

Effect of Identification of Competences on Autistic Learner's Achievement in Adaptive Skills in Public Primary Schools in Tharaka Nithi County, Kenya

Gatuura Festus Doris, Odundo Paul Amollo, Kazungu Theresa, Ganira Khavugwi Lilian

Department of Educational Communication, Technology and Pedagogical Studies, University of Nairobi, Nairobi, Kenya

Email address:

dgatuura@gmail.com (Gatuura Festus Doris), odundopaul@yahoo.com (Odundo Paul Amollo), heriester@yahoo.com (Kazungu Theresa), lilianganira@gmail.com (Ganira Khavugwi Lilian)

To cite this article:

Gatuura Festus Doris, Odundo Paul Amollo, Kazungu Theresa, Ganira Khavugwi Lilian. Effect of Identification of Competences on Autistic Learner's Achievement in Adaptive Skills in Public Primary Schools in Tharaka Nithi County, Kenya. *International Journal of Elementary Education*. Vol. 12, No. 1, 2023, pp. 7-15. doi: 10.11648/j.ijeedu.20231201.12

Received: January 8, 2023; **Accepted:** February 4, 2023; **Published:** February 24, 2023

Abstract: Effective teaching of competences among autistic learners is anchored on structured identification of abilities for positive adaptation in society. Non-identification of autistic competences weakens categorization of learners into spectrum disorder, traits establishment and barriers management for adaptive skills acquisition implementation. Appropriate demystification of aspects of skill identification that include communication competence, social integration and self-awareness, may assist overcome issues arising from adaptation for accelerated learning and positive societal involvement. This study sought to examine effect of competences identification on autistic learner's achievement in adaptive skills for productive life. The study was anchored on Weak Central of Coherence Cognitive theory of autism which explains how structured teaching increases learning capacity. Within-subject design was adopted in the study for repeated measurements before and after treatment to the same group. Public primary schools housing autistic learners formed target population where appropriate sample was drawn using purposive sampling for teachers and autistic learner's whilst stratified random sampling was used for stakeholders. Data was obtained from 17 respondents; 3 teachers, 10 autistic learners and 4 stakeholders. Achievement test obtained data from learners while questionnaires were used to gather data from teachers and stakeholders. Descriptive statistics analyzed questionnaires while two paired T-tests analyzed achievement tests. Findings revealed a mean of 3.33 in Communication competence, 3.58 in self-awareness and a 2.50 mean on social integration. For achievement test, P value of 0.000 (<0.05) indicate an increase in adaptive skills acquisition. Recommendations were; policy orientation on competences identification, Involvement of stakeholders in adaptive skills learning and further research on interventions for adaptive skills.

Keywords: Adaptive Skills, Autistic Learners, Identification of Competences, Spectrum Disorder

1. Introduction

Effective functioning of an autistic child is dependent on mastery of adaptive skills which enhances communication, manipulation of items and socialization for a healthy living within the school settings and wider society. However, in instances where functioning of autistic child is impaired, there is likelihood that effective communication may be compromised resulting in weaker mental coordination, inability to socialize and unstructured acquisition of adaptive skills. According to Pugliese, Anthony, Strang, Dudley, Wallace, and Kenworthy (2015) a functioning child is

independent of support from people, expresses oneself both verbally and non-verbally, socializes with others through communication and participation in social activities leading to integration in society [18]. Normally, autistic learners are incapacitated of the adaptive skills, a situation that subject them to live a dependent life resulting to a feeling of isolation and distanced from societal functions. In views of Hashem, Nisar, Bhat, Yadav, Azeem, Bagga *et al* (2020), failure to acquire adaptive skills spontaneously is catalyzed by the spectrum disorder that affects the brain functioning resulting to manifestation of a restricted and repetitive behavior [11].

Appropriate identification of competences tend to improve

teaching method for effective acquisition of adaptive skills thus enhancing a positive transition from home to school routines. For instance, Anyiendah, Odundo, and Kibui, (2020) asserted that interactive teaching method enhance acquisition of reading skills through word recognition for improved knowledge acquisition [2]. Adoption of interactive teaching method allows autistic learners participate in learning activities to promote communication competence for engaged socialization. Further word recognition enhances achievement of reading skills thus translating to achievement in adaptive skills that support integration in school hence improved academic performance among autistic learners. In accordance with Buffle, Naranjo, Gentaz, and Vivanti (2022), identification of communication competences, social integration and self-awareness promotes acquisition of abilities and values resulting to integration and positive living in the society [5]. As stated by Øien, Vivanti, and Robins (2021), identification of skills guarantee acquisition of right intervention which lessen issues associated with the condition creating a positive thinking that accelerate learning of the adaptive skills [16]. Inappropriate identification of skills backlashes achievement in adaptive skills because the learning capacity is diminished by the spectrum disorder that can only be minimized using the right intervention. Identification of skills such as communication competence, social skills and self-awareness skills form the basis for gauging the achievement of the adaptive skills for supporting an interactive living within a society.

