EFFECTS OF GRAPHIC ORGANIZERS AND SOCIO-ECONOMIC STATUS ON ACQUISITION OF SOCIAL SKILLS AMONG PUPILS WITH INTELLECTUAL DISABILITY IN IBADAN

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Abstract

Pupils with Intellectual Disability (PwID) experience difficulties with acquisition of social skills. They find it difficult to initiate and maintain positive social relationships. Previous studies focused on enhancing academic skills of PwID with little emphasis on fostering functional skills. Therefore, this study determined the effects of Graphic Organizers (GO) strategy on acquisition of social skills among PwID. Three special schools were purposively selected. Twenty-six pupils that scored between 20 and 55 in the Screening test were adopted. Participants were randomly assigned to GOS (13) and control (13) for ten weeks. Slosson Intelligent Test (r=.95) and Pupils Social Development Checklist (r=.80) were used. Data were analyzed using Analysis of covariance and Scheffe post-hoc test at .05 level of significance. There was a significant main effect of treatment on acquisition of social skills (F=12.200, p<.05, η^2=.347). Participants in GOS group obtained the highest mean score (33.37) and control (27.40). Graphic organizers strategy fostered acquisition of social skills of PwID. Therefore, the strategy should be adopted in teaching PwID.

Keywords: Graphic organizers strategy, socio-economic status, pupils with intellectual disability, acquisition of social skills.

INTRODUCTION

Social skills are component of adaptive behavior necessary for effective functioning of an individual in society. Social skills are fundamental to smooth relationships and interactions. These skills include eye contact, taking turn, asking for permission, sharing, saying sorry and thank you as at when due to mention but a few. Social Skills are essential in our day-to-day interactions, everybody needs social skills including Pupils with Intellectual Disability (PwID), and once it is discovered that it is lacking, it can be learned. These skills can be acquired gradually by PwID. Social skills are learned verbal and non-verbal behaviors that are performed within a specific social context (Karra 2013). According to Allan, Bellack, Mueser, Susan Gingerich and Julie (2004), Social skills are specific behavior that people generally use while having interaction with others and that enable them to easily achieve their individual goals. There are various social agents through which these skills can be learned, for instance, home, school, neighborhood or environment.

PwID initiate fewer social interactions and lack prompt responses to peers compared with their counterparts without disabilities when they are in social context. They lack correct perception of social situations. PwID have problem learning various skills most especially social skills. They find it difficult functioning effectively and interacting with peers, parents and significant others as expected because of their peculiar condition. They lack proper manner of handling issues and display negative attitude towards social skills utilization. Allan et al (2004), posited that PwID usually experience diverse problems while

interacting with others, they often encounter problem with treatment providers, family members, care givers and others which often result in difficulties in adjustment at home, the community and eventually brings about a degenerated quality of life.

However, the Sustainable Development Goals (SDGs), especially goal 4, centers on inclusive and equitable education for all, it focuses on eliminating segregations and disparities that are accorded persons with special needs and denial of access to all levels of education because of their various forms of disabilities including persons with ID regardless of their IQ. Meanwhile, Social skills is one major means through which pupils with ID learn but lack of social skills is the major characteristics of pupils with ID. This is the major reason it appears as a component of the universally adopted definition of ID by American Association on Intellectual and Developmental Disability (AAIDD) which maintained that intellectual disability is a disability characterized by significant limitation both in intellectual functioning and adaptive behavior which covers many every day social practical skills, and this disability originate before the age of 18 (AAIDD 2010).The issue of adaptive behaviour is reflected in this definition as it relates to its importance in daily functioning and social responsibility that is expected of an individual's age and cultural group.

Socioeconomic status of the parent determines a lot about the acquisition of social skills among learners with ID. Parents' socio-economic status influences or stimulates a child to either display some antisocial behavior or desist from them. Keskinova, Jovanova and Ajdinski (2013), maintained that intellectual disability brings about different changes in the functioning and personality of a child with intellectual disability, but it also negatively impacts the whole family and mostly results in reduced quality of life. The home climate such as the size of the family, relationship between the siblings and parent-child relationship has a way of affecting a child's development of social skills. The socio-economic status of the pupils can be determined through their parents' occupation, educational level, residence and types of gadget in the home and so on. The social economic status of parents of pupils with intellectual disability could have negative influence on the social behavior of these pupils in school, home and the community at large.

