

# Play Activities for Enhancing Social Interactions of Children with Autism Spectrum Disorders in Public Primary Schools in Migori County – Kenya

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**Abstract:** - A fundamental feature of social life is social interaction, or the ways in which people act with other people and react to how other people are acting, which is a deficit in learners with Autism Spectrum Disorders. The study sought to establish play activities for enhancing social interactions of children with Autism in Migori County. This study used Observational Learning Theory, which states that children with special needs can learn desired behaviors from their peers through observation and social interactions. The study adopted a descriptive survey design to establish play activities in enhancing social interactions of children with Autism. The study was carried out in public primary schools attended by children with Autism Spectrum Disorders in Migori County, Kenya. The sampling techniques used in this study were stratified random sampling and purposive sampling. The sample size constituted 30% of 37 schools, 10 head teachers, and 37 assistant teachers. Thirty-four children with Autism and 64 typically developing peers also participated in this study. Five Educational Assessment and Resource Centre coordinators from each Sub-County education office in Migori County and 5 parents of children with Autism also participated in the study. Mixed method was used to gather data. Both primary and secondary data was collected through semi-structured questionnaires and review of literature, respectively. The research instruments used were questionnaires, interview schedule, Focus Group Discussion, and observation checklists. The data collected was analyzed using both descriptive and inferential statistics. The main techniques used to analyze the data were Predictive Analysis Software (PASW) formerly Statistical Package for the Social Sciences (SPSS) software version 22, Chi-Square and regression model. The major findings of this study were that play activities enhanced social interactions of children with Autism Spectrum Disorders. This study recommended that: Ministry of Education should develop programmes to ensure retention of children with Autism in public primary schools and initiate a competence-based curriculum that allows children with Autism to learn at their own pace and interest; parents of children with Autism should be trained on play activities to use with their children to enhance social interactions at home; the findings of this study should inform active formulation of policies and legislation relevant to the plight of children with Autism; Teacher Training Institutions should incorporate in their curriculum play activities enhancing social interactions in

children with Autism to promote inclusion. Further research should be carried out in all counties in Kenya on play activities enhancing social interactions in children with Autism. In addition, further research should consider other areas of functioning in children with Autism. A similar study should be conducted in special schools serving children with Autism in Kenya.

**Key words:** Autism Spectrum Disorder, social interactions, play activities, children with autism, typically developing peers

## I. INTRODUCTION

A child with Autism Spectrum Disorders experience deficits in social interactions on a day to day basis, have restricted interaction and patterns of behavior which are repetitive, not limited to interests and activities as in [1]. These deficits in a child with ASD can cause clinically significant impairments in occupational, social and other vital areas of a child's functioning.

Despite the challenges faced by children with ASD in acquiring, enjoying and sustaining social relationships, social skills remain a significant part of a child. One of the barriers that have been identified to influence negatively the social development of children with ASD is the absence of play activities in the social interactions as in [2].

Previous studies revealed that when play activities were introduced, there were improvements in social skills hence development of an all rounded personality as in [3]. This study looked at play activities enhancing social interactions in children with ASD in Migori County, Kenya. It was against this background that the study established play activities enhancing social interactions in children with ASD, focusing on Migori County, Kenya and thereby made scientific inference.

During play activities, an adult provides a structured environment and supervises interactions between children with ASD and their typically developing peers. The main part of this approach involves the creation of a supportive

environment to optimize interactions as opposed to the interference by adults. Other vital facets of this method are well-designed play spaces that allow for accessibility, settings that have been naturally integrated, availability of the game equipment and materials that will enhance interactions as in [4].

Play activities are also founded on consistent schedule and routine, matching of play activities to the level of development of a child, and using a small number of peers who are familiar to the child. An adult is required to monitor the play situation for evidence of the development of social skills, coach the peers, interpret for the peers, and to encourage the children to engage in activities that are more advanced to improve their current abilities as in [5]. Moreover, the role of the adult is to encourage the child with Autism Spectrum Disorders to engage and sustain interactions with the help of cues such as posters when the child appears uncertain. Such form of assistance is gradually withdrawn as the child begins to incorporate the strategies on his/her own as in [5].