Initially, identification of adaptive competences in autism was accomplished using observation for adoption of appropriate intervention. However the identification procedure was deemed inappropriate due to shortcomings noticed in the entire process thus making the identification faulty. In support of these sentiments, Simeoli, Milano, Rega, and Marocco (2021) cited that observation analysis of behavior which helped in identifying adaptive competences by autistic learner making it easier for achievement in communication competence, social integration and self-awareness was perceived to be time consuming and tiresome [22]. It was also noted that analysis could give wrong diagnosis as a result of biasness in identification process. To counter the shortcomings in identification process, three manuals namely; Diagnostic and Statistical Manual of Mental Disorders, (DSM) 2013, Vineland Adaptive Behavior Scale (VABS) 2016, Diagnostic and Statistical Manual of Mental Disorders, (DSM), 2022, were developed which explicitly outline the parameters of identification.

Identification of autistic competences parameters denoted by DSM 2013, VABS 2016 and DSM 2022 includes; difficult in expressing oneself in social context, maintaining eye contact and use of non-verbal communication like gestures for Communication competence. For social integration, parameters included adversity in friendship formation, emotional expressions and teamwork. Self-awareness identification parameters include hitch in self-awareness like eating, bowel control and cleanliness. In a study titled Screening for Intellectual Disabilities and/or

Autism Amongst Older Children and Young Adults: a Systematic Review of Tools for Use in Africa, Nwokolo, Langdon, and Murphy (2022) asserted that identification of autistic competences improve behavior outcomes, identification of interventions/support required, advance social skills, cognitive and language development that support productive engagement in the society as a result of increased functionality [14]. A study by Ouma (2016) on mothers' involvement in early identification and intervention for children with autism in Nairobi, Kenya, cited that failure of early identification of autistic competences may strain implementation of identified intervention weakening achievement in adaptive skills [17]. Based on this background, the study sought to examine effect of identification of competences on autistic learner's achievement in adaptive skills.

1.1. Statement of the Problem

Identification of autistic competences determine teaching and learning of adaptive skills for positive involvement in the society. Non-identification of the competences may result to delayed intervention hence impairing acquisition of adaptive skills. Identification of such competences tend to unlock potential, learning, engagement, and interaction of autistic learners within the community as a result of achieved abilities and values that constitute independence and positive life. Non identification of autistic competences draws back learning abilities due to lack of interventions put in place to support acquisition of adaptive skills for integrated living. Non identification of the competences may result from ignorance of stakeholders on right parameters of identification.

Early identification of autistic competences strengthen acquisition of adaptive skills like participation in social activities, self-awareness, starting and maintaining conversations, enhancing productive life in school and society. This implies that identification of autistic competences enhance acquisition of adaptive skills which support positive living of learners in school and community settings. The study, therefore, sought to examine effect of identification of competences on autistic learner's achievement in adaptive skills in Tharaka Nithi County, Kenya.

1.2. Purpose and Objectives of the Study

The purpose of this study is to examine effect of identification of competences on autistic learner's achievement in adaptive skills in public schools in Tharaka Nithi County. Objectives were to:

- i). Examine Effect of identifying communication competence on achievement of adaptive skills.
- ii). Establish effect of identifying social integration on achievement of adaptive skills.
- iii). Assess effect of identification of self-awareness skills on achievement in adaptive skills.

2. Literature

Effective acquisition of adaptive skills that arouse learning of autistic learners both in school and community settings is premised on appropriate identification of competences. Non identification of autistic competences diminish acquisition of adaptive skills which negatively impact the integration of autistic learners.

2.1. Identification of Skills and Communication Competence

Positive living is premised on acquisition of adaptive skills like communication competence which support connection of ideas with people to enhance accommodation of autistic learners in the society. In accordance with Raisingchildren.net.au (2021), communication support expression of ideas and thoughts, either verbally or by use of gestures, in a given context for a productive engagement through learning and socialization [19]. In views of Kamilla (2021), retarded self-expression affects independent living at school and home which is translated to weakening functionality of the learner [12]. Autistic learners have complications in both receptive and expressive language leading to a dormancy life where no learning can be received. In views of Tanner, and Dounavi, (2021) complications in language acquisition is identifiable as early as 18 months of development inflicting socialization abilities [20].

In instances where a learner does not develop language occasioned by autism, achievement in communication competence is compromised resulting in low acquirement of adaptive skills. DSM-5-TR (2022), which is a revised edition of DSM-5 (2013) points out that in identification of autism, a child must have communication difficulties manifested by rare use of language in social contexts, rarely responding when spoken to, rare use or understanding of gestures like pointing or waving and not speaking at all. Conspicuous delay in acquisition of communication skills is an alert of presence or onset of a disability including autism that may hinder acquisition of adaptive skills. Based on the parameters highlighted in DSM – 5 TR (2022), and position of Raisingchildren.net.au (2021) on child's vocabulary escalating by the second year, any deviation in behavior may insinuate communication difficulties hence need for right intervention that support acquisition of adaptive skills minimizing issues associated with the disorder [20].

