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Abstract

Children with intellectual disabilities have difficulties in language acquisition and learning in general and therefore demands specialized and effective instructional strategies. For this reason, the purpose of this study was to examine effectiveness of integrating drawing, as a specialized instruction, in teaching English Language to children with intellectual disabilities. Quasi-experiment was employed with which pre-test and post-test of both control and experimental groups were analyzed. The results saw the experimental group performing better in the post-test results as compared to the control group, proving that integrating drawing in teaching English Language is an effective instructional strategy. Therefore, the researchers recommend that teachers and other educational implementers working with children with intellectual disabilities should consider integrating drawing in teaching and learning of English Language.

Introduction

It is impossible to overstate the importance of English in Ghana. The English language is not only Ghana's official language, but it is also a medium of instruction in schools, colleges, and institutions. It is studied as a compulsory topic from kindergarten to university because of its incalculable importance (Owu-Ewie & Eshun, 2015). A failure in English as a subject in the Basic Education Certificate Examination (BECE) implies that the student is not eligible to continue to senior high school (Owu-Ewie, 2006; Torto, 2017), and a failure in English in the West African Secondary School Certificate Examination (WASSCE) means that a student's possibilities of continuing to higher institutions are very minimal. It implies that "achievement in education at all levels is highly dependent on an individual's command of the English language" (MOE, 2012 pg ii). In this way, English language teaching and learning is critical in all phases of Ghanaian education.

Nonetheless, linguistics specialists have questioned the teaching and learning of English in Ghana, claiming that students keep performing poorly in English language tests (Owu-Ewie & Eshun, 2015). Numerous research carried out in Ghana confirmed that the existing teaching methods employed in schools today are to blame for pupils' failure to master the English language (Kraft, 2003). Ghanaian teaching methods were characterized by Bezanson and Hawkes (1972, as reported in Yeboah (2014) as traditional, whole-class, teacher-dominated.

Children's VARK (Visual, Aural, Read-Write, and Kinesthetic) learning styles (Flemming, 2006) and Gardner's multiple intelligences (Gardner, 2006) are not taken into account when teaching English Language in Ghanaian schools, which exacerbates the problem.

Apart from the normal difficulties that schoolchildren in Ghana confront in learning English, the situation for children with special needs, particularly those with intellectual impairments (ID), is far worse (Slikker, 2009; Kuyini, 2015). This is due to the fact that language acquisition and development are extremely difficult for children with intellectual disability. It is a crucial symptom of their mental anguish, and educating them to learn a second language becomes difficult (Klin et al., 2007). Such learners require not only extra patience and perseverance, but also unique teaching tactics in a well-structured atmosphere that facilitates and develops their learning capacity in order to make a positive difference in their lives. Educating these children can sometimes be more difficult than imagined, and teachers may believe that teaching children with intellectual disabilities is a thankless task with little reward. However, it is critical to note that special needs students do not require special education because they are unable to learn; rather, they require differentiated instruction that is suited to their unique learning skills (Anthony et al, 2006). Art integration is an instructional method that is praised for its positive effects on children's learning and development because it allows for active engagement and participation. As a result, in advanced countries, it has a central position in children's education (Eisner, 2002). However, in Ghana, there is limited study on the practice and implementation of art integration in schools, particularly in special schools, where it is extremely beneficial to children with disabilities (Mason, Thormann, & Steedly, 2004).

The purpose of the study is to examine the effectiveness of integrating drawing in teaching English Language in a quasi-experimental study at Yumba Special School for children with intellectual disabilities, which is a suburb of Tamale in the northern region of Ghana.

The Concept of Art Integration

According to Rabkin (2004), the integration of the arts is "the arts for the sake of learning" (p.8). He continues: At best, the integration of the arts makes the arts an interdisciplinary partner with other subjects. Students receive rigorous instruction in the arts and an integrated and reflective curriculum that establishes deep structural connections between the arts and other subjects. It allows students to learn deeply. The practice of making art, and its performance or exhibition, becomes an essential part of pedagogy and evaluation, but not only in art or music class. These activities become part of the routine of studying history, science, reading and writing, and mathematics (pp. 8-9).

Similarly, the definition of the Kennedy Center (Silverstein and Layne, 2010, p. 2) states that the integration of the arts is a "teaching approach", which implies that teachers use it on a daily basis. It also refers to the commitment in the creative process as a fundamental criterion and broadens the idea of the connections between the art form and the curriculum to include the concept that strong connections reinforce each other. The definition states:

“Arts integration is an approach to teaching in which students construct and demonstrate understanding through an art form. Students engage in the creative process to explore mutually-reinforcing connections between an art form and another curriculum area to meet evolving objectives in both” (Silverstein & Layne, 2010, p.1).

