayers, et. al, 2004; Dunn, et. al, 2002; Lincoln, Courchesne, Harms, & Allen, 1995; Ornitz, 1989; Wainwright-Sharp & Bryson, 1993).

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Use of Art/Art Work and Cognitive Skill for the Rehabilitation of Special Children of 4-9 Years of Age

Zubair Hina

Department of Arts & Interior Design
RLAK Government College of Home Economics, Karachi

Abstract

Art work/art therapy enhances cognitive skill because it helps to increase learning difficulties, social and perceptual skills; memory development and also helps special children to gain self-awareness. This research is focused on the artwork and cognitive skill used for the rehabilitation through different art activities. Mild category of special children was selected. Statistics was collected from eight schools and schools were chosen on convenient basis. Ten children were selected from each school. Thus the total sample was 80. Different exercise sheets and flash cards were prepared for different activities. Data was analyzed on cognitive levels and these levels were designed on the basis of performance. It was found by the research that rehabilitation through art activities improves cognitive function, conceptual and perceptual skills, moving patients towards self-preoccupation; and, literacy skills. Conclusion of the study is that the art therapy increases the possibilities of long-term success in life of a special child.

Use of Art/Art Work and Cognitive Skill for the Rehabilitation of Special Children of 4-9 Years of Age

Art contributed to the personal and spiritual development of the mainstream as well as special children. It is the “soul” of both the child and the art form (Makhdoom2009) Art works, in special children, promotes socio vocational habits (such as consideration for others and thoroughness), and academic skills (such as perceptual-motor skills and number concepts), and also provides unique experiences with concrete materials. In addition to reinforcing the school's general goals, arts can be a diversionary activity for the child (Rynders, 1997).

This research assesses the art / art work and cognitive skills used for the rehabilitation of special children of 4-9 years old. Pakistan came into being in 1947 and there were a number of problems to be resolved at that time. Special education did not exist in this new state and there was little awareness about new trends in special education, the environment in which these children should be educated. (Khatoon, 2003)

This research focuses the development of the functions of brain including perception, memory, imagination, and use of language with the help of different activities through

artwork. Recent research has explored some cognitive components hypothesized to be strongly related to pretense, such as mental representation ability (i.e., theory of mind), problem solving and other cognitive strategies, social and linguistic competence, and academic skill development. (Bergen, 2002). According to researcher, (Dicowden, 1990), the child is constantly growing intellectually, physically and emotionally so rehabilitation through art is special need. Data also make it clear that consecutively deliberate cognitive abilities involved in creative arts therapy, is a technique that can be readily adapted to accommodate children with disabilities provides opportunities for children to gain self-confidence. Artwork, in general, has a tendency to be abstract and complex. Artists who create these artworks have to have a sense of focused behavior and individual creativity.

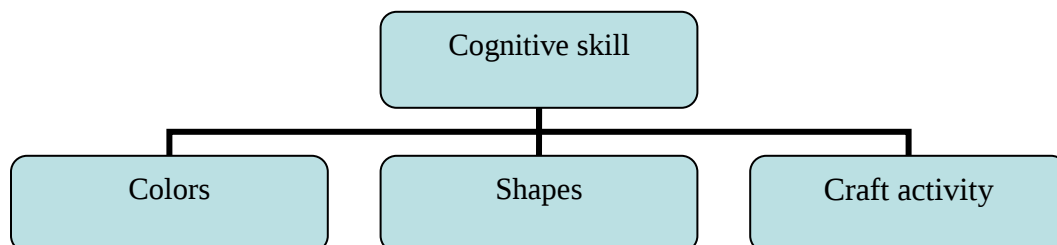
Art therapy's purpose, regardless of the circumstance, is to encourage children and adolescents to express their feelings, participate in new tasks, such as those involving focused attention, and to learn creativity (Henley, 1998; Hume & Hiti, 1988; Sundaram, 1995; Zamierowski, 1980. Most theorists also agree that the creative process involves imaginative activity, the ability to generate a variety of ideas (productivity), problem solving (application of knowledge and imagination to a given situation), and the ability to produce an outcome of value and worth. Some would go further, arguing that the product must be correct, practical, useful, and/or of artistic quality (Mar'l, quoted in Dust, 1999). It has been found that art work done by children under art therapy increases cognition, an abstract property of advanced living organisms and direct property of a brain (or of an abstract mind), on at the factual and symbolic levels. It is hoped that this study will be useful to measure art therapy which can increase the possibilities of long-term success in life and develop the sense of communication skills, self awareness and balance the emotions of children.

Methodology

The design of this study was descriptive. The rationale of study was to assess the use of art and artwork in cognitive skill for the rehabilitation of special children of 4-9 years old. This study was conducted in Karachi. Karachi is the capital of the Province of Sindh, and the most populated city in Pakistan. There is a huge number of children's population in Karachi, which has many problems. Mental retardation cognitive disability is markedly below average level and an inability to respond to one's environment is present in about 2 to 3 percent of the population. Mental retardation comprises five general categories: borderline, mild, moderate, severe and profound. The category focused in this research was mild category of special children from 4-9 years of age.

In Karachi there are 40 schools of special children. List for these schools was obtained by Internet. Convenient sampling was done and eight schools were selected which teach to the mild category of special children. Out of each school 10 children were selected randomly. Thus the total sample contained 80 special children (4-9 years old) from mild category. Before data collection visits were made to the schools to explain the objective of the research and to seek permission for data collection. Observation, checklist method

was used for the collection of data. Flash card and exercise sheets were prepared for the children and the cards and sheets were associated to cognitive skills in



Activities related to colors, shapes, and crafts were conducted among children to see that how much art is helpful to improve cognitive skills. For color activity, in relation to size (taller/short) bigger/smaller), exercise sheets were made by the children. For mathematics, questions were asked about counting (1st, 3rd and 2nd, 4th). Identification of different objects (such as apple, banana, leaf) was done and then children were asked to color these objects. In color matching, identification was done through flash cards. For activity related to shapes; students were asked to match the shapes (triangle, circle, square). Flash cards were made in order to do the activity regarding the selection of correct size (big and small). Children were also asked to sort out different shapes (triangle, circle, square), which were made in different colors. For craft activity, children were provided with all material for card making and beads work. Finally, they were asked to do free hand painting.

Data was first, entered in Epi data and then was transferred to SPSS (Statistical package for social sciences) version 11.5. This SPSS (Statistical package for social sciences) was used for the statistical analysis of the data. All variable were categorical variables so statistically descriptive statistics option was used to analyze the data. Cognitive levels were designed on the basis of performance.

0 level	No response
1 st level	Work independently following verbal direction
2 nd level	Work with gesture prompting
3 rd level	Work with partial physical prompting

Results

Table 1 illustrates performance of special children, some criterion and uniqueness in it and it is important to consider that how a child creates his abilities toward the development. In color activity 100% children responded to the inference question in exercise sheets according to performance. Majority of the children allowed to cognitive level 1. Some verbal direction was given before starting color activity and the children simply recognize or assume the objects which shows that art modifies cognitive development and develops high level literacy skill. Some children allied to level 2 for the reason that they could not identify and categorized the objects only through verbal direction. Thus, each activity was explained and instructions were given before exercises. 2%-6% children fell into level 3, they work with physical prompting, although, in color activity (like matching color and identifying the different objects and sizes), they reached to level 1 but, they faced major problem in Maths and counting. So overall artwork/color activities are significant sources for special children it enhances academic skills, problem solving skills, concept understanding, and information processing.

Table 1 Percentages of color activity according to performance levels

S.no	Color activity	Levels %			
		0	1	2	3
1	Color the taller object	0	91.2	8.7	0
2	Color the bigger object	0	88.7	11.2	0
3	Color the different objects	0	86.2	13.7	0
4	Color the first and third object	0	62.5	32.5	5
5	Color the second and fourth object	0	47.5	46.2	6.2
6	Color the same objects	0	62.5	35	2.5
7	Matching the colors	0	93.7	6.2	0

Key 0 = no response, 1= responded independently with the help of verbal direction, 2=gesture prompting, 3= physical prompting.

Table 2 demonstrates performance level and percentages during the shape activities. Majority of the children allied to level 1. During all activities of shape, children easily match and identified the shapes, chose the accurate size and sorted out the exact shape and placed them at the correct position with the help of some verbal direction. Some children fell into level 2 as they faced complication in some exercises, therefore instructions were given to them. 5% children were placed in level 3 because they faced difficulty in the completion of few activities of shape. However, they finished the exercise when some physical directions were given to them. Accordingly to the result, activity of artwork/shape refers to a child performance, thinking, and gains understanding of the learning factors or interaction.

Table 2 Percentages of shape activity according to performance levels

S.no	Shape activity	Levels %			
		0	1	2	3
1	Matching of the shapes	0	93.7	6.2	0
2	Choosing the right shape and placing it at the right place.	0	83.7	15	1.2
3	Sorting of the shape	0	72.5	22.5	5

Key 0 = no response, 1=responded independently with the help of verbal direction, 2=gesture prompting, 3= physical prompting

Table 3 explains the percentages according to performance level in craft activity. 100% of the children got level 1 in craft activity. Children express the inferential thinking emotions, knowledge with the help of drawing and painting. With the help of crafts activities rehabilitation of cognitive skill is significantly developed because in the form of imagination and creativity social and academic developments get better. 11.2 / 3.7% children faced some trouble hence they allied to level 2 and 3. They faced difficulty in card making, cutting, and pasting for the reason they could not simply handle but with a slight help they finished craft activity and took pleasure in it.

Table 3 percentages of craft activity according to performance levels

S.no	Craft activity	Levels %			
		0	1	2	3
1	Beads work	0	100	0	0
2	Card making	0	85	11.2	3.7
3	Painting	0	100	0	0

Key 0 = no response, 1=responded independently with the help of verbal direction, 2=gesture prompting, 3= physical prompting

Discussion

Art therapy has been known to be an effective tool to incorporate with rehabilitation of cognitive skill. Art therapy can be seen as a tool that could relieve some of those feelings within a child (Prager, 1993). Creative-expressive approach, such as art therapy, can aid the necessary attention needed for the right hemisphere (Zamierowski, 1980). In this research different ways of examining cognitive skill were used by engaging special children in art activities, which prevent deterioration of existing skills and concerned to thinking, emotions, and response. Thus data was analyzed on cognitive level and echelons were designed according to performance. This study revealed impact of arts activities on special children, which influenced attitudes in rehabilitation of cognitive skills. Majority of the children identified size relationships (big versus small) and the

geometrical shapes and colors. But rehabilitation through artwork was highly examined by two activities matching the color and drawing /painting. Children paid attention in matching of primary color and it improved their cognitive function, behavior and mood. Current research suggests that there is a link between color sensitivity and mood disorders (Barrick, Taylor & Correa, 2002). This research also examined drawing, which is a natural mode of communication. It was observed that children expressed their feelings and thoughts and cognition and perceptions and they were cheerful after drawing. Researcher also explored that children's drawings reveal their thoughts, feelings, and psychological well - being. Drawings are useful in understanding and evaluating a child's development (Gardner, 1980; Golumb, 1990; Kellogg, 1969; Lowenfeld & Brittain, 1987). Drawing tasks have also been developed and applied to the evaluation of cognitive abilities in children (Silver, 1996; 2001). It was also observed that children faced difficulties in the area of counting. In the growing and fast developing age of children there are many connections between cognitive skill and art activities. They develop understanding; build communication skills, learning process, intellectual functioning, problem solving skill, and social cognition, as well as to academic areas such as literacy and mathematics. It is hoped that this research study will be helpful to assess relationship between the great potentials of art therapy and rehabilitation of brain development with pretend play and development of specific academic skills. According to Malchiodi (2006) "Art making is seen as an opportunity to express oneself imaginatively, authentically, and spontaneously, an experience that, over time, can lead to personal fulfillment, emotionally reparation, and transformation. This view also holds that the creative process, in and of itself, can be a health-enhancing and growth-producing experience."