2.2. Identification of Skills and Social Integration

A socially active child delights in every aspect of living which is banked on acquired adaptive skills like social skills that improve the integration and accommodation of autistic learner in the society. This has been supported by Badiah's (2018) assertion that social skills constitute adaptive behaviors which empower acquirement of socialization skills for accrediting comprehension of family members and peers feelings as well as friendship formation by autistic learner [3]. Further Silveira-Zaldivara, Özerk, and Özerk, (2021) stated that aspects of social skills such as role playing, turn taking,

cooperation are important in the entire process of social interaction for a positive inclusion in society [21]. Deficiency in social integration not only results to a feeling of rejection, isolation and depression, it also impacts negatively on academic performance, mental health and adult life outcome. Yeo and Teng (2015) articulated that social skills deficits that may include, problem-solving difficulties, lack of empathy and difficulties interpreting body language lead to low acquisition of adaptive skills resulting to segregation of autistic learner in community [28].

Identification parameters of social skills as mentioned in VABS (Sparrow, Cicchetti, and Saulnier, 2016) anchored on socialization domain include interpersonal relationships (team work, friendship formation), coping skills (problem solving, emotional expressions, taking responsibilities) and leisure time (playing, drawing, word search puzzles) all that which constitute adaptive skills [24]. In connection to this, DSM-5TR (2022) manual equally outlined parameters of social skills identification as; use of limited facial expressions, lack of interest in friendship formation and difficulties in play activities participation. Sparrow, Cicchetti, and Saulnier (2016) explains that Parents/caregivers and teachers help in identification of the social skills by providing information required by the assessor at home and school contexts respectively [24]. Proper identification of social skills deficit enable the teacher to plan on the best interventions to pursue for achievement in adaptive skills by autistic learners.

2.3. Identification of Skills and Self-Awareness Skills

Readiness of a child to participate in life activities is dependent on acquisition of adaptive skills such as of self-awareness which reduces stress thus increasing concentration that motivates the learner to lead a fulfilling life. In the views of Chappelow (2019), self-awareness skills enable autistic learner execute daily activities independently for a positive participation in life activities [6]. Such self-awareness that include dressing/undressing, grooming, toileting, eating and sleeping enhance achievement in adaptive skills for adaptation. These skills are normally supported by adults in early years of children in anticipation of independent acquisition in adaptive skills as they become of age. Learning of self-awareness skills normally can be challenging to the autistic learner due to tendency of insisting on sameness.

Learning of adaptive skills like eating and self-feeding could be complicated when the learner accepts selected foods which could be connected to sensory matters surrounding texture, taste and appearance. In support of this argument, van Dijk, Buruma & Blijd-Hoogewys (2021) asserted that feeding problems are associated with food selectivity thus compromising acquisition of proper feeding habits [26]. However, if skills are identified correctly and a proper intervention is provided, acquisition of adaptive skills is achieved for independent functioning. According to Wortalik and Kubina (2017) Interventions like video-based instruction, behavioral in vivo procedures, audio cuing, and social stories, greatly influenced achievement in adaptive skills in autistic learners by positively increasing coherence capacity [27].

Parents and teachers should single out any awful behaviors portrayed by learners that seem to affect acquisition of self-awareness adaptive skill early enough. This will enhance identification of appropriate intervention to ease and probably treat the challenges.

2.4. Theoretical Frame

The study was based on Weak central coherence theory of autism by Frith, (1989). Central coherence is an innate ability to knowledge acquisition and operationalization for positive living. Learning capacity of autistic learner is diminished by the spectrum disorder that weaken connection of ideas for acquisition of adaptive skills. This theory postulates that autistic learners can function well in other learning areas despite the fact that they are challenged in language skills which is the basic unit for adaptive skills acquisition that may be catalyzed by accelerating coherent capacity and usage of adaptive skills across contexts to stimulate innate capabilities for further learning. The theory emphasizes that inhibiting conditions may be minimized by a structured method of teaching adaptive skills which increase coherence capacity. Therefore identification of competences accompanied by structured teaching, increases coherence capacity (learning and acquisition of adaptive skills) enhancing positive living and a productive societal involvement.

3. Methodology

Positivism research paradigm guided the study which is premised on quest to beget the causal interconnections that predict the outcome of a phenomenon. This is ascertained using quantifiable observations that steer statistical analysis to draw inferences objectively regarding human behavior under investigated parameters. Paradigm features like observations, experiments and logical proof in knowledge investigation informed the study that measured objectively effect of appropriate identification of autistic competences on acquisition of adaptive skills by autistic learners. Experimental design, specifically within subjects design was used. Simkus (2022) asserts that in this design, participants are subjected to repeated measurements of study variable to check difference in scores for establishing effect of identification on adaptive skills acquisition [23]. No control group is used in the design because similar group is subjected to conditions for comparison.