A study of children with Autism Spectrum Disorders as in [6], sampled twelve boys at seven years of age by using an exploratory approach. The study revealed that the boys diagnosed with ASD who had very little appropriate play and displayed a high degree of repetitive play coupled with little to not being able to express themselves in any language. After the same boys were subjected to play activities, all participants nearly doubled the amount of interactions with their peers. Also, all participants were more functional in play and engaged in less repetitive play, and all but one child engaged in identical improvement outside the experimental setting. After expiry of the study, treatment was withdrawn from the boys, and further examination was conducted. It was found out that initial behavior gains were not consistent when treatment was withdrawn as in [6]. The study, therefore, indicated that the behavior gains were due to treatment and that play activities were effective.

Reference [3], showed the impact of play activities on educational outcomes for learners with emotional and behavioral disabilities. The study adopted a descriptive design and targeted 58 learners. The study discussed the problems encountered by children with special needs when they have to participate in regular classroom even though play activities strategies are employed. The findings indicated that children with special needs might find inclusion problematic and therefore affected their academic performance. However, the study indicates that inclusion can be effective and practical within the confines of proper training and resources.

Reference [7], investigated children with Autism Spectrum Disorders and patterns of participation in daily

physical and play activities. A total sample of 83 children (53 boys and 31 girls) with high functioning ASD (IQ > 70) aged 6 to 15 years (Mean = 9.8, SD = 1.8) were recruited from four ASD specific schools in Tehran. All of the subjects had received a clinical diagnosis of ASD (Autism, Asperger's, or pervasive developmental disorder, not otherwise specified) by a child psychiatrist or clinical psychologist and the diagnosis was confirmed using the revised Autism Diagnostic Interview (ADI-R). Results indicated that only 10 (12%) of children with ASD were physically active. Children were predominantly engaged in solitary play rather than social play activities. Gender, family income, and household structure were found to be associated with activity scores. Financial burden and lack of opportunities were noted as the leading barriers to physical activities. In conclusion, findings indicated a low rate of physical activity participation in children with ASD that is closely associated with socio-demographic variables.

Reference [8], explored the effects of utilizing 4 social levels of play (isolate, dyadic, group, and team) on the appropriate play behavior of children in special education classes (SECs) for students with Autism Spectrum Disorders in a leisure education/physical education program. Recreation activities representing the 4 social levels of play were implemented during 10-min periods within a multi element design. 17 children in SECs who exhibited social withdrawal and severe communication disorders and 21 same-age peers without disabilities, who were trained to participate in the activities, served as SECs. Team, group, and dyadic play activities all showed a higher percentage of appropriate play behaviors in children with ASD than was shown in isolate play activities. Suggestions are made for the development of recreation and play curricula to serve individuals with ASD in integrated settings.

Reference [9], carried a clinical study on the effects of structured physical activity program on social interactions and communication for children with Autism Spectrum Disorders. The purpose of the study was to investigate the effects of structured physical activity program on social interactions and communication of children with ASD. Fifty children with ASD from a special school were randomly divided into experimental and control groups. 25 children with ASD were placed in the experimental group, and the other 25 children as the control group participated in regular physical activity. A total of forty-one participants completed the study. A 12-week structured physical activity program was implemented with a total of 24 exercise sessions targeting social interactions and communication of children with ASD, and a quasi-experimental design was used for this study. Data were collected using quantitative and qualitative instruments. The results showed that an overall improvement in social

skills and social interactions for the experimental group across interim and post tests and significant improvements appeared in communication, cooperation, social interactions, and self-control sub-domains. The study concluded that the special structured physical activity program positively influenced social interactions and communication skills of children with ASD, especially in social skills, communication, prompt response, and frequency of expression.