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Social Issues Surrounding the Adolescent with Asperger Syndrome: Perceptions of Parents and Teachers

Karen Hurlbutt, Ph.D.

Elaine LaPlante

Minnesota State University, Mankato

Abstract

The purpose of this qualitative study, a focused case study of a community, was to investigate the perceptions and experiences of three parents and three teachers regarding social issues of adolescents with Asperger Syndrome (AS). The study revealed that, in this small, rural community, students with AS are supported by their peers, appear to be content with who they are, and the parents and teachers foster a positive social climate that promotes acceptance and understanding.

Social Issues Surrounding the Adolescent with Asperger Syndrome: Perceptions of Parents and Teachers

Adolescence is an important time for social experiences that develop feelings of connectedness with peers and affirm self-esteem. It is viewed as a period of intense social change where the adolescent changes not only physically but socially as well. Howlin (2003) described social characteristic changes of the typical adolescent as a time of becoming less dependent upon parents while being more influenced by peers, the development of sexuality and sexual relationships, and increased academic pressure and demands at school. Adolescents explore many social experiences thus developing a social connectedness unique to this age group. This can prove to be a very challenging and frustrating time for adolescents with Asperger Syndrome (AS), who struggle with developing and maintaining relationships with peers and fitting in at school. Bolick (2001) stated that adolescents with AS often experience missed opportunities for incidental learning and practice when it comes to friendships, thereby affecting the development of these relationships.

Typical adolescents understand social situations by observing facial expressions, vocal tones, body language, and the dynamics of the group, whereas individuals with AS struggle with this very ability. This, along with rigidity in routine and the development of narrow interests, makes socializing difficult for adolescents with AS (Attwood, 2007; Bolick, 2007). They often develop a passionate interest in a subject or topic, generally a solitary pursuit, and not necessarily what a typical

adolescent may be interested in. According to Attwood (1998), individuals with AS may develop an encyclopedic knowledge of a topic and may believe that everyone should be as interested in the topic as they are. As one adult with AS shared, “It’s hard to stifle what you like because you are trying to fit in!” (Hurlbutt, 2007, p. 5). Educational demands also become more complex during the adolescent years, and students with AS begin experiencing difficulties with note-taking, organizational skills, working on a timeline, and understanding the requirements of multiple classes with different teachers who have different personalities and expectations.

Jackson (2004, p. 121) described the disadvantage that adolescents with AS face in this way: “The AS adolescents have so much more to cope with. Not only do they have all the changes that teenagers have to endure, but there is also a growing realization that their attitudes and behaviors are vastly different to those of their peers. The AS teenagers often try many ways to bridge the gap, either by trying to assimilate with peers’ behavior, engaging in risk-taking and inappropriate behavior, or by distancing themselves completely and ignoring peer pressure and their peer group completely.” This can lead to social isolation, loneliness, depression, ridicule due to unusual social behaviors, and anxiety which can result in reduced motivation to even make contact with peers.

The purpose of this small, qualitative study was to investigate the perceptions and experiences of three parents and three teachers regarding social issues of adolescents with Asperger Syndrome (AS). This comparison between parents and teachers was important because parents have extensive and longterm knowledge about their own adolescent across several environments, while teachers’ perspectives are usually based on an understanding of typical student development, allowing them to make comparisons between a student’s social behaviors and that of his peers. There has been relatively little published specifically on the adolescent with Asperger Syndrome, and even less regarding the perceptions of the parents and teachers of these students. The results of this study can contribute to the development of the understanding of adolescents with AS, particularly in understanding the social experiences for the adolescent with AS.

Method

Participant Selection

The special education director of a small Midwestern school district in a community of 16,000, was contacted and asked to communicate the request for parent participants through the special education teachers in the district who work with junior high students with AS. In the junior high school, there are 180 students, with only five students being identified as having AS. The parents of all five were initially contacted for participation. Parents of three adolescents with AS volunteered, and they, in turn, identified general education teachers with

whom their child had a positive relationship. These three teachers also agreed to be interviewed for the study. The parent participants were chosen based on two criteria. They needed to have a child in the junior high school with a diagnosis of AS and needed to be willing to share perceptions of their child's social experiences. Two criteria were used to select the teachers to be interviewed. First, the teachers had to be practicing, general education teachers with at least five years of teaching experience so that they were not new to the teaching field and had gained professional experience as a teacher. General education teachers were selected because the students with AS in this school district are generally served in an inclusive setting with minimal supports from special education staff. Secondly, they must have had a positive relationship with the student and taught a topic that was of interest to the student with AS. This was required so that the teacher could discuss positive experiences they had with the students in these inclusive classrooms. In each of the three classrooms, there were 21-25 students, including two to three other students with disabilities, primarily learning disabilities. The three students with AS represented in this study were on IEPs, had a documented primary disability of autism spectrum disorder on the IEPs, and all had social goals and objectives. One student also had a reading comprehension goal.

Interviews

Once the parents had been determined, an initial phone call was made to further explain the purpose of the study and assurance of confidentiality, and to select a time and place to meet. The interviews were held individually with the parents at a location chosen by them. Two parents chose to meet in the small, hometown restaurant, and the third requested to meet at her place of employment. Each of the teachers chose to meet in their classrooms at school when no one else was present. Each interview lasted approximately one and a half hours, after engaging in small talk in order to get to know each other. The participants were informed of their confidentiality and anonymity, and their right to withdraw from the study at any time. The interviews were audiotaped, and later transcribed, being written word for word from the taped interviews, with notes the primary researcher made during the interview. The tapes were kept in a locked file for confidentiality during the data collection and analysis process.

Each of the participants were asked the following questions: 1) in general, what social skills do you feel are important for adolescents?, 2) what social issues appear as strengths for the adolescent with AS?, 3) what social issues are difficult for the adolescent with AS?, 4) how do you see adolescents with AS interacting with peers?, and 5) what do you feel one could do to help adolescents with AS in social situations? Each participant was encouraged to elaborate on their responses and use examples from their experiences with the identified adolescent with AS.

Each interview was transcribed, and data were coded, using the process of data analysis as described by Moustakas (1994). Codes were categorized into

descriptive units, and then identified as themes and findings. Throughout the coding process, the secondary researcher reviewed the transcripts and also identified key words and codes. The two researchers met to discuss the identified key words and codes, and achieved an 85% level of agreement between them. Data that had been coded differently were discussed and deliberated, and the researchers together chose codes they mutually agreed upon. Member checks were also utilized as a way to ensure validity. This strategy required asking participants for clarification during the interviews, and required showing the transcribed interviews to the participants so they could comment on the information and determine if the data was accurately stating their thoughts. No participants made changes in the transcripts. Care was taken to ensure reliability as well by creating as much similarity as possible. Procedures were explained the same way to all participants, all participants were asked the same questions, all interviews were audiotaped and reviewed immediately after interview sessions, and all participants were informed of their right to review and comment on, the identified themes and findings, should they choose to do so.

Participants

Each of the names used are pseudonyms chosen by the primary researcher, in order to assure confidentiality and anonymity.

Parents

Ms. Kalz is a single mother who works outside the home. She shared that she had never heard about Asperger's until her son Tim was diagnosed with AS at five years of age. He was first thought to have ADD or ADHD, and when the doctor diagnosed him with AS, he described Tim as "a young boy with the vocabulary of a little old man." Tim is now 14 years old, and even with his high intelligence level, his mother reported that he "has a difficult time completing homework, lacks social skills, and doesn't have any really close friends." She felt as though he interacts better with adults. He is very interested in the "Price is Right" television show and she felt that most adolescents have different interests than Tim.

Ms. Nots currently works outside the home as a bank officer. Her husband died three years ago, and she has two sons, the one with Asperger's being the one still at home. James, now 13, did well in elementary school, but his mother reported that he is "struggling a bit" in junior high. James becomes easily overwhelmed with assignments and often refuses to complete them. Ms. Nots also shared that James is "really into a routine." She felt that James gets along better with adults, as they seem to be more tolerant and ask him questions about his interests. She commented that he appears to not desire social interactions and he struggles with reading social situations correctly.

Ms. Canue is a stay-at-home mother to Beau, her 14 year old son with AS, and one younger sibling. Her husband travels quite a bit for his job. She shared that she knew Beau was “different at age 3 because of his fascination with numbers.” Beau was diagnosed with AS at the age of 9 and was first placed in a class for children with behavioral problems. At that age, he had been becoming “kind of aggressive” during social interactions, such as grabbing someone around the neck from the back in order to get his or her attention. He now attends all general education classes but goes to the resource room for academic support during his study hall time. Beau’s mother commented on his apparent lack of interest in how he looks, including combing his hair.

Teachers

Ms. Hoffer is a junior high language arts teacher and has been teaching for 24 years. She began her teaching career by working with students with cognitive disabilities, then learning disabilities, and now teaches general education language arts. She is Tim’s teacher and shared many thoughts on the social aspects in the junior high classroom, and her experiences in working with students with AS.

Ms. Pepper has been teaching for over 20 years and has taught almost every grade from kindergarten through seventh grade, as well as teaching in the Title One Reading program. She is currently an English teacher at this school. She is James’ teacher and described some of his difficulties and uneasiness in working in large group and cooperative group work settings. She liked the idea of using the buddy system as a way to continue a support system when teachers and other adults are not available.

Mr. Fish has been teaching Social Studies for 39 years, first at the high school level, now in junior high. He prefers the junior high level because he believes a teacher can “still make a difference within the lives of the students.” He believes it is of utmost importance to help junior high students develop self-esteem, and of the necessity of providing a respectful, safe classroom environment for them. He is Beau’s teacher, and felt as though students with AS want acceptance and recognition just like other students.

Results

The following is a discussion of the themes that emerged from the data.

Overall theme: *The parents and teachers modeled a positive social climate in this school that fostered an understanding and acceptance of these students as being and doing “okay” socially.*

In spite of social differences, the parents and teachers in this study felt as though the adolescent with AS retained a sense of doing well socially and academically

in junior high school. Overall, they were having positive experiences at school. One parent, Ms. Canue, summarized her feelings and her son's junior high experience in this way, "I mean, I was scared to death of junior high; and he is doing fantastic."

The collaboration of families and teachers builds a social network for adolescents with AS by providing role models, respect, consideration, a sense of belonging and academic success. The participants in this study demonstrated this collaboration through mutual respect for each other as well as wanting to provide typical, everyday experiences for the adolescent with AS to learn from. Parents and teachers both recommended having open communication between home and school in order to better understand and work with the adolescent with AS. Bashe & Kirby (2001) maintained that open communication builds a good relationship between parents, teachers, and the student. Mrs. Canue shared her beliefs on maintaining good relationships and open communication with the teachers of her son. "I think for these kids to survive, parents got to be in constant contact with teachers. We do a notebook that goes back and forth every single day. I tell them my line is open, call me for anything that you have a questions about and I will stop in." Additionally, this positive relationship can provide learning opportunities that enhance the student's social-emotional development, and builds a social network for adolescents with AS by providing role models, respect, a sense of belonging, and academic success.

Ms. Canue also shared an example of how appreciative she is of the opportunities her son's teacher has provided to him. She felt that her son had excelled in Mr. Fish's geography class, in which his teacher was respectful and understanding and encouraged him to use and share his wealth of knowledge.

Sub-theme 1: *While typical peers do not necessarily include students with AS in their social circles, they do support and help them; they are impressed with these students' knowledge and can/do learn from them.*

The typical peers did include adolescents with AS in casual conversation, such as before class started, but did not specifically invite them to be a part of their groups. Both parents and teachers had witnessed classmates supporting their peer with AS, and teachers perceived that they would protect their peer with AS whom they believed was being taunted. Also, the peers validated the individuality and uniqueness of their peer with AS by seeming to appreciate their vast knowledge of information, although they occasionally showed signs of frustration with their peers' behaviors.