Public primary schools sheltering autistic learners formed the target population. Sample size was 17 respondents where 3 teachers and 10 autistic learners were purposively sampled while 4 stakeholders were identified using random stratified sampling.

The design employed mixed methods approach whereby, qualitatively, opinions from the participants regarding experiences in identification of skills through questionnaires were sought while quantitatively quantifying the data numerically to generate descriptive statistics and inferences.

Achievement test was issued to 10 autistic learners from three schools as pre-test. The test covered; 1) communication competence; 2) social integration and 3) self-awareness. The learners responded by naming, pointing and performing skills presented on measurement of adaptive skills acquisition. Treatment given targeted adoption of appropriate identification skills and teaching learners perform tasks presented in the test. After two weeks, the same achievement test was given as a post-test and the scores obtained were compared. Close ended questionnaires measured parameters of autistic competences identification from teachers and stakeholders. Data was analyzed quantitatively using descriptive statistics creating frequency tables, means and standard deviations. Themes were used to code qualitative data. Two paired t-test determined a statistically significance levels at a p value of 0.05 to find out the effect of identification of autistic competences on achievement in adaptive skills before and after treatment.

4. Findings

4.1. Identification of Autistic Competences

Effective acquisition of adaptive skills is dependent upon appropriate identification of autistic competences to facilitate acquisition of respective capabilities for survival. Identification of competences adopt a sector wide approach involving stakeholders for minimized biasness leading to appropriate identification of autistic competences. Identification of autistic competences was exemplified by communication competence, social integration and self-awareness.

4.1.1. Identification of Skills and Communication Competence

Receptive and expressive communication competence stimulate acquisition of adaptive skills for increased functionality of autistic learners in school and wider community as noted by Odundo and Ganira, (2018) [15]. Communication competence would facilitate acquisition of adaptive skills through naming oneself, identification of items, response to greetings and use of gestures and facial expressions. The study sought to establish if teachers identified Communication competence using a 4 Likert scale questionnaire denoted by 4 strongly agree, 3 agree, 2 disagree, 1 strongly disagree. Findings are presented in Table 1.

Table 1. Teachers rating of communication competence.

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--|---|---------|---------|------|----------------|
| Consistency in naming oneself | 3 | 3 | 4 | 3.67 | .577 |
| Ability to identify items around oneself | 3 | 2 | 4 | 3.33 | 1.155 |
| Regularity of response to greetings | 3 | 2 | 4 | 3.33 | 1.155 |
| Communicates through gestures | 3 | 1 | 4 | 2.67 | 1.528 |
| Valid N (listwise) | 3 | | | | |

Ability to express wants and ideas support coexistence of autistic learners with people in a school and community setup. From the findings in Table 1, a mean of 3.67 and a standard deviation of 0.577 indicates that teachers to a greater extent identified communication competence by abilities of the learners to name oneself. This was marked by ability to name oneself verbally or turning when the name is mentioned. This is an indication that learners had acquired adaptive skills portrayed by understanding the instruction despite of the challenge in naming oneself verbally. These findings were supported by 7 out of 10 (70%) of the learners naming oneself from the assessment scores. The findings are in line with Raisingchildren.net.au (2021) assertion that communication enhances expression of ideas both verbally or by gestures for a productive living [19]. This therefore translates that with the right intervention, learners would acquire adaptive skills. On the other hand 3 out of 10 (30%) of learners could not name oneself verbally or by turning when called. This implies a need for an intervention that can facilitate acquisition of both receptive and expressive communication for a positive integration in school.

Teachers similarly identified communication competence by evaluating abilities of the learners to identify items in the immediate environment. A mean of 3.33 and a standard deviation of 1.155 is an indication that teachers greatly identified communication competence on the basis of learner's ability to identify items. This was distinct by abilities of the learners to either naming items verbally, pointing or identifying domestic animals by their sounds thus implying acquisition of adaptive skills. Achievement score supported the findings by 6 out of 10 (60%) learners identifying items presented as real materials and pictures. On the same note one of the stakeholder asserted that;

My son identifies majority of items used at home now but initially he experienced some difficulties in identification. For instance, he cannot mistake a cup for a glass. When asked to bring an item, he brings the real item without delay. Sometimes he collects the misplaced items and keeps them where they should be.

Besides, 4 (40%) of learners could not identify items presented to them insinuating communication competence non-acquirement. To support identification of items by autistic learners, teachers must employ instructional strategies like role playing, use of peers, storytelling to enhance mimicking by the autistic learners for acquisition of the skills. This is in line with Ganira, Odundo, Ciumuari, and mwasywa, (2019) assertions that appropriate instructional strategies enhance acquisition of the intended skills for a positive living [7].