Reference [10], investigated possible changes in social play and initiations in 8 boys (5- to 7-years old) with Autism Spectrum Disorders (ASD) who were moving from an old to a new school playground that was designed specifically to enhance playful peer interaction. Each boy was observed for half an hour over three occasions in old and new setting. The playgrounds differed in design, spatial density and identity of potential play partners. As hypothesized, frequency of group play and overall social initiations increased significantly in the new setting. The study concluded that playgrounds with appropriate levels of physical challenge and support for both structured, imaginative play and solitary observation may support peer interactions in children with ASD. The reviewed study had a small sample size of only eight participants while the current study had a larger sample size hence the gap filled.

#### *Purpose of the Study*

The study sought to establish play activities for enhancing social interactions of children with ASD in Migori County, Kenya.

#### *Objective of the Study*

To investigate the extent to which play activities enhance social interactions of children with ASD in Migori County.

#### *Significance of the Study*

The study aimed at establishing play activities for enhancing social interactions of children with ASD in Public Primary schools in Migori County. This study might be useful to children, teachers, parents, government agencies and policy makers. Children might benefit from social interaction both typically developing children and children with ASD. The study might increase knowledge about play activities for enhancement of social interactions among children with ASD, hence provision of appropriate advice, care and treatment for the children with ASD. Parents might benefit by knowing play activities which they can use with their children with ASD to enhance social interactions at home. The results of this study may be useful to teachers in that they can incorporate the play activities in their teaching to help children with ASD in enhancing social interactions hence improved academic achievement.

Government agencies and policy makers might find the results of this study important in informing active formulation of national policies and legislation that might be relevant and sensitive to the plight of children with ASD.

## II. PROCEDURES AND METHODS

The study adopted a descriptive survey design to establish play activities for enhancing social interactions of children with Autism. The study was carried out in public primary schools attended by children with Autism Spectrum Disorders in Migori County, Kenya. The sampling techniques used in this study were stratified random sampling and purposive sampling. The sample size constituted 30% of 37 schools, 10 head teachers, and 37 assistant teachers. Thirty-four children with Autism and 64 typically developing peers also participated in this study. Five Educational Assessment and Resource Centre coordinators from each Sub-County education office in Migori County and 5 parents of children with Autism also participated in the study. Mixed method was used to gather data. Both primary and secondary data was collected through semi-structured questionnaires and review of literature, respectively. The research instruments used were questionnaires, interview schedule, focus group discussion, and observation checklists. The data collected was analyzed using both descriptive and inferential statistics. The main techniques used to analyze the data were Predictive Analysis Software (PASW) formerly Statistical Package for the Social Sciences (SPSS) software version 22, Chi-Square and regression model.

## III. RESULTS AND FINDINGS

This study sought to investigate the extent to which play activities enhanced social interactions of children with Autism Spectrum Disorders (ASD) in Migori County. To achieve this, teachers were asked to state play activities used with children with ASD and also to give their views on play activities leading to enhanced social interactions of children with ASD. Furthermore, teachers were asked to state the extent to which play activities enhanced social interactions of children with ASD and the role of play activities on learners with ASD.

### *A. Play activities enjoyed by children with autism spectrum disorders*

The teachers were asked to indicate some play activities which children with Autism Spectrum Disorders enjoyed when interacting with their typically developing peers both in class and out of class. The teachers listed several play activities in order of preference by children with ASD and their typically developing peers. Figure 1.1 presents the findings.