Both the parents and the teachers in this study have witnessed that classmates supported the peer with AS, and they discussed the ways typical students helped them in the classroom. Ms Pepper was impressed with the 7th graders. "These kids are very good to these boys that we have this year. I have never seen anything

negative, never not including them, or being mean. I've never seen any of that." She recalled how classmates helped Tim, the student with AS in her classroom.

"They just took care of him. He would come without pencils or paper, and I didn't have to say anything, whoever I would put him by, they would just be like 'O.K. we're going to take a spelling test' and Tim would say 'I don't have a pencil, I don't have paper' and the kid in front of him or behind him would invariably take out a piece of paper or pencil and hand it to him."

Ms. Nots praised peer support, while realizing her son, James, was still not within the social group. "They knew that he was a nice kid and they liked him for that. They didn't encircle him into the group like, 'hey, you want to be my buddy', but they've always treated him with the utmost respect."

The participants shed some light as to why the peers do not necessarily include their peer with AS, even though they do support them. They all felt that belonging to a group of peers and fitting in is of utmost importance to early adolescents. Ms. Pepper described how peers and peer relationships are very important. "They have to fit in and they still want to be part of whatever the popular group is, however that's defined . . ." and tend to follow what the group is doing. Ms. Hoffer supported this thought by stating, "the big one for this age group is how they're perceived by their peers."

Abuod & Mendelson (1996) discussed two general hypotheses for social connectedness. One hypothesis is that "people select friends who are similar to themselves," while the second hypothesis states that "people select friends who have desirable attributes" (p. 88). This similar attraction would tend to have adolescents dressing and looking alike or having a desirable material attribute. The typical peers may have felt as though their peers with AS did not have traits similar to their own, and may not have exhibited what they considered to be desirable attributes.

The participants identified a few possible explanations as to why the adolescents with AS struggled with fitting in with their typical peers. These may include appearance, difficulty with nonverbal communication, level of maturity, apparent preference to being alone, and difficulty establishing relationships. Grandin & Barron (2005) discussed that one unwritten rule of social relationships at the adolescent age is "the outside package is just as important as what is inside" (p.311) but that individuals with AS struggle with this concept. In one study, a woman with AS shared that as a teenager, she "experimented with makeup and hairstyling, though, but didn't get it right" (Hurlbutt, 2007, p. 7).

Ms. Canue's comment about her son is an example of this struggle. "Beau is not as mature as other kids his age. I can see that in how he dresses; how he looks. He could care less if his hair has been combed. . . kids his age are interested in that."

Difficulty with nonverbal communication may be another reason why typical peers do not fully include their peers with AS. The adolescents with AS were unaware that what they say may be socially hurtful or appear rude. These adolescents tended to be very factual and usually spoke the way they saw it, seeming to feel they were right. For example, Ms. Hoffer shared the following perception.

“The AS student may make the comment and not know that, oh, maybe he shouldn’t have said it that way. . . they have an unbelievable wealth of knowledge that they’re just waiting to share, but they have no clue when to share it and how to share it. Blurting out in the middle of class a piece of trivia information may not be the most appropriate.”

The participants in this study shared how the individual with AS missed subtle social cues, and how these students were unable to perceive and understand social cues, such as boredom conveyed by the rolling of the eyes. Ms. Hoffer shared an incident where one student was unaware of his social inappropriateness and the subtle cues of another boy.

“One day a couple weeks ago a child had gotten hurt out on the playground. He had skinned his knee, and my AS student wanted to do first aid on it. He kept saying, ‘but I know how to do first aid, would you just let me see your knee and I could patch it up.’ So [the student who fell] is growing more and more uncomfortable with him and I was wondering if Tim was going to give it up. No, he doesn’t give things up very easily. Finally, I just said, ‘We need to start with class, if there’s any first aid to be done, we should do it after class.’”

Throughout the course of the year, however, the parents and teachers noted the social-emotional growth that occurred in the adolescents with AS, along with their peers’ growth in their acceptance of them. Social maturity for the student with AS was noted as being similar to that of the typical teenager, such as wanting to do social things independently. Ms. Kalz shared a story about her son and his typical teenager activities by him meeting up with a couple of peers at the community center to go swimming and by not wanting to sit with her in the movie theater. “No, he will go and sit down [with students he knows from his class] and I will sit somewhere else. I think that is pretty normal, not wanting to sit with your mom.”

Additionally, the students with AS appeared to be more responsible as the year progressed, as displayed by staying in the classroom and handling their anxieties there instead of leaving immediately when feeling anxious, and decreasing inappropriate behaviors and bodily movements. Teachers commented on observing fewer verbal outbursts and more appropriate body language as the year progressed as well. Mr. Fish stated, “Beau has become more aware now of what he should be doing than he was before, in some of his inappropriate little gestures and body movements and squirming around, because he’s always in motion.” Another incident shared by Ms. Pepper conveyed these changes in the adolescent

with AS. “We were doing this test, and James didn’t understand it and was getting all agitated. I could tell, but I gave it to him and thought ‘well, I’m going to wait and see what he does’ because a lot of times at the beginning of the year he’d come up and he would do this [put the binder by his face] to block out the rest of the class. He doesn’t do this anymore; he must be letting some of that go.”

Mr. Fish commented that Beau was “starting to be much more focused on what he’s doing . . . he’s come a long, long way.” He felt that is an important attribute for success in the classroom.

The typical peers also showed signs of growth in terms of relating to their peers with AS. Mr. Fish talked about the growth of these students’ social skills. “They’re looking totally different at things compared to the beginning of the school year. They would get tired of kids who were constantly saying things that were inappropriate. Now they’re at the stage where they’ll say . . . appropriately, ‘enough of that, do your work’. So I think the maturity factor is already creeping in a little more; [they are developing] more responsibility.”

The data from the interviews indicated that knowledge about the peer with AS created an understanding and support from the typical students. The reason for this support may be a better understanding of the peer’s unique social behaviors, which in turn tends to create understanding and tolerance. This increased understanding may develop as a result of the teachers’ positive and inclusive attitudes and practices, as well as just spending more time in school with them.

Two parents in the study shared that the classmates who have attended elementary school with their child have gained knowledge of the individual’s personality and seemed to be more accepting and supporting of the peer with AS. Ms. Nots explained, “They knew that he [James] was a nice kid and they liked him for that. . . all the teachers reinforce how much his classmates like him.” Additionally, Ms. Kalz shared her belief about classmates who have grown up with Tim. “He has friends at school and people he has grown up with and know him and know who he is . . . but I see the kids that come in and hardly know Tim and I think that they are kind of “put off” by him or don’t know what to do.”

The typical peers learned more about the intelligence and knowledge of the adolescent with AS over time as well. Mr. Fish discussed how the peers have learned from the intelligence of the student with AS. “Beau fits in really well and actually, to be honest, the class has learned from that kid because he knows his [geography], he really does.” In a parent interview, Ms. Kalz commented that “all the teachers have said when he [Tim] has been in class the peers really pay attention to the things he says because some of the things he says is so far above what is expected of him.”

The typical adolescents appear intrigued by the knowledge held by students with AS and respect what they know. Ms. Pepper explained James enjoyed telling stories about tsunamis and asteroids, topics in which the student was interested.

“He would come up right in the front, where I would stand, and he would tell the kids these stories. And they were so good, I can just see them sitting there, and they would be. . . looking at him, and then they’d be looking at me like ‘is that true?’. . . [The students] enjoyed his stories. They would ask him questions and he would answer [them all].”

Theme 2: *Adolescents with AS appear to be content with self*

The participants in this study described the adolescents with AS as appearing to be content with themselves and in being the way they are. In the study, parents and teachers perceived the contentment of the adolescent with AS as appearing to prefer being alone and having confidence in their knowledge. Ms Hoffer perceived the contentment of the adolescent with AS by stating that “I think he’s [Tim’s] secure enough in himself where he just says ‘that’s me, take it or leave it.’”

The participants in this study described the adolescent with AS as enjoying the company of self, or being a loner, finding solace in time alone and doing things they like by themselves. Ms. Kalz shared her personal thoughts on her son’s contentment: “I wanted Tim to find his own little niche and place. He has found that pretty much being off by himself.” Additionally, Ms. Notz commented on her son’s preference for being alone: “Since he was a little guy he has always been content being by himself; he has no need for being with other people, it seems like.”

Furthermore, the parents expressed how their child with AS enjoyed doing activities alone. Their interests, such as playing video games or talking about asteroids or numbers, appeared to consume a significant amount of time. Spending time with their own interests appeared to be extremely important to the adolescent with AS. In her book, *Pretending to be Normal*, Holliday Willey (1999), an adult with AS, echoed this sentiment when she recalled her own early adolescent years this way: “Not that I did not like the people in my group, I did. It was just that I would not have been terribly upset if I had been all alone and without a group to identify with. My own conversations and thoughts were always my best friends” (p.41). Conversely, other adults with AS have shared that they tried very hard to fit in when they were growing up but were not successful with this. In one study, one adult with AS stated that “fitting in and being myself was a paradox” (Hurlbutt & Chalmers, 2002).

One reason that may explain the reason why adolescents with AS prefer to be alone is in their level of comfort in communicating with others. In this study, all participants commented on the adolescent with AS preferring adults over peers

for conversation. Ms. Notz stated, “James seems to get along better with the adults, probably because of the level of conversation, and maybe they’re more tolerant.” The reasoning for a preference of adult conversations was discussed by the participants as being related to their vast amount of knowledge on topics of interest. Also, adults are willing to follow the adolescent’s interest, while a peer might find it too detailed and possibly boring. Ms. Canue shared an example of her son’s expertise and interactions with adults.

“He has these expertise areas [and] people that we know, say, ‘Hey, Beau, I was on a trip and I went to’ and Beau will ask ‘what streets did you go on?’ Even though it [the conversation] is only what he likes, he will converse.”

This vast knowledge seems to give the adolescents with AS confidence, and they quickly engaged in conversations with adults. However, the study revealed the adolescents with AS were not shy about sharing information they knew with their peers in the classroom. The student with AS came into the classroom with strong knowledge, especially if the topic was of interest to him. Ms. Hoffer provided an example of this when she stated that, “sometimes these children have an unbelievable wealth of knowledge that they’re just waiting to share.” Another example of their vast knowledge transpired during a classroom observation when Ms. Hoffer had requested the students to name personality traits about a character in their reading book, and “Tim immediately listed comparable cartoon characters that had similar traits of the fictional person in their reading book.”

Mr. Fish shared how Beau will come and talk with him every day when he comes into class. “He’ll always come around and he wants to start up a conversation right away. I think one of his strengths is his confidence. His confidence in himself, because he’s not afraid to interject his answers when he knows something, or even if he knows something beyond that, he’s not afraid to express himself. Ms. Katz shared that “all the teachers have said when Tim has been in class everybody really pays attention to the things he says because some of the things he says is far above what is expected of him.”

Ms. Hoffer provided another example when she stated that, “Tim is such a trivia buff and when we have a movie, it feeds into that trivia and he wants that interaction [to share].” Finally, Mr. Fish added “to be honest with you, the class has learned from that kid [Beau], because he knows his stuff. He really does. He’s a pretty smart kid.”

An additional finding from this study supported some of the recommended adaptations for working with students with AS in the classroom. The described parents’ and teachers’ teaching styles revealed that there is a strong agreement between these two groups as to what is effective and beneficial for the adolescent with AS. The similar teaching style descriptors between the teacher and parent included breaking large tasks into smaller parts; providing structure and routine, including preparing the student with AS for upcoming changes; being organized

and teaching organizational skills; relating assignments to concrete experiences in their lives; working in small groups; using peers as mentors and models for appropriate social skills; and open communication between parents and teachers. These are strategies recommended in several published works (Attwood, 2007; Bashe & Kirby, 2001; Heflin & Alaimo, 2007; Myles & Simpson, 2003).