In addition, teachers identified communication competence based on the learner's ability to respond to greetings. A mean of 3.33 and a standard deviation of 1.155 indicated that most of the teachers agreed that learners respond to greetings. This was notable by learner's response either verbally or shaking hands when greeted, an implication of adaptive skill acquisition. Achievement test supported the findings by an

indication of 7 out of 10 (70%) learners responding to greetings. Moreover, only 3 (30%) learners could not respond either verbally or by shaking hands. Further findings in Table 1 indicate that teachers also evaluated use of gestures by autistic learners in communication. A mean of 2.67 and a standard deviation of 1.528 indicate that few learners could use non-verbal communication (gestures). This was prominent when learners responded to instructions given by gestures as well as expressing their needs through gestures like pointing at item in need of or directing the teacher to the toilet. Use of gestures is an identification parameter that has recorded lowest mean, an implication that learners were challenged in understanding and using gestures due to non-acquirement of adaptive skills. Therefore teachers need to come up with strategies that can improve on use of gestures by learners to improve on their communication leading to acquisition in adaptive skills.

From the findings it is clear that teachers identified communication competence in autistic learners to create accommodative environment at school thus enhancing acquisition in adaptive skills. The study findings are in agreement with DSM-5- (2022), a manual that cited identification of communication competence as key in management of autism by choosing the right intervention to support acquisition of adaptive skills. The findings are similar to those of Øien, Vivanti, and Robins (2021) who asserted that identification of communication competence pave ways for acquisition of other adaptive skills like social skills [16]. Communication abilities precede acquisition of adaptive skills. Appropriate identification dictates the instructional methods and resources used in teaching the learners to actualize acquirement of adaptive skills that promote positive living in society.

4.1.2. Identification of Skills and Social Integration

Social skills are a backbone of socialization and integration of a person in community for a productive living. Social skills like friendship formation, participation in play activities, and understanding body languages indicate acquisition of adaptive skills that support integration of the learner in school and community. Structured identification process is vital in supporting acquisition of adaptive skills for a productive engagement in society. As noted by Ganira and Odundo (2020) inappropriate identification, compromise adaptive skills acquirement process resulting to isolation of the learner from societal activities [8]. Using a 4 Likert scale questionnaire denoted by 4 strongly agree, 3 agree, 2 disagree and 1 strongly disagree, the study sought to establish whether teachers identify social integration skills. Findings are illustrated in Table 2.

A fulfilling life is dependent on sociable wellbeing of a person in relation to a societal social context and aspirations, (Ganira, Odundo, Gatumu & Muasya 2020) [9]. Findings in Table 2; mean of 2.33 and a standard deviation of 0.577 indicates that teachers identified social integration using friendship formation of autistic learners. However, few

learners had acquired the skills translating to low acquisition of adaptive skills. This was stipulated by associations of the learners in the class and playground setting. Drawing reference from Black, Kuzminski, and Wang, J. et al (2022), friendship formation bring a sense of belonging to a given group enhancing socialization as a result of companionship, mutual assistance and affection resulting to a healthy wellbeing of a person [4]. The lowest mean recorded by

teacher's questionnaire is an indication that Majority of the learners have no friends. Out of 10 autistic learners, only 3 (30%) identified friends. Further, 7 out of 10 learners (70%) had no friends, an indication of challenge in forming friendship. The findings were supported by parents' assertion that the learners appear withdrawn from other children. The statement was echoed by assessment officers who argued that autistic learners look isolated and do not embrace association.

Table 2. Teachers rating of learners' social integration.

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--|---|---------|---------|------|----------------|
| Formation of friendship with peers | 3 | 2 | 3 | 2.33 | .577 |
| Willingness to participate in play activities | 3 | 2 | 4 | 3.00 | 1.000 |
| Ability to express own feelings through facial expressions | 3 | 2 | 4 | 2.67 | 1.155 |
| Mastering intergroup and personal expressions | 3 | 1 | 4 | 2.00 | 1.732 |
| Valid N (listwise) | 3 | | | | |

A mean of 3.00 and a standard deviation of 1.00 shows that majority of teachers agreed with participation of learners in play activities marking acquisition of adaptive skills. This was denoted by learners indulging either in social play, physical play, parallel play or solitary play when play materials are given. Achievement test supported the findings by 8 out of 10 (80%) of learners identifying play activities presented in pictorial form. However 20% (2) of learners never identified play activities, an indication of lack of participation in play activities translating to non-acquirement of adaptive skills. The findings were supported by parents' assertion that autistic learners do not participate in play activities out of their will until when pushed to do so. Assessment officers echoed the statement by arguing that lack of association limits participation in play activities because they perceive everyone as a stranger.