Pupils from homes where the socio-economic status of the parents are high are likely to be socially competent than their counterparts from homes where the socio-economic status of parents are low, where parents are struggling to make ends meet. Children from families that are with low socio-economic status are often enrolled in schools with low standard which will eventually affect their standard of education and acquisition of necessary social skills. They enter school with fewer social skills and go at a very low pace as it relates to the development of necessary social skills and social interactions that children naturally develop as they meet with children from various backgrounds in the school environment.

Bremer and Smith (2004) reiterated that although there is need for specific academic skills like math, literacy, and independent living of persons with intellectual disability, but the absence of adequate social skills will not assure successful outcomes of any other acquired skills. Gresham, Sugai, and Homer (2001) also commented that lack of social skills are the key criteria in defining the many high-incidence disabilities that hinder students' excellent academic performance and progress such as specific learning disabilities, attention deficit/hyperactivity disorder (ADHD), intellectual disability and emotional disturbance. It is therefore, necessary to assist students learn the appropriate social skills in other to reduce the effect of these disabilities on their entire life success and achievements.

One of the key concepts to take note in pupils with ID is adaptive behavior which comprises of three major areas thus: conceptual, social and practical skills. The conceptual skills include academics which involve reading, writing, and expressive language. Social skills on the other hand include skills that are needed to maintain an effective social and interpersonal relationship such as taking turns, paying attention,

obeying rules, and making eye contact. Rutherford, Quinn, and Mathur (2004) viewed social skills as a set of behavior that allows individuals to initiate and maintain positive social relationship, contribute among peers, demonstrate self-acceptance and allow for effective coping. Social skills are also the ability to perceive and interpret social situation, generate appropriate social responses, and interact with others (Smith 2007). It is certain that lacks of social skills are the major barrier to all other misdemeanors in learners with ID. There has been research documentation which attested to the negative impact of attention deficit hyperactivity disorder and disruptive behavior disorders on social functioning in children with ID (Pearson, Lachar, Loveland, Santos, Faria, & Azzam 2000.)

Pupils with ID are very poor in perceiving social cues, they are not sensitive to social instructions which make it difficult for them to relate effectively with friends and family (Tammy Reynolds, Zupanick, Psy, & Dombeck 2013). Investing into close relationship is difficult for pupils with ID because they have underdeveloped social skills as acquisition of social skills depends on certain intellectual abilities. Assessing academic skills, harnessing vocational opportunities and occupational guidance skills become a serious problem for any individual with negative attitude towards acquisition of social skills. Dekker, Koot. Van der Ende, and Verhults, (2002) maintained in one of their population based study that among learners with mild and moderate ID, social problems were among the most prominent behaviors that distinguished children with disabilities from their nondisabled peers. It is therefore imperative for researchers to research into how to help pupils with ID acquire the necessary social skills they will need to be effectively integrated into social context in which they are likely to find themselves in the nearest future and at the same time the bases for accessing educational opportunities.

Researchers have advocated the use of research based instructional strategies in teaching pupils with ID to acquire a wide range of skills, for instance, modeling and shaping, Audio Taped and individualized instructional strategies and Mnemonics and Direct instructional strategies but none of them had investigated into acquisition of social skills among pupils with ID. Most of these studies centered on improving the academic skills and intellectual functioning of pupils with ID, little had been done in the area of improvement of their functional skills, and more importantly the acquisition of social skills among pupils with ID which should be the main focus of their curriculum. Meanwhile, pupils with ID can attain levels of independence in life where they will not need the assistance of any care giver or family member to be self-reliant if they are taught with research based strategies. Sower and Smith (2002) maintained that school-based learning programs have been of tremendous assistance in helping PwID learn from friends and peers, since they are mostly restricted from participating in some community-based activities. One of such programs is graphic organizers. In order to make life more meaningful to pupils with ID, this study focused on teaching PwID self-awareness, identifying physical needs, identifying psychological needs, maintaining good interpersonal skills and socially responsible behavior.

Graphic organizers are visual communication tools that employ visual symbols to express ideas and concepts to convey meaning. Graphic organizers are visual representation of concepts, knowledge or information that incorporates both text and pictures (Learner and Kline 2006). Gajria, Jitenda, Sood and Sacks, (2007) averred that Graphic organizers make materials that are difficult to understand, more accessible to pupils with ID. Research has shown that comprehension skills of pupils with ID can be significantly improved with the use of graphic organizers (Bulgren, Deshler, & Lenz, 2007). Graphic organizers are used across the curriculum; they can be used to teach cause and effect, note taking, comparing and contrasting concepts and organizational skills .Graphic organizers allow both the teacher and pupils to keep an overview of what the topic of discussion is at all times. They are therefore useful in teaching acquisition of social skills and its development to pupils with ID.