Conclusion

Even with all the fears surrounding the transition to the junior high school, the parents and teachers were satisfied with the progress that the students with AS were making. Academically, the parents and teachers were pleased with the intellectual abilities of the adolescents with AS, but continued to observe their social ineptness. However, they perceived them to be doing well socially overall and were pleased with the apparent contentment of the adolescent with AS and with the typical peers' increased understanding and acceptance.

In this study the social behaviors, such as appearance, maturity, preferring one's own company, difficulty communicating with peers and in using nonverbal communication, appeared to be factors as to why the adolescent with AS struggled with relationships with peers. However, both groups of students matured throughout the year, which resulted in more positive experiences for the students.

It appeared as though the inclusive and supportive nature exhibited by the parents and teachers had a positive effect on the students in the school. Typical peers were able to appreciate the knowledge and contributions of the students with AS and were supportive and helpful. Adolescents with AS appeared to be content with who they are, possibly because their parents and teachers celebrated who they were and included them in the typical, regular routine of the day, and because they also focused on the social development of these adolescents.

When reviewing the literature regarding the balance of social and academic development for the adolescent with AS, research indicated that the promotion of high academic standards was related to teachers creating supportive social contexts and developing a positive relationship with students (Stipek, 2006). In this study, the teachers appeared to have a balance between academics and teaching to social situations. This conclusion was based on participants testifying how they allowed the adolescent with AS to feel free to come and talk, and know that he would be listened to and respected. The essential key to building a successful support system was socially connecting to students to create a positive social atmosphere for learning.

It appeared as though the typical peers developed greater acceptance, perhaps through the modeling of the parents and teachers, and helped out when the student with AS was in need. That kind of support, both socially and academically, is important to the overall development of relationships between typical peers and

those with AS. Gutstein (2003) cited a study of teens with high-functioning autism and AS which suggested these students lack a real understanding of the emotional value of friendships. The findings of that study supported the importance of school and home working together to incorporate social strategies to help the adolescent with AS mature socially and develop relationships. By observing positive and inclusive attitudes and interactions, the possibility of true friendships between students with and without AS could become more commonplace.

Limitations of this study

1. This is a small study utilizing only six participants, which may not be applicable to all educational situations.
2. The participants are located in a small upper Midwestern town, which limits the results to be possibly unique to that size and location.
3. The adolescents with AS themselves were not interviewed, which limits the research to only parents' and teachers' perspectives.
4. General education teachers who had positive relationships with the students with AS were chosen, and the results of this study may have been different if a positive relationship between the teachers and students did not exist.

Recommendations for Future Studies

1. A qualitative study interviewing middle school adolescents with AS along with typical adolescents on the phenomenon of friendship.
2. A quantitative study looking at teachers and how they approach social skills in the classroom for adolescents with AS by using a survey on how they handle specific situations. Are the strategies teachers using the same for all students? What do they do specifically for students with AS?
3. A qualitative study with parents of young adults with AS who have gone through the school system 15-20 years ago to reflect on what they believed to be the schools' perceptions of students with AS and if they believe that influenced the programming/education for their child, and the pressure for the students with AS to conform.
4. As no professional literature was found specific to the adolescent with AS and maturation during junior high years, the completion of a longitudinal study to document the maturation process would provide parents and professionals with additional information and understanding.

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Students with Autism Participating in Recess

Matthew D. Lucas, Ed.D., C.A.P.E.

Kourtney M. Nichols

Longwood University

Introduction

The participation of a student with autism in recess can often be both challenging and rewarding for all students and the general education teacher. This paper will address common characteristics of students with autism and present basic solutions to improve the education of these students in the recess setting. Initially the definition, behavioral characteristics, and prevalence of autism will be presented. This will be followed by a brief discussion of autism for an individual in the classroom, and possible benefits, challenges, and solutions for children with autism in the recess setting. Lastly, specific methods of including a student with autism in a basic recess activity will be discussed.

Definition, Behavioral Characteristics, and Prevalence of Autism

Autism is defined by the Autism Society of America (ASA) in the following manner:

Autism is a complex developmental disability that typically appears during the first three years of life and is the result of a neurological disorder that affects the normal functioning of the brain, impacting development in the areas of social interaction and communication skills. Both children and adults with autism typically show difficulties in verbal and non-verbal communication, social interactions, and leisure or play activities (Autism Society of America, 2009).

Autism is considered a Pervasive Developmental Disorders (PDD), a category of neurological disorders characterized by “severe and pervasive impairment in several areas of development” (Autism Society of America, 2009). This spectrum of disorders is often recognizable by specific characteristics such as communication problems, no eye contact, repetitive behaviors, and stemming. Stemming is a characteristic in which an individual fixates on something, generally a body part, and moves it up and down or in another repeated motion (Autism Speaks, 2009). It is to be noted that in the United States today, one in 150 children have autism (Autism Society of America, 2009).

As a result of the behaviors previously noted, one can understand that a major characteristic of autism is impaired social interaction (Child Development Institute, 2009). Impaired social interaction can include difficulty participating in groups and turn-taking. In addition to the characteristics previously noted, another reason for this

impairment is the fact that children with autism often have difficulty managing behaviors. These inappropriate behaviors often come from trying to communicate their likes and dislikes. However, this is often difficult for children with autism because they are often unable to effectively express themselves verbally – they often speak in one-word sentences or are non-verbal. If a child is unable to find a method to communicate needs, a variety of irregular behaviors often seem to occur. Behaviors include self-injury, tantrums, or some kind of aggression (Matson, 2009).

Frustration with communication skills are not the only cause of irregular behaviors. These behaviors can also come from wanting/needing attention, or not understanding a situation in its entirety. One such reason for not understanding a situation would seemingly be the result of a simple lack of experience with many activities. It should be noted that when a child exhibits an undesirable behavior, and not discouraged from the behavior, the undesirable behavior is even more likely to be reoccurring (Chiang, 2008).

Challenges for a Child with Autism in the Classroom

The authors feel that it is important at this time to present to the reader a brief synopsis regarding the challenges for a child with autism in the classroom. This is deemed important as it will hopefully lead to a better understanding of the challenges in the more specific location – in the recess setting. In terms of challenges for a child with autism in the classroom it should be noted that undesirable behaviors tend to often appear in educational settings seemingly because of the increased demands placed on the child, including the needs and desires to communicate with more individuals. In educational settings the child will often be expected to perform many tasks throughout the day. Often, when these tasks become too demanding, the child may act out in order to escape the behavior. When a child with autism needs to act socially with others, it is important to make sure that there is a structured area that will allow for the children to interact. Also, if the child feels a need to leave the situation, there needs to be an ability to remove from the situation (Ball, 1996).

As noted previously, when in the educational setting additional undesirable behaviors for students with autism often appear. Children in school tend to participate in, “off-task behaviors, inappropriate vocalizations, and other disruptions” (Conroy, Asmus, Boyd, Ladwig, & Sellers, 2007) as well. Being off-task, shouting, and interrupting the class in other ways will also lead other children to off-task behaviors.

Benefits and Challenges for Children with Autism In the Recess Setting

As is commonly agreed upon, the benefits of participation in regular recess activities are high. These benefits can be found in two major areas – social and physical. Specifically, research has shown that some of these benefits of recess include:

- Improves attentiveness (Pellegrini, Huberty, & Jones, (1995)
- Improves out-of-school activity levels (Dale, Corbin, & Dale, 2000).
- Improves general fitness and endurance (Kids Exercise, 2009).

However, as a result of many of the previously-noted characteristics associated with autism, special considerations must be made to properly instruct a student with autism in the recess setting. These considerations are to address the previously-noted challenges that are often present in children with autism including:

- Difficulty playing in groups.
- Difficulty communicating with others.
- Difficulty waiting for turns.
- Inexperience due to a lack of opportunities and practice.

***Possible Solutions to Challenges for Children with Autism
In the Recess Setting***

The following chart notes possible characteristics associated with children with autism and possible solutions to these challenges in recess. It is important to remember that not all of these characteristics are prevalent in all individuals with autism and not all of these solutions will be successful when working with all children with autism. They do, however, represent a solid foundation.

An important factor to remember for students with autism is to develop an environment that is cooperative and allows for the student to communicate. Such an environment would seem to lead to a high comfort level which would in term seem to be beneficial to many children with autism. Table 1 lists some possible characteristics of the student with autism and possible solutions that can be used in recess to lead to a comfortable and beneficial environment. Following this chart a specific case incorporating modification procedures for including a student with autism in a recess activity related to throwing and catching a ball is presented.

Table 1: Helpful Tips for Children with Autism in Recess.

Autism Characteristics	Items to Remember in Regards to Characteristics
Difficulty playing in groups.	▪ Assign playmates (partners). ▪ Have scheduled/ structured activities. ▪ Fewer activities in a particular time span (due to difficulty with transitions).
Difficulty communicating with others.	▪ Provide alternate forms of communication. ▪ Pecs ▪ Communication cards/ other picture systems ▪ Sign language ▪ Notepads/ drawing materials
Difficulty waiting for turns.	▪ Keep waiting to minimum. ▪ Practice turn taking. ▪ Systematic turn taking (ex. Use a counting method. Every time the

	student reaches the number three it's the next person's turn.)
Inexperience due to lack of opportunities and practice.	▪ Provide opportunities. ▪ Demonstrate activities before playing (participating in). ▪ Have peers demonstrate activities.

Methods of Including a Student with Autism in a Throwing and Catching Recess Activity

For the purpose of discussion of including a student with autism in recess, students will be participating in a simple activity of throwing and catching. As such, the skills that are being worked on in this activity are throwing, catching, and turn taking.

To appropriately include an individual with autism in such a recess activity the following modifications should be made.

1. A partner should be assigned to the student with autism because of the difficulty often shown in playing in groups. The partner should be an individual for whom the student has shown comfort with while participating in similar activities.
2. The activity should be continued without interruption if possible due to the often-present difficulty with transitions.
3. An alternative form of communication should be provided such as communication cards for the student. For this, and other reasons, a teacher should be present to better allow for communication.
4. Because of the often-present difficulties in terms of turn taking, the partners of the child should remind the student before a transition is to take place. Noting to the student that he/she has three more turns before another individual is to take a turn is often extremely beneficial.
5. Due to a probable inexperience in the activity due to a lack of opportunities, partners – or the teacher – should provide short demonstrations of the activity. In this case, two students adjacent to the student and his/her partner should demonstrate a few turns of throwing and catching.

Although these modifications may seem simple and also just marks of quality teaching, they are of the utmost importance for including a student with autism in such a recess activity.

Conclusion

The participation of a student with autism in recess can often be challenging and rewarding for the student, the student's peers, and teacher. These rewards can manifest themselves in the ability of the teacher to guarantee the safety of all students in an instructionally sound environment. This paper has hopefully addressed some basic concerns and solutions to improve the recess setting of students with autism.

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A Comparison Between Collaborative and Authoritative Leadership Styles of Special Education Administrators

Natasha W. Veale, M.Ed.

Abstract

Supervisors, administrators, and directors of special education usually use the authoritative leadership style when supervising their special education staffs; however, collaborative leadership styles are slowly overtaking authoritative leadership styles. These leaders have the task of producing an environment where the culture is inclusive, the relationships are positive, and partnerships are developed and responsible for the success of all students with disabilities. Managing strictly by objectives could produce a close-minded type of system that could produce an unpleasant environment, making it difficult for special education teachers to do their jobs efficiently. In this article, the author compares and contrasts the collaborative leadership style with the authoritative leadership style amongst special education personnel in leadership positions. A review of literature determines utilizing a more collaborative leadership style is successful at increasing special education staff productivity.