In other words, various forms of art are used to promote learning in the core content areas, while promoting learning and appreciation of the arts by students, both in the performing arts and the fine arts. The Kennedy Center provides a checklist that educators can use to determine if their program is a comprehensive artistic integration program or a different type of arts education program (Silverstein & Layne, 2010).

The Chicago Arts Partnership in Education (CAPE, 2008) described art integration as a kind of teaching and learning in which the learning of the arts and other academic disciplines are connected in such a way that the learning of the arts and other academic disciplines are deepened. An arts integration approach promotes individual and collaborative student work. According to CAPE, "students are encouraged to reflect on the learning process by reviewing and documenting their findings along the way. This important step allows time for self-assessment and introspection." Students share their learning with others through demonstrations and criticism. Maxine Greene (1995, p. 104, as cited in Thayer-Bacon and Barbara, 2010, p. 4) suggested in *Releasing the Imagination*, “To conceive the arts in relation to curriculum is to think of a deepening and expanding mode of tuning-in.” Evidence of this type of “tuning-in” is provided through the utilization of a variety of creative methods for developing expression, cognitive skills, problem solving, critical thinking, collaboration, and empowerment.

Significance of Art Integration

Arts integration creates dimension in learning goals and adds extra interest to the learning activity by creating concern for more than one concept (McDonald & Fisher, 2006). When students find an activity interesting, they will be more engaged; when students are engaged, they are more likely to retain what is taught. Connections within the curriculum also increase the relevance to students. When a student is able to connect a concept from one subject area to another, they begin to recognize that all subjects are small parts of a bigger picture. Connecting subject areas creates a context for the concepts that are being presented and students are able to build on their prior knowledge (McDonald & Fischer, 2006). The ability to activate students’ prior knowledge is among the most important tools for a teacher to utilize during instruction. As Albers (1996) stated, “...arts inform our construction of meaning.” In other words, the arts create a forum for building connections between subject areas and students’ prior knowledge.

Oddleifson (1997) has it that the arts provide necessary "tools" for thinking which are unavailable elsewhere. Coupled with this, in understanding that a quality education requires bringing heart and hand into balance with head, we quickly conclude that high educational standards simply cannot be met by most children without the arts. Grimshaw (1996) strongly believes that one of the first creative things a child does is pick up a crayon or pen and scribble. In this way the child expresses himself or herself. Dewey, (as cited in Eisner 2004) says that art has been the means of keeping alive the sense of purposes that outrun evidence and of meanings that

transcend indurate habit because to him imagination as a chief instrument in art can be explored to help us restore purpose to our efforts and help to create the kind of schools children deserve. Fowler (1996) argues that there is the need to provide the fuel that will ignite the mind, spark the aspirations, and illuminate the total being.

The arts can often serve as that fuel in the sense that they are the ways through which we apply our imagination, thought, and feeling through a range of "languages" to illuminate life in all its mystery, misery, delight, pity, and wonder. However, Goodlad (as cited in Cornett 2003) believes that the arts are not an educational opinion; they are basic. Stephens and Walkup (2001) allude to the fact that educational approaches maintain art as central to the curriculum, and a bridge that unites content areas in logical and meaningful ways. Again, Stephens and Walkup say that in the USA the National Content Standard for other subjects, such as language arts, mathematics, performing arts, science and social studies correlated with the arts. For instance, in language arts, writing in the visual arts classroom entails the correct use of parts of speech, proper capitalization and accurate punctuation. Again, social studies and art concepts are made more meaningful when there is evidence from a primary source or any un-interpreted source of information such as letters, diaries, first person accounts and visual images such as photographs and artworks.

Teaching Students with Intellectual Disabilities

There is a significant need for effective intervention strategies to address academic problems in school-aged children (Shapiro, 2010). Educators agree upon the importance of teaching academic skills through effective strategies. The question is what the most effective instructional strategies and methods to teach academics skills and knowledge to students are, and, more particularly, what methods have proven their effectiveness when used with students with intellectual disabilities, which is the main focus in this research. Allor, Mathes, Champlin, and Cheatham (2009) believe that instructional strategies or interventions that worked effectively with students who have high IQs will show effectiveness with students with low IQs. As it stated, "the curriculum and techniques that are effective for students with much higher IQs are also effective for students like Jacob, Carl, and Rachel [their IQs 44, 55, and 63]" (p. 364).

However, not all instructional strategies or interventions that worked with students without disabilities can have the same effectiveness with students with intellectual disabilities because of the special characteristics of students with intellectual disabilities. In general, people with intellectual disabilities are less efficient at learning compared to other people without disabilities. This limitation in learning efficiency is consistent with overall IQ level for students with intellectual disabilities (Council of Exceptional Children [CEC], 2011).

Methodology

The research methodology adopted by the researchers for the study was Quasi-Experimental design under action research (Given, 2008).