Statement of the Problem
Pupils with ID are faced with different challenges and one of such challenges is lack of adequate social skills that make forging ahead in life possible for them. Acquisition of appropriate social skills that help them to function effectively in social context and in the society at large is a serious problem for PwID. It is essential to balance the teaching of academic skills and functional skills to PwID.

Acquisition of social skills is one major functional skill that this study addressed. It has been discovered that PwID are incompetent as a result of lack of social skills which hinders their participation in some school and home-based activities. They often display social ineptitude. They find it extremely difficult to participate in leisure and recreation activities due to lack of adequate social skills. Lack of social skills is a barrier to acquisition of academic skills and harnessing vocational opportunities, hence the need to balance the two. In order to address this challenge, some strategies and techniques have been employed by various researchers, but few have examined the effect of graphic organizers to foster the acquisition of social skills among PwID. This study therefore addressed the problem of acquisition of social skills among PwID using graphic organizers strategy and socio-economic status.

Purpose of the Study
The main purpose of this study was to examine the effect of graphic organizers and socio-economic status of parents on the acquisition of social skills among PwID, and in specific terms to:
1. Determine the effectiveness of the strategy (graphic organizers and the control) in enhancing the acquisition of social skills among PwID.
2. Examine the influence of Socio-economic status of parents on acquisition of social skills among the participants.

Hypotheses
The following hypotheses were tested at .05 level of significance.
1) There is no significant main effect of treatment groups (Graphic organizers strategy, and Control) on social skills acquisition of participants.
2) There is no significant main and interaction effect of treatment groups (Graphic organizers strategy, and Control) and Socio Economic Status on social skills acquisition of participants.

METHOD

Research Design
This study adopted a pretest, posttest, control quasi experimental design with 2x2x2 factorial matrix. This was achieved through the use of graphic organizers and control in enhancing the acquisition of social skills of pupils with ID.

Participants
The participants for this study comprised all PwID in selected public special schools in Ibadan who were identified as having problem with acquisition of appropriate social skills. Twenty five primary four and five PwID that have not acquired appropriate social skills were purposively selected participants for this study using Pupils Social Development Checklist to determine social skills acquisition of the participants. The schools include Hisb Lai Algalib (H.L.A) Ibadan, Omoyeni Schools for the handicapped Orita-Aperin, Ibadan and Oluyole Cheshire Home Ibadan. Purposive sampling technique was used to determine the study sample.

Instruments
The following instruments were used for this study;
1) Slosson Intelligent Test (SIT) by (Slosson 2006) Revised version-.90. It was published by Richard Slosson in 1963, revised severally later, while the interpretation manual was first

published in the year 1990 and revised in the year 1998, 2002 and 2006 respectively. Slosson's Intelligence Test requires a period of 20-25 minutes to administer and score. The researcher received training on the usage of the instrument. The pupils were screened with this instrument to ascertain their degree of intellectual disability (mild, moderate, severe or profound). It also helped to screen out pupils with multiple disabilities as they were not the target population for the study. It is a screening instrument for children and adults as a measure of ability and test of general intelligence. The instrument was adapted by the researcher. The reliability coefficient was calculated differently for each age level and ranged from .90 to .98 and it was concluded to be correlated with its criterion. The validity and reliability were tested and established before its usage in this study to identify the target audience. The face and content validity was also determined. SIT was used to screen pupils in the three selected schools, it is very important to do this so as to identify the degree of intellectual disability of each pupil in the selected classes.

2) Pupils Social Development Checklist .80. This is an adapted version of Young Children's Social Development Checklist developed by McClellan and Katz (1993). It helps to determine the acquisition and the rate at which a child's social skills are developing. It was adapted by the researcher to identify pupils with inappropriate social skills development. The check list has four sections which were completed by the pupils with the help of the teachers who served as the research assistance. They include (a) individual attribute, (b) the social skills attribute, (c) peer relationship attribute and (d) adult relationship attribute. The scale was used to determine the previous knowledge (pre-test) and the (post-test) scores of the participants. Anyone that scores above average in the checklist has acquired appropriate social skills. Those with below average scores have not acquired appropriate social skills and they formed the target for this study. The instrument was validated using Cronbach alpha method r=.80. The reliability index was determined by revalidating the instrument by the researcher in order to get the psychometric properties.