A Comparison Between Collaborative and Authoritative Leadership Styles of Special Education Administrators

“Leadership is the ability to get men to do what they don’t like to do and like it (Harry S. Truman)” (Sadler, 2003, p.5). This concept of leadership is not as simple as it sounds, especially when leadership in the special education field occurs. Building administrators, central office supervisors and district directors of special education face the challenging task of exhibiting leadership skills to be effective in their special education settings on a daily basis. These skills form based on their own individual style of leadership. The type of leadership style utilized in special education is critical to achieving the most desirable outcomes for students with disabilities and the staff committed to helping them reach their goals. Leaders use several leadership styles throughout the education arena, with two standing in the forefront of leadership studies. Authoritative and collaborative leadership are styles of leadership used in the field. Authoritative style, when used in the past, may have had its successes, but with the rise of education reform directly effecting students with disabilities, collaborative leadership is effective in leading special education staff to improved levels of productivity within an environment conducive to good working relationships. The purpose of this paper

is to compare and contrast authoritative and collaborative leadership, in order to acknowledge the most successful approach when working with special education staff members.

Authoritative Leadership

Authoritative, or autocratic, leadership can be both desirable and unrelenting when used in a supervisory role in education. Bass (2008) describes the authoritative-autocratic cluster of leadership style as “being arbitrary, controlling, power-oriented, coercive, punitive, and close-minded” (p.440). He seems to mean when leading in this manner, the person is solely in control of the performance of their subordinates and of all the decision-making. Sadler (2003) further notes the authoritative leader makes decisions and imposes them on everyone else, expecting implementation without question. The result would be to reach the decision without regard for feelings. For example, a supervisor in a textile factory setting would delegate tasks to ensure the company makes daily production. The subordinates would not give an opinion or feel as if they had a choice in regards to getting the work completed before the end of the shift.

Despite the possible harshness authoritative leaders can possess, they also produce structure, rules, and compliance (Bass, 2008). Authoritative leaders depend on their official rank to regulate the behavior of their subordinates (Bass, 2008). This type of behavior produces followers even when they are unwilling. With the security of legal support and the ability to maintain order, the authoritative leadership style can warrant results. In this respect, Goleman (2000) found that authoritative leadership increases the commitment to the organization’s goals; therefore, a vision can be established and carried out effectively. In the business world, authoritative leaders state the result of a process while giving his or her subordinates the flexibility and freedom to take risks and experiment in order to get the job done (Goleman, 2000). This could mean that the leader does not expect to hear any questions and is not concerned with how they reach a goal, as long as it is accomplished. Another form of leadership used in education takes a more collaborative approach.

Collaborative Leadership

Collaborative, or democratic, leadership can be endearing, person-oriented, but occasionally dependant on others, when applied in the education field. This style of leadership can be described as considerate, consultative, participative, and employee-centered (Bass, 2008). The underlying characteristic of this style seems to be the ability to share in decision-making. Goleman (2000) finds that by spending time getting people’s ideas and mutual agreements, a collaborative leader builds “trust, respect and commitment” with their subordinates (p.84). When utilizing this style, the leader invites discussion to confer solutions to problems (Sadler, 2003). Collaborative leaders have to be willing to accept responsibility for the decisions everyone made as the correct choice (Sadler,

2003). This approach to leadership has the ability to produce cohesiveness and commitment to organization when everyone has a sense of equality. Bass (2008) also notes collaborative leaders elicit ideas from their subordinates to produce a better way of getting things accomplished, are open to criticism, and tend to treat their mistakes as opportunities to learn what not to do in any given situation. For instance, a school principal could establish a collaborative school-based leadership team where he or she structures monthly meetings to discuss the concerns of the school. With the representation of all grade levels and support staff at the meeting, the principal could use everyone's input to manage the entire school effectively.

Even though using the collaborative leadership style seems to govern it as all-inclusive, its dependency on the input of others may not always produce positive outcomes. Goleman (2000) found when leaders and staff members mull over ideas, in what seems like endless meetings, there is a chance decisions become less than effective. This could result in the subordinates, or staff members, becoming restless and confused about the proposed problem even more than they may have been before they began deliberating. Some staff may even decide to refrain from participating, thus inadvertently prolonging the decision-making process much further. In the business world, the collaborative, more democratic style of leadership does not always produce the quick results an organization may need. Goleman (2000) insists, "Building consensus is wrongheaded in the time of crisis" (p.85). He adds practicing this leadership style drives up flexibility and responsibility of the subordinates. With this said, it is safe to assume authoritative and collaborative leadership could be evaluated to determine their similarities and differences as they are commonly viewed.

Similarities

To compare authoritative and collaborative leadership, most supervisory situations call for either one or the other, but could have the qualities of both styles. In any given situation, regardless of whether the supervisor makes the decisions on his or her own or consults a committee, he or she is still ultimately responsible for the results. Both authoritative and consultative leaders base their decisions on facts and are knowledgeable of the tasks in order to make the decision (Bass, 2008). They must be well educated in order to carry out their decision-making processes effectively. Regardless of how they achieve their goals, they must utilize others in the organization in some form, realizing they need staff members to reach the organization's goals. The staff plays a significant role in the implementation of their selected duties, their performance is necessary or the organization suffers.

Sadler (2003) adds the leaders are responsible for the set of ethics or norms that govern the behavior of people in the organization. The leaders, whether their style is authoritative or collaborative, sets the tone for the environment. If the authoritative leader is negative and withdrawn, it is highly likely that his

organization will be too. If the collaborative leader promotes treating each other as equals, then the staff would more likely collaborate with each other even when the leader is absent. Bass (2008) claims although authoritative leaders tend to be dictators, showing concern for their subordinates' needs is common. He also suggests collaborative leaders could facilitate group decision making, but also push to get the job done. Along with these varied similarities, there are also distinct differences between authoritative and collaborative leadership styles.

Differences

After previously introducing the two leadership styles, several distinct differences emerged. To start, it would seem that authoritative and collaborative styles were opposites in every right. In regards to character traits, the authoritative leader is controlling and close-minded, while the collaborative leader practices being open-minded and reasonable when interacting with their staff members (Bass, 2008). During the process of decision-making, authoritative leaders are not open for suggestions, nor do they want to be bothered with inquisitive staff members (Bass, 2008). On the other hand, Sadler (2003) tells us that collaborative leaders invite discussions to generate ideas with the hopes of reaching a consensus. This type of collaborating leads to long-term results, while the dominating, authoritarian tends to mostly produce short-term results (Bass, 2008). Depending on the situation, the result is either negative or positive.

Another aspect of how authoritative leaders differ from collaborative leaders is in how they treat others. The collaborator makes attempt to sustain or boost moral to produce high quality results (Goleman, 2000). Although authoritative leaders can develop loyal and devoted followers, they potentially treat everyone in an abrasive manner, with hardly any regard to the feelings of others (Bass, 2008). Staff members tend to dislike authoritative leaders, and rightfully so, since their supervision could be abusive, create fear, and use punishment when situations do not go as planned (Bass, 2008). On the opposite end, staff members tend to like their collaborative leaders, as the leaders show genuine concern with the maintenance of good working conditions (Bass, 2008).

When looking at the results these styles produce, different factors play a major role in the accomplishing tasks using either leadership style. Goleman (2000) found using collaborative leadership style could cause conflicts among staff members. Arguments could keep everyone from reaching an agreement. On the other hand, authoritative leaders do not give room for arguing because no one is encouraged to work together. Goleman (2000) decided this approach could work well in business situations, but collaborative leadership would not, if the staff members are too incompetent to contribute to the process. Consequently, if the staff members are more competent than the authoritative leader, his or her inadequacies could reduce morale (Goleman, 2000). To add purpose to these generalizations, the following section will give the factors involved to determine

the more successful leadership style for a supervisor to possess when managing a special education staff.

Special Education Leadership

Supervisors practice collaborative and authoritative leadership styles in various fields, but in the special education field, when they know which style will produce favorable situations in the supervision of staff members success is a likely result. Like business, education is a complex field run by supervisors and administrators. Special education has numerous stakeholders, including school principals, program administrators, directors (district and state), and teachers. DiPaola, Tschannen-Moran, and Walther-Thomas (2004) reveal that special education has evolved from segregated classroom characterized by low academic expectations, social isolation, and poor curriculum to widespread recognition that effective special education is not a place in a school building.

In the past, it was common for special educators and general educators to take on a different approach to leadership, but with the inception of federal laws and the influx of students with disabilities in general education classrooms, it is no longer feasible to depend on separate administrative structures (Crockett, 2002). Crockett (2002) also notes special education programs currently have experienced a major reduction in isolated services and relies more on collaborations in order to serve students better. In order to continue applying this concept, special education administrators and supervisors would implement their own style of leadership that would promote the productivity and satisfaction of special education personnel in the work environment. They should base their style on their individual behaviors and attitudes toward how they are to lead their staff. Once they make the choice, it has a strong effect on all aspects of staff members working conditions (DiPaola et al., 2004).

When deciding between collaborative and authoritative leadership styles of managing special education staff, it is important to know the characteristics of the collaborative style correlate with the roles and responsibilities of a successful special education supervisor. Weaver and Landers (2003) compiled the behaviors supportive special education supervisors exhibited from combined studies (Guzman, 1997; Potter & Husley, 2001; Heizman, 2001; Lupsky & Gartner, 1997; as cited in Weaver, Landers, Stephens, and Joseph, 2003). These behaviors include: a) uses a system of communication allowing staff members to oppose policies and practices making recommendations for change, b) works with staff to agree collaboratively on an attitude of inclusion, and c) demonstrates skills in problem-solving (Weaver et al., 2003). In addition, special education supervisors model leadership and ensure teachers, paraprofessionals, related service personnel, other building support staff, and parents receive the ongoing training and support needed (Weaver et al., 2003).

The supportive actions of the administrators of special education directly contribute to their leadership style, as do their understanding of the role played on the success of their special education program. Doyle (2003) notes blending authoritative, rule-based legal mandates with a more collaborative, democratic leadership would place a strain on the role. Traditionally, the systems used to monitor the progress of students with disabilities to ensure compliance were heavily procedure based and turned special education administrators into the watch guards of programs (Doyle, 2003). Taking an authoritative approach would seem warranted since strict rules and procedures are what drive the special education programs, but student achievement should be the main goal. Slater (2005) submits administrators that were trained and rewarded for running a well-managed program and consistently took control of decisions must learn to lead in a more participatory manner.

If the special education supervisor utilized authoritative leadership style to implement their programs, this could call for unfavorable results. As previously stated, authoritative style of leadership can be unrelenting then it comes to implementing their special education programs without paying careful attention to the factors that contribute to meaningful results. In any given situation, whether it is the development of a student's individualized education plan (IEP) or a decision regarding a change in a student's placement, administration cannot exhibit close-minded and abrasive behavior. Managing strictly by objectives could produce a close-minded type of system that could produce an unpleasant environment and making it difficult for teachers to do their jobs efficiently (Birnbaum, 2006). The decision could adversely affect both the students and staff even if the special education administration comes to a sole conclusion they are correct in their decision-making.

In special education, the role the leader takes makes a strong statement about the quality of services that will be delivered to the students and parents (Birnbaum, 2006). This could mean if the supervisor decides to make all of the decisions and does not include those most important in the students' education, then there is a chance that the services will not reflect the level of quality the students' deserve. This includes the interactions with the staff members and their willingness to proceed in carrying out the decisions. Collaborative leadership style would be preferred in this case to allow for a better working atmosphere and increase in productivity of special education staff members.

Collaborative Special Education Leadership

To create a climate rid of authoritative attitudes and unfavorable working conditions, special education supervisors must adopt a collaborative leadership style when managing their staff. Ford and Clark (2003) state collaboration indicates the desirable working relationships within a school setting (as cited in Weaver et al., 2003). Special education administrators, supervisors, and directors have the responsibility to produce an environment where the culture is inclusive,

the relationships are positive, and partnerships are developed and responsible for the success of all students with disabilities (DiPaola et al., 2004). Billingsley (2005) states leaders need to focus their concentration on: a) creating a collaborative environment, b) developing acceptable working conditions, and c) promoting wellness with increased support. When linking collaborative practices to the role of special education supervisors, consideration of several key factors would allow for progress in these areas. These areas are school culture, instructional leadership, organizational management, and staff support.