A mean of 2.67 and a standard deviation of 1.155 indicated that teachers used facial expressions in identification of social integration but only few learners had acquired the adaptive skill. This was demonstrated by variation in facial appearances to express varied emotional situations; for example, a sad appearance when annoyed and laughter when happy. Achievement test indicated that out of 10, only 3 (30%) of learners understand facial expressions. This was achieved by learner pointing at various facial expressions presented in pictorial form. Parents supported the findings by denoting that when the child is happy the face glitters but a gloomy face is portrayed when sad. The assessment officer stated that;

Though some of the autistic learners are not able to express feelings, some do. During assessment, we provoke the learner through activities like tapping shoulder or clapping hands to observe the reactions of the learner through body language such as use of hands and/or face. Some get excited, some annoyed and others no expression is made.

Besides, 70% (7) of learners were challenged in expressing emotional feelings resulting to a strenuous living both in school and community settings due to low acquirement of adaptive skills. This calls for intervention measures that increase understanding and mastery of the facial expressions

for an integrative living when adaptive skills are acquired.

Statement on mastering intergroup and personal expressions obtained a mean of 2.00 and a standard deviation of 1.732. This is an indication of low adaptive skill acquisition. The skill acquisition was marked by learner's response to facial expressions. For instance, a teacher's sad face signified annoyance while a smiling face denoted happiness. Achievement test supported the findings where only 30% (3) of learners portrayed mastery of expressions. 70% (7) of the learners were challenged in mastery of intergroup and personal expressions hence need for a proper intervention to instill the skills, marking the acquisition of adaptive skills. From the findings it is evident that teachers identified social integration skills in autistic learners using appropriate parameters of identification, from which some had acquired skills while others had not. The findings are in line with parameters of social integration identification as stipulated in VABS manual by Sparrow, Cicchetti, and Saulnier, (2016) [24]. In accordance with Silveira-Zaldivara, Özerk, and Özerk, (2021) social skills enhance social interaction and a positive living [21]. This is an indication that properly identified social integration promotes acquisition of social skills that enhance positive living and productivity in the society. Non proper identification compromises acquisition of social skills, limiting use of appropriate intervention thus leading to rejection of the learner both in school and society.

4.1.3. Skill Identification and Self-Awareness Skills

Self-awareness skills acquisition increase functionality of the learner in both school and community settings. This has been enhanced by minimized frustration and anger due to acquired self-love despite the difficult moments encountered. In the view of Ganira (2022), identification of adaptive skills should be geared towards instilling self-love which makes the learner fit in all situations [10]. Self-awareness skills include feeding oneself, maintaining cleanliness, proper use of toilet and consistency in bowel control. Using a 4 Likert scale questionnaire denoted by 4 strongly agree, 3 agree, 2 disagree and 1 strongly disagree, the study sought to establish if teachers identify self-awareness skills to promote positive

living. The findings are presented in Table 3.

Table 3. Teachers rating of learners self-awareness skills.

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---------|---------|------|----------------|
| Ability and willingness to feed oneself | 3 | 4 | 4 | 4.00 | .000 |
| Maintain cleanliness and tidiness at all times | 3 | 2 | 4 | 2.67 | 1.155 |
| Independent and proper use of toilet at all times | 3 | 4 | 4 | 4.00 | .000 |
| Regularity and consistency in bowel control | 3 | 3 | 4 | 3.67 | .577 |
| Valid N (listwise) | 3 | | | | |

Self-awareness skills dictate autistic learner's daily living in immediate environments for a positive engagement in all aspects of life. Findings in Table 3 reveal how teachers identify self-awareness skills. Teachers agreed that all autistic learners, marked by a mean of 4.00 and a standard deviation of 0.00 had acquired self-feeding skills. This is an indication of a big milestone in achievement of adaptive skills for a self-fulfilling life. In support of the findings, achievement test results indicated that 70% learners identified foods they feed on as presented in pictorial form. Furthermore, Parents argued that learners feed themselves although selectively on the type of food.

A mean of 2.67 and a standard deviation of 1.55 denotes that teachers agreed on maintenance of cleanliness and tidiness by learners, however, few learners had acquired the skill. This is an indication that many autistic learners especially the severely affected depend on caregivers/teachers for their cleanliness due to non-acquirement of adaptive skills. Majorly, autistic learners are challenged in maintaining cleanliness as a result of drooling, uncoordinated feeding pattern that leaves the learner dirty out of food spillage resulting to dependency on people for cleanliness. A mean of 4 and a standard deviation of 0.00 indicated that teachers agreed on Independent and proper use of toilet by autistic learners. This is an indication that all autistic learners (100%) have acquired toileting skills. The findings were supported by one of the stakeholder;

My daughter had complications in toileting however after enrolling her to school, the learner responded positively. We worked together with her teacher to ensure that my dream of seeing my daughter using toilet independently has been actualized which came to be.

A mean of 3.67 and a standard deviation of 0.577 indicated that majority of teachers agreed with acquirement of bowel control skills. This was associated with proper toilet training that conditioned the learner on when to use the toilet. There were some autistic learners that had not acquired the skill. Parents indicated that sometimes learners are overwhelmed to an extent of soiling clothes at home. A proper intervention need to be employed to ensure all autistic learners have acquired the skill for an integrated life both in school and community.