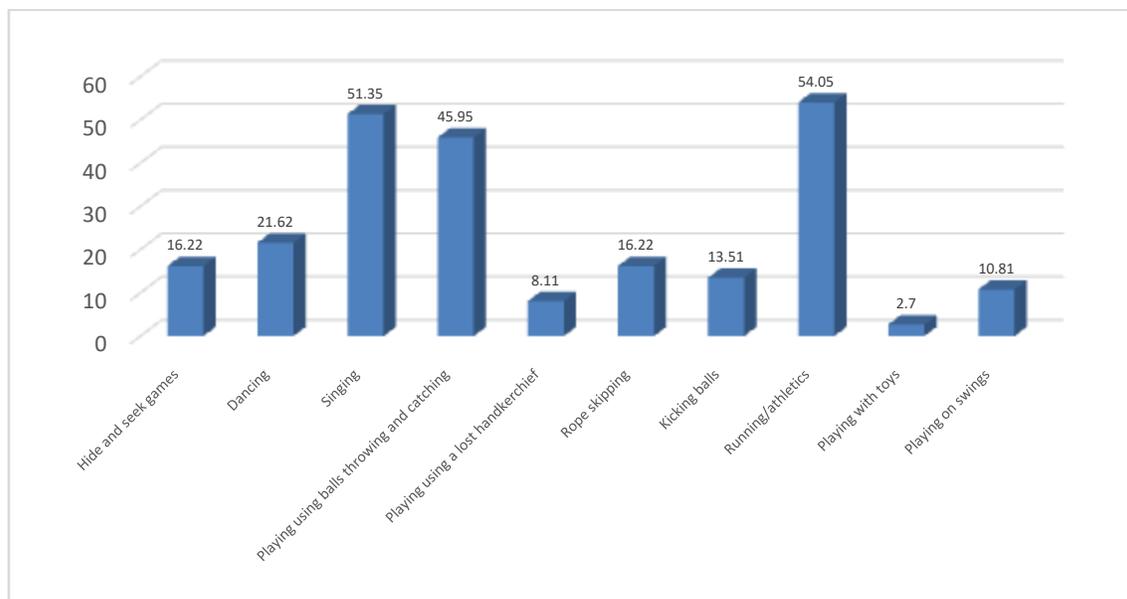


Figure 1:1 Teachers' Responses on Play Activities Enjoyed by Children with ASD (N = 37).

Note: More than one response of the activity was recorded

Figure 1.1 shows that while dealing with children with Autism Spectrum Disorders using play activities, slightly more than half (54.05%) of the teachers noted that the children enjoyed mainly running/athletics which was ranked number one. More than half (51.35) of the teachers observed that children with ASD enjoyed singing which they ranked at position two in order of preference by children with ASD. This could have been as a result of most children with ASD enjoying being on motion if not seated in a solitary position. The second reason was that most children with ASD excelled in singing because they enjoyed doing one activity for a long period of time without changing. They are normally pegged to routines hence can make very good musicians when trained.

The findings also showed that less than half (45.95%) of the teachers indicated that children with ASD enjoyed playing using balls, as throwing and catching of a ball, was ranked number three in order of preference. Less than a quarter (21.62%) of the teachers indicated that children with ASD enjoyed dancing ranked number four in order of preference. Less than a quarter of the teachers (16.22%) ranked hide and seek, and rope skipping at position five in order of preference by children with ASD. Other play activities which the teachers indicated were less preferred by children with ASD were: kicking balls (13.51%); playing on swings (10.81%), playing by looking for a 'lost handkerchief' (8.11%) and playing with toys (2.7%).

The findings revealed that children with ASD do not enjoy play activities requiring eye-hand coordination because one of their characteristics is poor eye-contact hence deficit in eye gaze. The study findings by Mwakalinga (2012), were convergent with the findings of this study that many children with ASD have difficulties engaging fully in play activities.

Sometimes the skills that they have learnt seem to be less adoptable than in other typically developing children. Mostly, children with ASD engaged in simple repetitive actions with much of their play involving stereotyped and self-stimulatory activities. Another study by [6], supported the findings of the current study by indicating that behavior gains were due to treatment and that play activities were effective in enhancing social interactions in children with ASD. A study by [3], looked at play activities in relation to academic performance but did not discuss the play activities in relation to social interactions of children with ASD. Reference [7], investigated children with ASD and patterns of participation in their daily physical and play activities. Results indicated a low rate of physical activity in children with ASD that was closely associated with socio-demographic differences hence did not concur with the findings of the current study. At the same time, as in [8], explored four levels of play on play behavior of children with ASD. Results showed a higher percentage of appropriate play behaviors in children with ASD. Reference [9], carried a clinical study on the effects of physical activity program on social interactions of children with ASD. The result showed an overall improvement in social skills and social interactions in children with ASD.