School Culture

A collaborative special education supervisor embraces the area of developing an inclusive school culture. Staff members are responsible for the learning environment and knowing their superiors are involved in the empowerment of all students, thus helping to boost overall morale. Walther-Thomas and DiPaola (2003) mention competent leaders create a culture, and establish a climate for change, by enticing their constituents into developing a well-supported vision and mission. They could do so by becoming a positive role model. A sense of belonging could develop amongst the staff members if the special education supervisor attempts to involve all stakeholders necessary into the decision-making processes regarding students with disabilities. In this case, leaders would do their best to portray a genuine concern for every student, regardless of level of disability. This helps to reduce any doubts staff members may have in the leadership as it pertains to their students. For example, the special education supervisor would make all efforts possible to advocate for and attend IEP meetings for the students with severe and profound disabilities, just as he or she would for students with mild disabilities. Divisions among students can cause division among staff members as well.

DiPaola et al. (2004) agrees grounded norms must be set in the value of academic effort and support for the achievement of all students. Staff members should be working together to create solutions, but this cannot happen if a culture of sharing is never introduced. Walther-Thomas and DiPaola (2003) and DiPaola et al. (2004) agree that special education supervisors should try to develop staff members' leadership skills in order to capitalize on their collective knowledge and contributions to the special education programs in order to help shape the programs' culture. As collaborative leadership style works to improve the school culture, it also assists in improving the instructional leadership skills of the special education supervisor.

Instructional Leadership

Since the education of students with disabilities should be the primary reason for special education programs, the special education supervisor must serve as an instructional leader to model the most successful behaviors to the special education staff. Taking on a collaborative style of leadership to carry out this role

is sure to improve the education of the students while providing the instructional support staff members need to teach the students on a high standard. It also helps the instructional leaders contribute a great deal to the school culture (Rafoth & Foriska, 2006). DiPaola et al. (2004) add the expectations of leaders help to ensure ongoing professional development. If the special education supervisor is knowledgeable of the academic needs of the students, he or she could make it a priority to encourage staff members to participate in staff developments and workshops on specific topics designed for students with disabilities.

It also helps to be supportive of the staff members collaborating with each other in the classrooms to help reduce any uncertainties. Walther-Thomas and DiPaola (2003) found that many teachers, consultants, and paraprofessionals lack the necessary training and preparation to collaborate efficiently with other adults in the classroom. The instructional leadership skills the special education supervisor possesses should be used as an aid in skill development for staff, if possible. DiPaola et al. (2004) tells us good administrators work alongside teachers and students. Having a presence in the classroom would help staff members develop trust in the leader and their willingness to work collaboratively with them. The instructional support becomes vital to the success of the students and their programs. This support used to help staff members could help them make decisions on how best to teach their students. Now that federal mandates placed on all students demand results, using collaborative leadership to guide decisions, regarding the instruction of students with disabilities, seems more promising as leaders and staff members work together. As special education supervisors commit to working intimately with their staff, their management of the schools should run smoothly as well.

Organizational Management

A supervisor leads and manages in a way that contributes to the productivity of the job site. The special education supervisor should manage their staff in a way that ensures long-lasting positive results. Birnbaum (2006) notes “decisions can be made by groups at the lowest level in an organization” (p.32). In this respect, the supervisor could utilize the expertise of all staff members involved in the education of the students with disabilities. DiPaola et al. (2004) add everyone has input matters. This gives an opportunity for a distribution of leadership at all levels of the organization in the spirit of collaboration. Although there is one leader, staff members could share control over the processes. The special education supervisor must set the tone for this structure; otherwise, it is unlikely to happen. Staying abreast of the matters within the organization by means of ongoing collaborations would give the supervisor the change to do what is right by students and staff (Birnbaum, 2006).

DiPaola et al. (2004) decided that schools formed by models of collaboration and organizational leadership work more effectively than those that have controlling ranks. It seems that a leader with more of an authoritative style would fare better participating in a hierarchy. By concentrating on practicing a collaborative

leadership style, instead of control, special education supervisors will build an organization of productive staff members. In order for the staff members to continue to put their best into their work, special educators must be careful in handling the relationships they have maintained.

Staff Support

While forming the perception of an enjoyable environment, special education supervisors should work on establishing strong, meaningful relationships to induce collaboration. These relationships can start with a foundation of understanding. Walther-Thomas and DiPaola (2003) stress by understanding the staff's demands and needs, leaders can provide the necessary support that would result in a reduction of stress and an improvement in job satisfaction. Depending on the situation, staff members should know when their supervisor is approachable. This can be hard without establishing relationships. Relationships based on optimism, trust, openness, and respect provide a foundation for collaboration (Billingsley, 2005).

It is also important for special education supervisors to have good interpersonal skills (Birnbaum, 2006). The staff members need a leader that will listen attentively to their opinions (DiPaola et al., 2004). Ongoing dialogue and sharing among teachers and administrators helps to build relational networks needed to reach the goals of a special education program (Walther-Thomas & DiPaola, 2003). Birnbaum (2006) insists that bad morale can interfere with the relationship between staff members and the special education supervisor, but the interpersonal skills of the supervisor can turn those problems around. In turn, using the collaborative leadership style fosters positive relationships resulting in better job performance of all those responsible for educating students with disabilities.

Conclusion

After careful considerations, it is determined that practicing a collaborative leadership style compliments the characteristics needed of a special education supervisor. Staff members are more likely to become motivated to serve their students with the highest quality if they are satisfied with their work environment and relationships with administration. Students with disabilities ultimately benefit from this, as do the rest of the stakeholders involved in their service delivery. Although the collaborative leadership style seemed to work best, several questions arise that warrant further investigations.

These questions should help to reveal a need to continue studying leadership styles in regards to special education programs. Traditionally, if special education supervisors used the authoritative leadership style to enforce procedures and rules associated with service delivery and planning, does it mean the collaborative leader will allow services for students with disabilities to be flexible when a staff member questions a procedure? Because of the meetings supervisors and staff

members conduct concerning the implementation of student services, is it safe to think every staff member will continually adhere to the federal laws and guidelines? It is the special education supervisors' duty to maintain their collaborative leadership style while enforcing the specific guidelines to serving the students primarily. Staff members should enjoy and be productive in their settings, but not at the expense of the students' education.

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The Effect of Embossed Picture Technique on Reading Performance of Learners with Hearing Impairments: A Case of Kambui School for the Deaf

Sella Munyendo

Francisiah Irangi Wamocho

Kenyatta University

Abstract

The purpose of this study was to find out the effect of embossed picture technique when used in teaching reading to the pupils with hearing impairment. The study was guided by Piaget's theory of human mental development. The study adopted an experimental design. The study was carried out at Kambui School for the hearing impaired located on Githunguri- Ruiru road in Kiambu District, Githunguri Division, Ngewa zone, 3 kilometers off Kwa-Maiko centre. The school was chosen since it caters for all categories of pupils with hearing impairment from nursery to class eight. The school also admits pupils from all over the country. Pupils were assigned randomly to the experimental and control groups. Each group consisted of 9 pupils totaling 18. Data were collected from both experimental and control groups for a period of 6 weeks. Criterion reference test (CTR) was used as a pre-test and post-test for the purpose of data collection. Non-parametric tests such as the Mann- Whitney test and the Wilcoxon sum of rank test were used to test the significant difference in performance in reading of pupils with hearing impairment taught with embossed picture technique and those taught with "look and say" method. To determine if there was any significant effect of the degree of hearing loss on performance of pupils with hearing impairment in reading, and the difference in performance of pupils of different ages when taught with embossed picture technique, the Kruskal-Wallis one-way Analysis of Variance (ANOVA) which takes care of small samples were used with the different degrees of hearing loss and the different ages as factors. The results showed that there is a high statistical significant difference between pupils taught with embossed picture technique and those taught with the look and say method. The results revealed that there is no significant age effect on reading performance of pupils with hearing impairment of different ages taught with embossed picture technique. Finally, the study revealed that there is no significant performance difference in reading of pupils with hearing impairment at different degrees of hearing loss when taught with embossed picture technique.

The Effect of Embossed Picture Technique on Reading Performance of Learners with Hearing-Impairment: A Case of Kambui School for the Deaf

Education is a human right and every child has a right to education. Public law 92-142 (1975) in the United States of America (USA) advocates for education for all including pupils with handicapping conditions in the least restrictive environment. Maynard and Jack (1977) observe that despite the criticisms of public law 92-142, the act affirms several principles that, taken together, make it one of the most significant pieces of educational legislation in the history of the United States of America. One of the principles states that all pupils with handicapping conditions aged 3 to 21 have a free and appropriate public education. There will be no financial charges to the family and the programmes provided must uniquely meet the needs of individual pupils according to their diverse needs.

Evidently in Kenya, the government started implementing Free Primary Education (FPE) in January 2003 which led to an increase in primary school enrolment by 25% in individual schools.

Otieno (2003) in a report on Universal Primary Education's (UPE) goal by the year 2015, identified inadequate provision of education for pupils with disabilities. In a paper presented to the Constitution of Kenya Review Commission (CKRC) Ndurumo (2001) notes that persons with disabilities are an integral part of the society who long for equality in opportunities.

According to Cohen (1987), reading is essential for communication. It involves learning to pronounce words, identify words, and get their meanings and learning to bring meaning to a text in order to get meaning from it. In addition, learning skills are placed in the context of authentic reading and writing activities. This definition recognizes the importance of skill instruction as one piece of the reading process and reading as a complex process involving recognition of shapes (Allington & Cunningham, 1996). Cohen (1987) observed that most schools in the USA are not teaching pupils with hearing- impairment to read adequately in the first four grades, the published reading achievement scores from large cities are discouraging testimonies to this. More discouraging are the experiences of educators who work in the classroom from which these reading achievement scores are drawn. The deprivation of disadvantaged beginning readers looms large when methods and materials for reading are mediocre. The deprivation becomes insurmountable impediments when the methods and materials for teaching reading are less than mediocre (Cohen, 1987).

Nissen (2005) argues that the central problem of learning to read can be solved with the right methods and tools. It has been noted that a quarter of the pupils in United Kingdom (UK) and United States (US) are illiterate. Part of the problem in reading is due to the difficulty of the English language spelling rules and expectations but the main problem is how reading is taught (Nissen, 2005).

This study adapted the embossed picture technique. Embossed pictures are sometimes referred to as raised letters which can be touched, felt and seen easily. For instance, the embossed outline of a dog gives the shape of the animal as it is seen. The embossed outline therefore, constitutes not a representation but a symbol of the object, which becomes meaningful only with added verbal interpretation and explanation (Holbrock & Nannel, 1997). The use of embossed materials in teaching of geography, geometry and other subjects to pupils should be successful (Lowenfelt, 1955). This study sought to investigate the effectiveness of embossed picture technique in teaching reading to pupils with hearing impairment.

Purpose and Objective of the Study

This study was to find out the effect of embossed picture technique when used in teaching reading to pupils with hearing-impairment. The major objectives of the study were to determine:

- if pupils taught with embossed picture technique perform better in reading than those taught with “look and say” method.
- whether the performance of pupils taught with embossed picture technique differs with their ages.
- whether the degree of hearing loss has effect on performance of pupils with hearing impairment in reading when taught with embossed picture technique.