Analysis of Data
In the analysis of data, the descriptive and inferential statistics were used to analyze the collected data. Mean and Standard deviation were the descriptive statistics used while the inferential statistics of analysis of Covariance (ANCOVA) was used to test the stated null hypothesis at .05 levels. It was also used to test the significant difference between the means and to take care of the interaction effect between the treatment and the control. It also reduces the effects of extraneous variations in the pre and posttest measures. Estimated marginal means of participants was also computed.

RESULTS

Hypothesis one: There is no significant main effect of treatment groups (Graphic organizers strategy, and Control) on social skills acquisition of participants.

Table 1. Summary of Analysis of Covariance (ANCOVA) of post-test showing the interaction effect of treatment (graphic organizer, and control) on Participants acquisition of social skills by treatment.

Source	Sum of Squares	Df	Mean Square	F	Sig.	Eta. Sq
Corrected Model	234.036	2	117.018	7.776	.003	.403
Intercept	398.122	1	398.122	26.456	.000	.535
Pretest Achievement	0.036	1	0.036	0.002	.961	.000
Treatment	183.596	1	183.596	12.200	.002	.347
Error	346.118	23	15.049			
Corrected Total	580.154	25				

R Squared= .403 (Adjusted R Squared = .352)

The results from the Table 1 shows that there is a significant main effect of treatment (graphic organizer and control) on acquisition of social skills of participants (F=12.200, p<.05, η^2=.347). Therefore the hypothesis is rejected; this implies that treatment had a significant effect on social skills acquisition of participants in the study. The Table 1 also shows the contributing effect size of 34.7%.

Table 2. Estimated marginal mean scores from the analysis of treatment (graphic organizer and control) on acquisition of social skills of participants

Treatment Groups	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Graphic organizers	33.366	1.143	31.000	35.731
Control	27.404	1.143	25.038	29.769

Table 2 shows the estimated marginal means of Treatment (graphic organizer and control) on acquisition of social skills of participants. It was revealed that after controlling for the effect of acquisition of social skills, participants in the control group had the least mean score (Mean $_{Control}$=27.40), followed by those in the graphic organizers strategy group (Mean $_{Graphic\ organizers}$=33.37). This implies that the graphic organizer strategy group was more potent in acquisition of social skills relating to the study.

Hypothesis two: There is no significant main and interaction effect of treatment groups (graphic organizers strategy, and control) and socio economic status on social skills acquisition of participants.

Table 3. Summary of Analysis of Covariance (ANCOVA) showing the interaction effect of treatment (graphic organizer, and control), and socio-economic status on acquisition of social skills of participants

Source	Sum of Squares	Df	Mean Square	F	Sig.	Eta. Sq
Corrected Model	254.687	4	63.672	4.108	.013	.439
Intercept	316.044	1	316.044	20.392	.000	.493
Pretest Achievement	0.799	1	0.799	0.052	.823	.002
Treatment	152.712	1	152.712	9.853	.005	.319
Socio-Economic Status	1.391	1	1.391	0.090	.767	.004
2-way interactions						
Treatment x SES	18.012	1	18.012	1.162	.293	.052
Error	325.467	21	15.498			
Corrected Total	580.154	25				

R Squared= .439 (Adjusted R Squared = .332)

The results from the table above shows that there is no significant interaction effect of treatment (graphic organizer and control) and socio-economic status on acquisition of social skills of participants (F=1.162, p>.05, η^2=.052). Therefore the hypothesis is accepted; this implies that treatment and socio-economic status had no significant effect on acquisition of social skills of participants in the study. The Table 3 also shows the contributing effect size of 5.2%.

Table 4. Estimated marginal means of treatment and socio-economic status on acquisition of social skills of participants

Treatment	SES	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Graphic organizer strategy	Low	32.440	2.321	27.613	37.266
	High	33.789	1.305	31.075	36.503
Control	Low	28.214	1.401	25.302	31.127
	High	25.815	1.939	21.782	29.849

Table 4 shows the estimated marginal means of treatment and socio-economic status on the acquisition of social skills among the participants.