During observation, the researcher used cameras, videos and tape-recorders to capture all the details of children with Autism Spectrum Disorders together with research assistants. This was after seeking permission from parents to take videos and pictures of their children. She also used an observational checklist to observe children with ASD in their natural settings so as to note the unfolding events during play activities. In two sessions, the researcher carried some observations on children with ASD particularly those who had limited social skills and rarely initiated or responded to social

interactions with peers. In the first session, the children with ASD were observed while carrying out their class assignments in the classroom independently, for 30 minutes. In the second session, during P.E lesson the researcher observed the children with ASD playing for 30 minutes. Socially competent peers were used to reinforce their classmates' social behavior where all the children including the target children participated in rope jumping task. When peer-mediated strategies were introduced, the researcher noticed some improvement in the social interactions in children with ASD. As children played with ropes, they were able to run around the field, jump and sing. For the children with ASD, the persistent social initiations from peers increased their social response and heightened their social engagement as opposed to when carrying out class assignment alone. The head teachers interviewed, also confirmed that when the children with ASD participated in doing activities of daily living skills such as washing of utensils, cleaning the compound and playing together, there was a high degree of co-operation and team work among them.

The researcher also conducted interview schedules with head teachers of the schools serving children with Autism Spectrum Disorders in every Sub-County in Migori County except Nyatike Sub-County where piloting of this study was done. The head teachers were purposively sampled by the researcher on the basis that for them to participate in this study, their schools must be serving learners with ASD.

An interview with head teachers on the attitude of parents of typically developing peers, on when their children play with children with ASD, they had this to say:

*"They do not wholly embrace this idea", (15<sup>th</sup> October 2017, Migori Sub-County).*

*"It's fifty- fifty and some of these parents do not fully appreciate them", (16<sup>th</sup> October 2017 Uriri Sub-County).*

*"Some parents have negative attitude because those pupils with autism may affect their children", (16<sup>th</sup> October 2017, Awendo Sub-County).*

*"Parents of typically developing children mostly show positive attitude when their children play with their counterparts with autism. This is as a result of sensitization done during school open days as well as support from Educational Assessment and Resource Center officials", (16<sup>th</sup> October 2017, Kuria Sub-County).*

*"Most parents are not very positive; this area still needs sensitization for everybody to know that the children with autism are just like "normal" child", (16<sup>th</sup> October 2017, Rongo Sub-County).*

#### *B. Play activities leading to enhanced social interaction*

Teachers' views and observations when play activities were introduced to children with Autism Spectrum Disorders in their classrooms and outside the classrooms were established. Using a Likert's scale of 1 – 5 (1-Strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree), mean response on the teachers' views on each play activity was computed by summation of the individual responses divided by the number of teachers who responded. The results were as displayed in Table 1.1.

Table 1.1: Teachers' Responses on Introduction of Play Activities to Children with ASD (N=37).

<b>Opinion when play activities are introduced</b>	<b>SD (1)</b>	<b>D (2)</b>	<b>N(3)</b>	<b>A (4)</b>	<b>SA (5)</b>	<b>Mean ± S. Dev</b>
Increased Social Interactions	0(0.0%)	1 (2.7%)	3(8.1%)	22(59.5%)	11(29.7%)	4.16± 0.69
Decrease in Solitary Behavior	2(5.4%)	3(8.1%)	8(21.6%)	21(56.8%)	3(8.1%)	3.56± 0.97
Interact with Developing Peers	6(16.2%)	2(5.4%)	3(8.1%)	15(40.5%)	11(29.7%)	3.62± 1.40
Make new friends during Play	1(2.7%)	1(2.7%)	6(16.2%)	14(37.8%)	15(40.5%)	4.11± 0.97
Use Play Activity Strategy	0 (0.0%)	0 (0.0%)	0 (5.4%)	13(35.1%)	22(59.5%)	4.63± 0.49
Understand how to Initiate Play	7(18.9%)	8(21.6%)	5(13.5%)	11(29.7%)	6(16.2%)	3.03± 1.40
Respond to their Friends social initiation	0 (0.0%)	4(10.8%)	1(2.7%)	23(62.2%)	9(24.3%)	4.00± 0.85
Want to play more with friends	0 (0.0%)	3(8.1%)	4(10.8%)	8(21.6%)	22(59.5%)	4.36± 0.96