The findings are in agreement with Chappelow 2019, who argued that self-awareness skills like feeding, independent use of toilet, control of bowel, dressing support daily activities for a productive living [6]. In reference to van Dijk, Buruma and Blijd-Hoogewys (2021), it was also found that, acquisition of skills like feeding may be thwarted by selectivity of food [26]. This insinuates that appropriate identification of self-awareness complimented with right interventions, acquisition of adaptive skills is achieved which promote independent living in school and society. However, inappropriate identification, backlashes appropriate teaching thus weakening achievement in adaptive skills resulting to dependent life.

4.2. Relationship Between Identification of Autistic Competences and Achievement in Adaptive Skills

The study examined effect of identification of competences on autistic learner's achievement in adaptive skills. Two paired T-tests were run to envision achievement of adaptive skills from identification of autistic competences as shown in the Table 4.

Table 4. Paired Samples Statistics.

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|-----------|---------|----|----------------|-----------------|
| Pair 1 | Pre-Test | 15.70 | 10 | 8.512 | 2.692 |
| | Post-Test | 20.0000 | 10 | 9.70681 | 3.06956 |

The findings in Table 4 reveal $M=15.70$ ($N=10$) for pretest and $M=20.00$ ($N=10$) for posttest. This indicates an increase in adaptive skills as seen in the difference between pretest and posttest mean scores.

Table 5. Paired Samples Test.

| | | Paired Differences | | | | T | df | Sig. (2-tailed) |
|--------|----------------------------|--------------------|----------------|-----------------|---|----------|--------|-----------------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | |
| | | | | | Lower | Upper | | |
| Pair 1 | Before Study – After Study | -4.30000 | 1.76698 | .55877 | -5.56402 | -3.03598 | -7.695 | .000 |

The findings in Table 5; t value = -7.695, $df = 9$, and $p = .000$, show a statistically significant difference between the

two tests. The findings reveal that there was increase in post test scores after intervention. Similar observations were made

by Wertalik and Kubina 2017, which indicated that appropriate intervention increases achievement in adaptive skills [27].

5. Conclusion

From the findings, the study concludes that there is a statistically significant effect of autistic competences on achievement in adaptive skills. Identification of communication competence, social integration and self-awareness skills promote acquisition of adaptive skills because they form key areas in daily functionality of a learner. The study shows that communication competence enhances expression of thoughts and ideas as well as engagement in social conversation for a productive life. Social integration promotes socialization through appropriate use of social skills like participation in play activities, friendship formation to promote integration and accommodation in society without a feeling of rejection. Self-awareness skills like feeding oneself and dressing reduce stress by motivating the learner to perform an activity independently.

6. Recommendations

- 1) The government should promote Policy orientation on competences identification to facilitate a multidisciplinary identification to support accurate diagnosis free from biasness.
- 2) Government through ministry of education should ensure Involvement of stakeholders in adaptive skills learning so as to provide required resources and counsel on implementation of interventions provided.
- 3) Further research on interventions for adaptive skills acquisition.