DISCUSSION, CONCLUSION, and RECOMMENDATIONS

Based on the result of the analysis, the findings were discussed as follows: This study determined the effects of graphic organizers strategy on acquisition of social skills among PwID. The influence of socio-economic status was also determined. The hypothesis was tested using Analysis of Covariance (ANCOVA) and Estimated Marginal Means. The result of the main effect of treatment on participants'' acquisition of social skills revealed that there is a significant main effect of treatment on participants' acquisition of social skills. In view of this, the null hypothesis is not accepted. It can be inferred that there is a significant main effect of treatment on the acquisition of social skills of the participants, meaning that the experimental group (Graphic Organizers) benefited more on the acquisition of social skills than the control group. The result indicated that there was a statistically proven significant difference between the achievement scores in acquisition of social skills of the experimental group and the control group. This means that social skills of pupils with intellectual disability were enhanced when taught with the aid of graphic organizers. However, this study negates the findings of some researchers who had a negative perspective of graphic organizers, for instance, Okoruwa (2007) averred that this strategy is dull and boring and therefore provides little or no feedback to learners. It is possible anyway that his finding was carried out on another set of participants without cognitive impairment. It could also be as a result of inappropriate usage of graphic organizers by teachers as teachers need the technical knowhow, the understanding and adequate knowledge of the development and right usage of graphic organizers. It is therefore necessary to note and admit that training pupils with inappropriate social skills and also with condition of incomplete mental development cannot be done conventionally by mere writing on the chalk or writing board, rather, they must learn by being involved in learning process and seeing through pictures which makes concepts that are difficult to comprehend more accessible to general group of learners with disabilities.

Consequently, the experimental group performed significantly better compared to the control group on acquisition of social skills. This result agrees with the findings of Kilickaya (2019) who reiterated that from the review made from some studies, it was discovered that if learners are allowed to integrate graphic organizers into their leaning, it enhances learning. Graphic organizers in enhancing the acquisition of social skills of PwID. These findings also corroborate the assertion of Amaal Ahmed (2017) which maintained that graphic organizers have multiple benefits, some of which is the fact that it helps learners grasp information by seeing the relationships between ideas and concepts presented by authors, and that it helps in memory recall. These findings is also in consistence with the findings of Abdul-Majeed (2016) which posited that the visual representation of graphic organizers provide learners with a structural framework and the actual information they are to learn, he also maintained that the use of graphic organizers brings about students' motivation when it comes to writing.

Conclusion
The study was carried out to experimentally determine the effect of graphic organizers strategy on acquisition of social skills among PwID. Findings have shown that this strategy is effective on PwID. It was discovered that graphic organizers was more effective considering its effect and the impact on these group of learners, while the conventional method used on the control group was least effective.

Teachers are therefore advised to regularly employ the use of this strategy on PwID who lack appropriate social skills. The findings of this study should be an integral part of decision in an attempt to enhance the social skills of PwID.

Recommendations
Based on the finding of the study, the following recommendations are made:

(1) Adequate social skills acquisition is necessary requirement for successful learning outcome at home, in the school environment and in the community at large. It is therefore necessary to seek the assistance of experts in the special education field who can effectively teach PwID via graphic organizers strategy.

(2) Graphic organizers strategy should be adopted as mode of teaching PwID in enhancing their social skills both in the general classroom setting and special education centers.

Limitation of the Study
This study investigated the effect of graphic organizers and social economic status on acquisition of social skills among pupils with intellectual disability. However, only pupils with mild, moderate and severe intellectual disability in three special schools were the participants for this study. This simply means there are pupils with similar challenges in various other schools which cannot make the result to be generalized.

The findings of this study showed that limited studies have been carried out with graphic organizers and social economic status to enhance the social skills of pupils with intellectual disability. There are various other proven strategies that could still be used to improve the acquisition of social skills of pupils with intellectual disability.

Further, there are other behaviour modification aspects of pupils with intellectual disability that research can still be subsequently extended to. The study is also limited in time, ten weeks was used on field for this study. Peradventure the results might have been better if more time is devoted or allotted to the study.

Suggestions for Researchers and Practitioners
This study has provided insight for further studies in the aspect of acquisition of social skills among pupils with intellectual disability. It is suggested therefore, that various other treatment packages can be explored to improve on social skills of pupils with intellectual disability. So also, graphic organizers can be used to improve on other aspects of behaviour modification of pupils with intellectual disability for instance, attitude to social skill development, social competence, self- help skills, and social inclusion and many more.

A study of this nature should possibly cover a wider scope than the researcher attempted, it is therefore suggested that a replica of this study should be carried out shortly to determine the authenticity of the results and the impact of this study on the participants and to also check how far and how productive the impact is, on the participants. Further research should also be carried out with other intervening variables like gender and demographic factors.

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