Note: SD-strongly disagree, D-Disagree, N-neutral, A-Agree, SA-Strongly agree, S.Dev.-Standard Deviation

As shown in Table 1.1, majority of the teachers (94.62%) would be more willing to use the play activities as a strategy with children with Autism Spectrum Disorders in their classes to enhance social interactions (mean 4.63 ± 0.49). From the study, more than three quarters of the teachers (81.1%) agreed that the children with ASD wanted to play

more with their friends even after the play activity had ended (mean 4.36± 0.96) and majority of the teachers (89.2%) noticed an increase in social interactions in the children with ASD when play activities were introduced (mean 4.16 ± 0.69). It was found that slightly more than three quarters of the teachers (78.3%) realized that children with ASD made

new friends during play activities (mean  $4.11 \pm 0.97$ ). More than three quarters of the teachers (86.5%) realized that children with ASD responded to their friends' social initiations during play activities (mean  $4.16 \pm 0.69$ ). Slightly less than three quarters of the teachers (70.2%) agreed that children with ASD enjoyed interacting with typically developing peers (mean  $3.62 \pm 1.40$ ).

Table 1.1 indicated that when play activities were introduced to learners with Autism Spectrum Disorders, there was an increase in social interactions with their typically developing peers leading to a decrease in solitary behavior because they were able to play with their peers. Majority of the teachers also asserted that when play activities were introduced, they observed children with ASD showing enjoyment as they interacted with typically developing peers. This in turn led to an increase in the number of new friends among the learners with ASD. Majority of the teachers agreed that play activities were strategies worth using with learners with ASD to enhance their social interactions with typically developing peers.

The teachers further noticed that learners with ASD were able to respond to their typically developing peers' social initiations during play activities hence leading to better academic performance. Most children with ASD were willing to continue playing even after the play activities had ended. As in [6], in their study concur with these findings that when learners with ASD were subjected to play activities, all participants nearly doubled the amount of social interactions with their typically developing peers. This study, therefore, indicated that the behavior gains by children with ASD were due to treatment and that play activities were effective.

In order to triangulate the findings, the researcher took pictures and videos as she observed children with ASD to establish the extent to which play activities enhanced social interactions after seeking permission from parents of children with ASD. The observations were made in two sessions. In the first session, children with ASD were observed while responding to academic activities introduced to all children in the classroom setting. In the second session, children with ASD were observed outside the classroom during P.E. lesson together with their typically developing peers. When there were no play activities most of the children with ASD appeared withdrawn and solitary. Therefore, play activities enhanced social interactions of children with ASD together with their typically developing peers.

### C. Relationship between play activities and social interactions

To establish the extent to which play activities enhanced social interactions, a Likert scale of 1 – 5 (1-strongly disagree – 5-strongly agree) was used. Teachers' opinions on the eight items of play activities of the children with ASD were as displayed on Table 4.3 and computed for the overall summation score. The maximum score for play activity was 40 and the minimum score was 8. Similar computation was done on the four items of enhanced social interaction on a Likert scale of 1 – 3 (1-less enhanced, 2-enhanced, and 3-highly enhanced). Maximum enhanced social interaction score was therefore 12 with a minimum score of 4.

The study had hypothesized  $H^1$  that there is a relationship between play activities and enhanced social interactions of children with ASD in Migori County. In order to find out whether there is an association between play activities and enhanced social interactions, the Chi-square test was performed and the findings presented in Table 1.2.

Table 1.2: Chi-Square Test on Effects of Play Activities and Enhanced Social Interactions of Children with Autism Spectrum Disorders

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	80.629(a)	52	.007
Likelihood Ratio	67.399	52	.074
Linear-by-Linear Association	17.936	1	.000
N of Valid Cases	37		

Note: 70 cells (100.0%) have expected count less than 5. The minimum expected count is .08.