Theoretical Framework

The study was guided by Piaget’s theory of human mental development (Piaget, 1960) states that, the first stage in human learning is through the senses where the individual constructs mental schemes, and sense preceptors that represent phenomena. These sensory motor schemes constitute the first human intelligence to solve practical problems in their environment. They precede language learning. Sensory-motor intelligence is “the capacity to resolve practical problems through activities prior to language acquisition” (Piaget, 1960). The pre-conception period, which generally extends from 18 or 20 months to four years, is marked by the development of language and symbolic function. Imitation, particularly “deferred” imitation, constitutes the transitional element between sensory-motor schemes and representative thought.

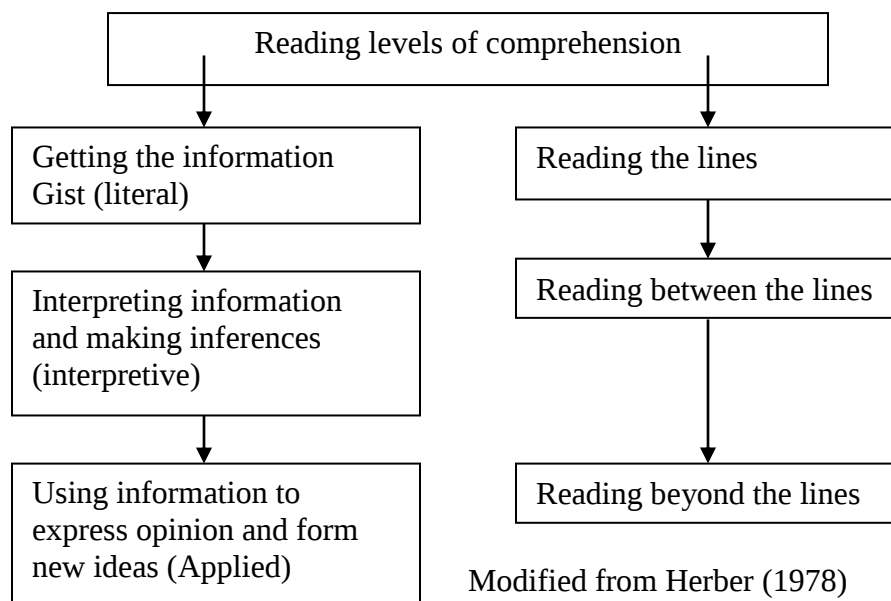
The transition starts with deferred imitation and proceeds through progressive interiorization. Thus, symbolic images are formed (Piaget, 1960). During the intuitive period which occupies the period from four to seven years, approximately, a gradual coordination of symbolic representations leads the child to the threshold of operations. During the symbolic stages, the child can learn to use tactile embossed pictures to learn to read words and sentences.

Similarly, at approximately 10 years, the child reaches a plateau in equilibration, which is marked by the relative completion of notions basic to the comprehension of space, time and classification among others. However, the operations formed in this manner are

limited to the “concrete” level; they deal with manipulated objects (Piaget, 1960). This study adapted this theory to teach reading to the pupils with hearing impairment.

The Conceptual Framework

Figure 1: Reading Levels of Comprehension



The above conceptual framework portrays that for actual reading to take place; three levels of comprehension must be reached, that is, the literal level, the interpretive level, and the applied level. This means that one starts to read the lines, then reads between the lines and lastly reads beyond the lines. Reading is a thoughtful process, which embraces the idea of levels of comprehension according to Herber (1978). He maintains that reading responds to meaning at various levels of construction and conceptual difficulty. Although skills are assumed to operate in each level, the emphasis is clearly on how comprehension skills interact within and among the three levels.

Herber (1978) maintains that interpretative levels (integrating information) are necessary but not sufficient in constructing meaning from print. According to Herber, good readers search for conceptual complexity in material they “read between the lines”. Readers focus not only on what the authors say, but also on what authors mean by what they say. Herber (1978) states that applied level (constructing knowledge) of reading is a process of reconstructing our messages. Questions like “what does this mean to me? During a reading process, or when one attempts to seek significance in what they are reading then, it is said to be essentially constructing knowledge (Figure 1) on (pg 10). The theoretical framework is relevant to the study since it gives the three important levels that a pupil has to follow systematically to acquire reading skills. Which is a timely guide to this study that seeks to find out the effect of embossed picture technique in teaching reading to pupils with hearing impairment.

Methodology

This study adapted an experimental design, which is perceived by Johnson (1999) as an effective way of studying a problem. Orodho (2004) states that if someone tries a new approach or procedure, to see what its effect will be, it might be referred to as an experiment. Jegede (1999) asserts that an experimental design is where the population under study is divided into groups. One group is assigned as a treatment group and another as a control group. Pupils in the treatment group were taught reading using the embossed picture technique, while the control group was taught reading using the conventional method “look and say” technique. This experiment aimed at testing the effect of embossed picture technique in teaching reading to pupils with hearing impairment.

Target Population

The total enrolment in the school was 210 pupils. The school had 23 teachers and 21 non-teaching staff. Among the 23 teachers, 16 teachers have special education training while 7 teachers have no training in special education. The study targeted pupils with hearing impairment with all categories of hearing loss in class one since formal reading starts in lower classes. The class had one teacher. It had eleven boys and seven girls totalling eighteen pupils.

Table 1: Sample Frame of Target population

Male	Female	Total
11	7	18

Sample Size

All 18 pupils in the class one of Kambui School for the hearing-impaired were purposively selected for the study.

Sampling Technique

Pupils in the experimental and control group were randomly assigned using the following procedure: The researcher prepared eighteen pieces of paper of same color, size, and texture. Nine pieces of paper were then labeled 1 while the other nine were labeled 2. The papers were carefully folded to conceal the numbers on them. The eighteen papers were then mixed by reshuffling them. The eighteen pupils were then asked to pick one piece of paper each. Those pupils who picked pieces of paper labeled 1 were assigned to the experimental group, while the other nine who picked pieces of paper labeled 2 were assigned to the control group.

Research Instruments

The study used two research instruments to collect data. The experimental group was taught with the embossed picture technique and the control group with the “look and say” method. The researcher developed a non-standardized teacher - made summative evaluation test (Criterion Reference Test) and formative evaluation test as the research instrument. Both summative and formative evaluation tests were used as an integral part of information gathering. Summative evaluation test was given periodically to determine what pupils knew and what they did not know at a particular point in time (Tabid, 2008). Formative evaluation test was part of the instructional process. When incorporated into classroom practices; it provides the information needed to adjust teaching and learning Tabid, (2008). The formative evaluation test helped the researcher to see the progress of the pupils as they mastered the content.

Embossed Pictures

Embossed pictures are sometimes referred to as raised letters (tactile dots). The embossed pictures exist in a form that can be touched, felt, and seen easily by the pupils. In the study, the researcher raised or embossed letters, words, sentences and pictures. To make embossed letters, words, sentences, and pictures, the researcher used the following materials: coloured thread, manila papers, pair of scissors, glue, pencil, felt pens and stencils.

Teacher-Made Test

This is an important indicator of pupils reading performance in content area (Vacca & Vacca, 1986). The researchers used Criterion Reference Test (CRT) to test both experimental and control group. The test comprised questions drawn from the work covered in class by both groups. It was divided into three sections; in the first section, pupils matched listed words. In the second they chose correct answers while the third section, they read long sentences.

Data Collection Technique

Primary data were collected from both experimental and control groups for a period of 6 weeks. The criterion reference test (CRT) was used as a pre-post test for the purpose of data collection. First, specification of the content, the lesson plan and tests were prepared. Then the researcher used simple random sampling to select one teacher who taught using embossed picture technique with the experimental group and the other teacher who used the “look and say” method with the control group. Both pupils in the experimental and the control group were subjected to the same duration of learning. They were both taught how to read for 35 minutes once a week. The researcher divided the day’s lesson for the experimental group into the following sections:

1. Matching raised words.
2. Finger spelling raised letters.

3. Reading raised words.
4. Reading raised sentences.

The lesson for the control group was divided into the following sections:

1. Matching words.
2. Finger spelling letters.
3. Reading word.
4. Reading sentences.

Data Analysis

Summative and formative evaluation teacher-made tests were used to collect data. This was because a teacher-made test is an important indicator of pupils reading performance in content area (Vacca & Vacca, 1996). Non-parametric tests, such as the Mann-Whitney test and, the Wilcoxon sum of Rank test, which state that:

$$T = S - \frac{n_1(n_1 + 1)}{2}$$

Where:

S = sum of rank for the groups

n_1 = number of observations in the group. While the Kruskal-Wallis one-way Analysis of Variance (ANOVA). State that:

$$H = \frac{12}{N(n+1)} \sum_{i=1}^k \frac{R_i^2}{n_i} - 3(h+1)$$

Where:

R_i = Sum of ranks assigned to the observations in the $i - H$ group

$$h = \sum_{i=1}^k n_i$$

n_i = number of observations in the $i - H$ group

h = Number of groups (Daniel, 1990); were used in analyzing the data since they make less restrictive assumptions unlike the parametric tests.

Results

This researcher wanted to establish whether pupils with hearing impaired pupils taught using embossed picture technique performed better than those taught using 'look and say' method. From the data obtained, paired difference, the range, the mean and the standard deviation scores for both experimental and control group pre-test and post-test were recorded as shown in the Table 1 below.

Table 2: Performance in reading of control group and experimental group in pre-test and post-test and the paired difference

Control Group Scores (n=9)			Experimental Group (n=9)		
Pre-test	Post-test	Paired D.	Pre-test	Post-test	Paired D
7	25	18	20	60	40
7	7	9	14	50	36
6	9	3	12	40	28
4	8	4	10	40	30
4	5	1	10	40	30
2	5	3	5	30	25
0	0	0	5	20	15
0	0	0	0	14	14
0	0	0	0	12	12

Key:

- **Control group** –refers to pupils taught with the “look and say” method.
- **Experimental group** –refers to pupils taught with embossed picture technique.

In Table 2 above the control group shows smaller paired difference compared to the experimental group for instance, 18 versus 40, 9 against 36, 3 versus 28, 4 versus 30, 1 against 30, 3 against 25, 0 versus 15, 0 versus 14 and 0 versus 12 respectively. The range, the mean and the standard deviation of the scores obtained by the experimental group in the pre-test were also calculated and recorded as shown in Table 2 on (pg 14).

Table 3: Performance in reading of experimental and control group pre-test and post-test scores obtained and the range, the mean, and the standard deviation

Control group (n=9)		Experimental group (n=9)	
Pre-test	Post-test	Pre-test	Post-test
7	25	20	60
7	16	14	50
6	9	12	40
4	8	10	40
4	5	10	40
2	5	5	30
0	0	5	20
0	0	0	14
0	0	0	12
7	25	20	48
3.333	7.555	8.444	34
2.958	8.383	6.597	16.340

Range →
Mean →
Standard Deviation →

Table 3 above shows that pre-test scores for both control and experimental groups had smaller ranges such as 7 against 25 and 20 versus 48 respectively. Post-test scores indicated more heterogeneity than the pre-test scores. This was also observed for the standard deviations. The mean scores for both control and experimental group are higher for post-test than at the pre-test with a mean of 3.333 against 7.56 and 8.44 versus 34 respectively. While the standard deviation scores for control and experimental group were higher for post-test than pre-test with deviations of 2.96 versus 8.38 and 6.59 against 16.34 respectively as shown in Table 3 above. This researcher also intended to establish if there was any age effect on reading performance of pupils of different ages when taught with embossed picture technique. The results are presented on tables 4 and 5.

Table 4: Performance of pupils of ages 8 - 9 and 10-11 in the post-test control Group

Age	No. of Pupils	Score / (ranks)				
8-9	$n_1 = 4$	5 (3.5)	10 (5.5)	12 (7)	20 (9)	
10-11	$n_2 = 5$	0 (1.5)	0 (1.5)	5 (3.5)	10 (5.5)	14 (8)

Table 4 above shows that pupils in the post-test control group of age 8-9 obtained higher scores of (20) marks than pupils of age 10-11 who scored (9) marks respectively.