References

- [1] American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).
- [2] Anyiendah, M. S., Odundo, P. A., & Kibuyi, A. (2020). Effect of Word Recognition Skills on Learners' Achievement in Reading Comprehension in Vihiga County, Kenya. *Journal on English Language Teaching*, 7, 45.
- [3] Badiah, L. I. (2018). The Importance of Social Skills for Autism. *Proceedings of the 2nd INDOEDUC4ALL—Indonesian Education for All, Banjarmasin*, 18 October 2018, 20-24. <https://doi.org/10.2991/indoeduc-18.2018.7>
- [4] Black, M. H., Kuzminski, R., Wang, J. (2022). et al. Experiences of Friendships for Individuals on the Autism Spectrum: A Scoping Review. *Rev J Autism Dev Disorder* <https://doi.org/10.1007/s40489-022-00332-8>
- [5] Buffle P, Naranjo A, Gentaz E, Vivanti G. (2022) Experiences and Attitudes on Early Identification Practices of Autism: A Preliminary Survey of Pediatric Professionals in Ecuador. *Children* (Basel). 18; 9 (2): 123. doi: 10.3390/children9020123.
- [6] Chappelow, J. (2019). Activities of Daily Living. Investopedia.
- [7] Ganira K. L., Paul, O. A., Ciumuari, G. J., & Juliet, M. N. (2019). Social studies curriculum and cooperation among preschool learners in Nairobi, County: Addressing effectiveness of instructional methods. *American journal of social sciences and humanities*, 4 (1).
- [8] Ganira, K. L., & Odundo, P. A. (2020). Influence of Pedagogical Content Knowledge on Teacher Trainee Professional Competency at University of Nairobi, Kenya. *American Journal of Education and Learning*. ISSN 2518-6647. DOI: 10.20448/804.5.1.1.12 Vol. 5 (1) pp 1-12.
- [9] Ganira, K. L., Odundo, P. A., Gatumu, J. C & Muasya, N. J. (2020). Stakeholders' Support for Social Studies Curriculum and Enhancement of Responsibility among Learners in Early Years Education Centres in Nairobi City County, Kenya. *Teacher Education and Curriculum Studies*. Vol. 5 (2) pp 30-37: ISSN: 2575-498X.
- [10] Ganira, K. L. (2022). The Position of Social Studies Curriculum Assessment Methods in Developing Responsibility in Early Learning Centers in Nairobi, Kenya. *International Journal of Elementary Education*. Vol. 11, No. 4, 2022, pp. 92-100. doi: 10.11648/j.ijeedu.20221104.12.
- [11] Hashem S, Nisar S, Bhat AA, Yadav SK, Azeem MW, Bagga P et al (2020), Genetics of structural and functional brain changes in autism spectrum disorder. *Transl Psychiatry*.
- [12] Kamilla Klefbeck (2021) Educational Approaches to Improve Communication Skills of Learners with Autism Spectrum Disorder and Comorbid Intellectual Disability: An Integrative Systematic Review, *Scandinavian Journal of Educational Research*, DOI: 10.1080/00313831.2021.1983862.
- [13] Neurodevelopmental Disorders (2022)". *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR)*. Washington, DC: American Psychiatric Association. ISBN 9780890425770. LCCN 2021051782.
- [14] Nwokolo, E. U., Langdon, P. E. & Murphy, G. H. (2022). Screening for Intellectual Disabilities and/or Autism amongst Older Children and Young Adults: a Systematic Review of Tools for Use in Africa. *Rev J Autism Dev Disorder* (2022). <https://doi.org/10.1007/s40489-022-00342-6>.
- [15] Odundo, P. A & Ganira, K. L. (2018). Communication in Authoritarian Parenting in Early Childhood Education Science Class in Homabay County, Kenya. *Journal of Education and Development*. ISSN 2529-7996 Vol. 2 (3) pp 23-35.
- [16] Øien RA, Vivanti G, Robins DL. (2021). Editorial S. I: Early Identification in Autism Spectrum Disorders: The Present and Future, and Advances in Early Identification. *J Autism Dev Disord*. doi: 10.1007/s10803-020-04860-2.
- [17] Ouma O. J. (2016). Mothers' involvement in early identification and intervention for children with autism in Nairobi City County, Kenya. *Kenyatta University, Nairobi, Kenya*. Retrieved from <http://ir-library.ku.ac.ke/handle/123456789/14969>
- [18] Pugliese, C. E., Anthony, L., Strang, J. F., Dudley, K., Wallace, G. L., & Kenworthy, L. (2015). Increasing adaptive behavior skill deficits from childhood to adolescence in autism spectrum disorder: Role of executive function. *Journal of Autism and Developmental Disorders*.

- [19] Raisingchildren.net.au. (2021). Communication: autistic children. The Australian Parenting Website.
- [20] Raisingchildren.net.au. (2021). Language development in children: 0-8 years. The Australian Parenting Website.
- [21] Silveira-Zaldivara, T., Özerk, G., & Özerk, K. (2021). Developing Social Skills and Social Competence in Children with Autism. *International Electronic Journal of Elementary Education*, 13 (3). Retrieved from <https://www.iejee.com/index.php/IEJEE/article/view/1485>
- [22] Simeoli R, Milano N, Rega A, Marocco D. (2021) Using Technology to Identify Children With Autism Through Motor Abnormalities. *Front Psychol*. doi: 10.3389/fpsyg.635696.
- [23] Simkus, J. (2022, Feb 15). Within-Subjects Design: Examples, Pros & Cons. *Simply Psychology*. www.simplypsychology.org/within-subjects-design.html
- [24] Sparrow, S. S., Cicchetti, D. V., & Saulnier, C. A. (2016). *Vineland Adaptive Behavior Scales*. (3rd ed.).
- [25] Tanner, A., Dounavi, K. (2021). The Emergence of Autism Symptoms Prior to 18 Months of Age: A Systematic Literature Review. *J Autism Dev Disord* 51, 973–993 <https://doi.org/10.1007/s10803-020-04618-w>
- [26] Van Dijk MWG, Buruma ME, Blijd-Hoogewys EMA (2021) Detecting Feeding Problems in Young Children with Autism Spectrum Disorder. *J Autism Dev Disord*. doi: 10.1007/s10803-021-04869-1.
- [27] Wertalik, J. L., Kubina, R. M. (2017) Interventions to Improve Personal Care Skills for Individuals with Autism: A Review of the Literature. *Rev J Autism Dev Disord* 4, 50–60 <https://doi.org/10.1007/s40489016-0097-6>
- [28] Yeo, K. J.; Teng, K. Y. Social skills deficits in Autism: A study among students with Autism Spectrum Disorder in Inclusive Classrooms. *Univers. J. Educ. Res.* 2015, 3, 1001–1007. [CrossRef].