As shown in Table 1.2, the computed Chi-square coefficient ( $X^2 = 80.6$ ) is statistically significant because the P-value= 0.007 is less than 0.05 alpha level. Therefore, the hypothesis  $H^1$  that there is a relationship between play activities and enhanced social interactions of children with ASD in Migori County was accepted. This led to the revelation that the use of play activities was related to enhanced social interactions of children with ASD. This confirmed the earlier findings in previous studies that showed that enhanced social interactions were significantly higher when play activity strategy was used with children with ASD particularly with their typically developing peers.

During observation sessions, a video analysis in the classroom setting revealed that children with ASD were not attentive to teaching/learning activities in the class and instead were busy playing, hiding their heads under the desk and were withdrawn. The same children when observed outside the classroom during a P.E. lesson were very active, able to make a big circle with the typically developing peers and led typically developing peers in singing a song "lalala! La, lalala! La, lalala! La". During play activities, it was not possible to differentiate the children with ASD from the typically developing peers because they initiated play leading to high enhanced social interactions.

These findings are consistent with the findings of previous studies in the field of ASD. A study of children with ASD as in [6], sampled twelve boys at seven years of age by using an exploratory approach. The study revealed that the boys diagnosed with ASD had very little appropriate play skills, displayed a high degree of repetitive play and coupled with little to not being able to express themselves in any language. After the same boys were subjected to play activities, all participants nearly doubled the amount of social interactions with their typically developing peers. Also, all participants were more functional in play activities and engaged in less repetitive play. After expiry of the study, treatment was withdrawn from the boys, and further examination was conducted. It was found that initial behavior gains were not consistent when treatment was withdrawn as in [6].

The study, therefore, indicated that the behavior gains were due to treatment and that play activities were effective in enhancing social interactions of children with ASD. This study established the role played by teachers and parents in the development of social skills in learners with ASD and their typically developing peers. This study finding concurs with [5], who asserted that an adult is required to monitor the play situation for evidence of the development of social skills, coach the peers, interpret for the peers, and encourage the children with ASD to engage in play activities that were more advanced to improve their abilities. It was evidently clear from these findings that play as a strategy has a vital role in social interactions of children with ASD.

#### IV. CONCLUSION

- i. According to the findings based on objective two on play activities enhancing social interactions of children with Autism Spectrum Disorders in Migori County, it was concluded that children with ASD had difficulties engaging fully with typically developing peers in the classroom setting. During observation, the researcher also concluded that children with ASD were able to play with their typically developing peers during P.E. lessons but when in classroom setting, they remained aloof. Therefore, when play activities were introduced to children with ASD, there was an increase in social interactions with their typically developing peers, hence a decrease in solitary behavior. From this study, it can be concluded that it is important to teach the child to play with others because through social play, the child can learn about other people, obvious skills, compromising, negotiation and cooperating, tasks and perspectives of the world. This study, therefore, concluded that when children with ASD were subjected to play activities, all participants nearly doubled the amount of social interactions with their typically developing peers. The behavior gains were due to treatment and that play activities were

effective in enhancing social interactions in children with ASD.

#### V. RECOMMENDATIONS FOR FURTHER RESEARCH

- i. Since the present study focused only on one county which was Migori County, there is need to carry out a future research in all the counties in Kenya on peer-mediated strategies in enhancing social interactions of children with Autism Spectrum Disorders.
- ii. In the present study, generalization of data was limited due to instrumentation since the instruments used by the researcher were locally prepared hence not standardized. Future research should employ standardized instruments to ensure generalization of the study findings.
- iii. The study did not cover all areas of need among children with Autism Spectrum Disorders such as deficits in adaptive behavior and deficits in communication skills, therefore future research should consider other areas of functioning in children with ASD.
- iv. The present study targeted children with Autism Spectrum Disorders in public primary schools with their typically developing peers, therefore those learners with ASD in special schools were not included in this study. Future research should investigate peer-mediated strategies in enhancing social interactions of children with ASD in special schools.

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