Table 5: Performance of pupils of age 8 - 9 and 10 - 11 in the post-test for experimental group

Age	No. of pupils	Score/ (Rank)				
8-9	$n_1 = 3$	12 (1)	40 (4)	60 (8)		
10-11	$n_2 = 5$	20 (2)	30 (3)	40 (5)	40 (5)	50 (7)
		$n_1 = 3$	$n_2 = 5$	S = 14		
				T = 8		

Table 5 shows that pupils in the post-test experimental group of age 8-9 obtained higher scores of (60) than pupils of age 10-11 who scored (50) respectively. Further, the researcher intended to establish if pupils with hearing impairment performed differently at different degrees of hearing loss as shown in Tables 6 and 7.

Table 6: Performance in reading of pupils with different degree of hearing loss in the control group.

Group of Hearing loss	No. of pupils	Scores/ (ranks)	Rank
Moderate hearing loss	$n_1 = 3$	0 5 14 (1.5) (3.5) (8)	$\mathfrak{R}_1 = 13$
Moderately severe	$n_2 = 3$	0 5 12 (1.5) (3.5) (6.6)	$\mathfrak{R}_2 = 11.5$
Severe hearing loss	$n_3 = 1$	10 (5)	$\mathfrak{R}_3 = 5$
Profound hearing loss	$n_4 = 2$	12 20 (6.5) (9)	$\mathfrak{R}_4 = 15.5$

Table 6 shows that in the control group the rank sum of the group of pupils with profound hearing loss was higher (15.5) than moderately severe hearing loss (11.5), moderate hearing loss (13) and severe hearing loss (5) respectively.

Table 7: Performance in reading of pupils with different degree of hearing loss in the experimental group

Group of hearing loss	No. of pupils in each group	Scores	(Ranks)
Moderate H. loss	$n_1 = 2$	30 50 (4) (8)	$\mathfrak{R}_1 = 12$
Moderately severe H. loss	$n_2 = 1$	40 (6)	$\mathfrak{R}_2 = 6$
Severe H. loss	$n_3 = 3$	14 20 40 (2) (3) (6)	$\mathfrak{R}_3 = 11$
Profound H. loss	$n_4 = 3$	12 40 60 (1) (6) (9)	$\mathfrak{R}_4 = 16$

Table 7 above shows that in the experimental group, the rank sum of the group of pupils with profound hearing loss was higher (16) than that of moderate hearing loss (12), severe hearing loss (11), and moderately severe hearing loss (6).

Discussion

Studies have been conducted on reading using the “look and say” method among pupils with hearing impairment and hearing pupils. For example (Wendy, 1984), Sutton (2005), and Ndurumo (1986), carried out studies on reading. However, no attention was given on the use of the embossed picture technique. The findings of the study in Table 2 revealed that the control group which used the “look and say” method, showed smaller paired difference compared to the experimental group which used the embossed picture technique, for instance, 18 versus 40, 9 against 36, 3 versus 28, 4 versus 30, 1 against 30,

3 against 25, 0 versus 15, 0 versus 14 and 0 versus 12 respectively while Table 3 showed that pre-test scores for control groups had smaller ranges than the experimental group such as 7 against 25, and 20 versus 48 respectively. Post-test scores indicated more heterogeneity than the pre-test scores. This was also observed for the standard deviations. The mean scores for both control and experimental group are higher for post-test than at the pre-test with a mean of 3.333 against 7.56 and 8.44 versus 34 respectively. The standard deviation scores for control and experimental group were higher for post-test than pre-test with deviations of 2.96 versus 8.38 and 6.59 against 16.34 respectively as shown in Table 3. Further, Table 4 showed that the rank total for the control group was smaller (48) than those of the experimental group (123). The findings of the study revealed that pupils in the experimental group, who were taught using the embossed picture technique scored higher than pupils in the control group who were taught using the “look and say” method.

The findings of the study also revealed that pupils with hearing impairment perform far below the expected reading standard for instance pupils in the control group scored 0 marks while those in the control group scored 12 marks in the post-test according to Table 2. The study's findings agree with research established by Ndurumo (1986), which found that a 10 year-old hearing pupil could understand at least 85 % of the 2,000 most frequently used words, 73 % of the 5,000 most frequently used words, 61 % of the 10,000 most frequently used words and 44 % of the 20,000 most frequently used words. While a 10 year-old pupil with hearing impairment, on the other hand, could only understand 32 % of the 2,000 most frequently used words, 24 % of the 5,000 most frequently used words, and 22 % of 20,000 most frequently used words. The findings also concur with research findings by Quingley et al., (1976), which reveal that an 18 year-old hearing impaired pupil cannot understand or use any of the syntactic structures and sentence patterns that an average 10 year-old hearing pupil can understand and use with ease. The findings of the study also agree with research findings by Aulaintercultural (2007), which reveal that 98 % of standard 6 primary pupils failed to achieve the needed mastery of English language to comfortably pursue further education. The study further confirms that pupils in special primary schools in Kenya, Uganda and Zimbabwe are failing to achieve even a minimum level of English literacy (Aulaintercultural, 2007).

The study established in Table 4 that pupils in the control group of age 8-9 obtained higher scores (20) in the post-test than pupils of age 10-11 who scored (9). Table 5 (p.19) showed that pupils in the experimental group of age 8-9 obtained higher scores (60) in the post-test than pupils of age 10-11 who scored (50). From the findings, pupils of age 8-9 performed better than those of age 10-11. Findings in Table 4 and Table 6 on (pg 16 and 17) above revealed that pupils of age 8 - 9 in the control and experimental group had a higher performance than those of age 10 - 11. The study supported findings by Ndurumo (1986) when he observed that an average 18-year-old pupil with hearing impairment cannot understand or use any of the syntactic structure, sentence patterns that the average 10 year-old hearing pupil understands and uses with ease. The findings of the study agree with recent research findings from Africa by Aulaintercultural (2007), which suggest that a majority of pupils in special primary schools in Kenya, Uganda, Zimbabwe (and elsewhere in Africa) are failing to achieve even a minimum level of

English literacy. The findings of the study showed that there was no significant age effect on reading performance of pupils with hearing impairment when taught with embossed picture technique and those taught with the “look and say” method.

The research findings in Table 6 showed that pupils with profound hearing loss in the control group had a rank sum that was higher (15.5) than pupils with moderately severe hearing loss (11.5), moderate hearing loss (13) and severe hearing loss (5) respectively. Table 7 showed that pupils with profound hearing loss in the experimental group had a rank sum that was higher (16) than that of pupils with moderate hearing loss (12), severe hearing loss (11), and moderately severe hearing loss (6). The study disagreed with research studies carried out by Ndurumo (1986), which stated that a higher degree of hearing loss would adversely affect the communication of pupils with hearing-impairment. The findings of the study showed that pupils with hearing impairment and with profound hearing loss performed better than all the other groups in the study despite of the fact that pupils with profound hearing loss suffered a loss of 91 dB and above, and they can benefit in learning when total communication (T/C) is used. The research findings also agreed with the study carried out by Ozoji (1993) which observes that pupils with hard-of- hearing manifested two to three years retardation in vocabulary and this retardation increases with chronological age. The researcher observed that part of the difference in the research findings could be due to the use of embossed picture technique which none of the researchers in the literature reviewed used. The findings of the study revealed that there is no significant performance difference in reading at different degree of hearing loss among pupils with hearing impairment when taught with embossed picture technique and those taught with the “look and say” method.

Hypothesis One which stated that there is no significant difference in performance in reading of pupils with hearing-impairment taught with embossed picture technique and those taught with “look and say” method. The study revealed that the control group showed smaller paired difference compared to the experimental group for instance, 14 verses 40, 9 against 36, 3 versus 28, 4 versus 30, 1 against 30, 3 against 25, 0 versus 15, 0 versus 14 and 0 versus 12 respectively. The study further revealed that pre-test scores for both control and experimental groups showed smaller ranges like 7 against 25 and 20 versus 48 respectively. Post-test scores indicated more homogeneity at pre-test than at post-test scores. The same trend was observed in the standard deviation scores. The mean scores for both control and experimental group were higher for post-test than at the pre-test with a mean of 3.333 against 7.56 and 8.44 versus 34 respectively. The standard deviation scores for control and experimental group were higher for post-test than pre-test with a deviation of 2.96 versus 8.38 and 6.59 against 16.34 respectively.

The results were tested for statistical significance using non-parametric tests such as the Mann-Whitney test and the Wilcoxon sum of rank test at a significant level of .05. The results revealed that there is a high statistical significant difference between pupils taught with embossed picture technique and those taught with the “look and say” method. Thus, the null hypothesis was rejected.

Hypothesis two stated that there is no significant age effect on reading performance of pupils with hearing impairment of different ages when taught with embossed picture technique and those taught with “look and say” method. Based on this hypothesis the study revealed that pupils in the control group of age 8-9 obtained higher scores of (20) than pupils of age 10-11 who scored (9) in the post-test and pupils in the experimental group of age 8-9 obtained higher scores of (60) than pupils of age 10-11 who scored (50) post-test. From the findings, pupils of age 8-9 performed better than those of age 10-11 in both the control group and experimental group. The results were tested for significance using the Kruskal -Wallis one way Analysis of Variance (ANOVA) at a significance level of 0.05. The findings revealed that the p-value is > 0.10 . Therefore, the study did not reject the null hypothesis at 0.10 level of significance. Further, the findings in Table 1.6 revealed that p- value is > 0.01 , the study accepted the null hypothesis at $\alpha = 20.00$ according to Table A7 p.508 (Daniel, 1990). The findings of the study showed that there was no age effect on reading performance of pupils with hearing impairment when taught with embossed picture technique. The null hypothesis was accepted.

Hypothesis three which stated that there is no significant difference in performance in reading at different degrees of hearing loss of pupils with hearing impairment when taught with embossed picture technique and those taught with the “look and say” method. In line with this hypothesis this research findings revealed that in the control group, the rank sum of the group of pupils with profound hearing loss was higher (15.5) than moderately severe hearing loss (11.5), moderate hearing loss (13) and severe hearing loss (5) respectively. The study further revealed that in the experimental group, the rank sum of the group of pupils with profound hearing loss was higher (16) than that of moderate hearing loss (12), severe hearing loss (11), and moderately severe hearing loss (6). To find out if the results were statistically significant, the results were tested using Kruskal-Wallis (ANOVA) test which showed that p- value is > 0.05 . Null hypothesis was not rejected at 0.05 level of significance according to Table A.11 P.554 (Daniel, 1990). There is no significant performance difference in reading of pupils with hearing impairment of different degrees of hearing loss in the control group when taught with the “the look and say” method. The study accepted the null hypothesis.

Pupils with moderate hearing loss in the control group obtained smaller mean scores than pupils in the experimental group for instance 6.33 against 40 respectively. Further, pupils with moderately severe hearing loss in the control group obtained smaller mean scores than pupils in the experimental group for instance 5.67 against 40 respectively. The group with severe hearing loss in the control group obtained smaller mean scores than pupils in the experimental group for instance 10 against 24.67 respectively. The study revealed that pupils with profound hearing loss in the control group obtained smaller mean scores than pupils in the experimental group for instance 16 against 37.33 respectively. To find out if the mean was statistically significant, the results were tested using Kruskal- Wallis (ANOVA) test which showed that p-value is > 0.05 . We did not reject null hypothesis at $\alpha = 0.05$ level of significance. Thus, the null hypothesis which stated that there is no significant performance difference in reading of pupils at different degrees of hearing loss when taught with embossed picture technique was accepted.

Conclusions

- There is significant difference in performance in reading of pupils with hearing impairment taught with embossed picture technique and those taught with the “look and say” method.
- There is no age effect on reading performance of pupils with hearing impairment of different ages when taught with embossed picture technique.
- There is no significant difference in performance in reading at different degrees of hearing loss of pupils with hearing impairment when taught with embossed picture technique.

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