Participants

The participants of this study were 43 male and female pupils of primary 6A and 6B ranging from 11 to 15 years. Primary 6A which was the control group had 21 pupils with 13boys and 8girls and Primary 6B which was the control group were made up of 22 pupils with 12boys and 10girls. Researchers used eight weeks to execute the drawing integration at Yumba Special School for children with intellectual disabilities.

Quasi-Experimental Design

The researcher adopted quasi-experimental design in executing the field work. This is due to the fact that quasi-experiment is suitable for field trials (Kumar, 2011). Tichapondwa (2013) avers that quasi-experiment is necessary due to the seemingly impossible or non-practical nature of the importance of random approach in the selection of group members in a multiple group study or in the presentation of various treatments in a single group discussion in experimental studies. The essential characteristic of experimental research (Kumar, 20011; Creswell, 2012; Given, 2008) is that the researcher consciously controls and manipulates the conditions that determine the events in which they are interested by introducing an intervention and measuring the difference that the intervention made. The researcher used art in a situation of controlled teaching, where the teaching of English Language was done by drawing in one of the two classes and the second class without drawing. In the end, both classes of Primary 6 were assessed to ascertain the impact of the use of drawing in the classroom.

Data Collection Instrument

Given (2008:P.185) says that the term “data refers to a collection of information.” In this article, achievement tests were the instrument adopted by the researchers.

Achievement Tests

Achievement tests are the assessment tools that are used for determination of the pupils' gains relating to the cognitive domain within the quantitative researches of education (Sönmez & Alacapınar, 2013). Oral examinations, true-false tests, multiple-choice tests, matching tests, fill-in-the-blank exams, scales, short answer tests, written examinations, open ended questions, two phase testing are all forms of achievement tests used in order to assess and evaluate the achievement of the student at all the stages and in all the fields of education (Kempa, 1986; Ogan Bekiroğlu, 2004; Yılmaz, 2004; Şimşek, 2009, as cited in Celikler & Kara, 2015). All these test methods have superior or weak aspects involved compared to each other.

Oral examination and multiple choice tests were the form of achievement tests the researcher adopted in both the pre-test and post-test for the experimental and control groups. The researcher chose these testing methods because the pupils are intellectually disabled and for that matter could not read and write on their own. The test was in the form of multiple choices and was orally administered to the pupils. Again, the pupils also answered questions which were oral in nature.

Data Collection Procedure

The researcher used the achievement tests (pre-test and post-test) to examine how effective drawing can be used to teach English Language. The researcher conducted a pre-test for both control group and experimental group in order to find out their performances as baseline before the intervention by using drawing to teach English language. After the intervention, the researcher conducted a post-test for both groups to compare the pupils' performances so as to underscore the effectiveness or otherwise of the intervention. In effect, the achievement tests were used to answer the third research question, "How effective could drawing be in the teaching and learning of English language?"

Data Analysis Plan

The researcher used SPSS and Microsoft Office Excel to compare and analyze the results obtained from the performance test. The researcher used SPSS to generate percentages from the results, and found a correlation between the variables examined to indicate the strength and weakness of the intervention. Microsoft Office Excel allowed the researcher to show tables and charts with the percentages of the results. Using comparative analysis, the field notes were taken from the classroom, observing how teaching and learning were conducted, transcribed in reports and compared to the details of the documented original literature. The results of the performance test for both groups as well as their general behavior were also interpreted by making a detailed comparison.

Findings and Discussion

Achievement Tests Results for both Experimental Group and Control Group

In this section, the researcher presents the results of the achievement test for both experimental group and control group. The results have been enumerated and elaborated in a comparative manner to determine whether the drawing intervention had indeed yielded positive impact. Table 1 and 2 show the results of the pre-test conducted to assess the baseline performance of pupils in the control and experimental groups as far as English language is concerned. As the name "Pre-test" implies, it was conducted before the drawing intervention was undertaken.

Table 1. Results of Pre-test of Control Group

Marks	Number of Pupils	Percentage (%)
0 – 20	5	24
21 – 40	8	38
41 – 60	7	33
61 – 80	1	5
81 – 100	0	0
Total	5	24

Table 2. Pre-test Results of Experimental Group

Marks	Number of Pupils	Percentage (%)
0 – 20	3	14
21 – 40	7	32
41 – 60	10	45
61 – 80	2	9
81 – 100	0	0
Total	22	100

Comparison of Pre-test of Control Group and Experimental Group

As can be seen from Figure 1, both groups almost score same marks because the bar seem to be of same height and both groups do not record any percentage mark in the mark range 81-100. However, the control group records little high marks in the range 0-20 and 21-40, whereas in marks range 41-60 and 61-80, it recorded relatively low marks as compared to the experimental group. Both the control and experimental groups have 33% and 35% in the mark range 41-60 respectively. Again, the experimental group recorded 4% higher marks in the marks range 61-80 as compared to the control group. In the nutshell, both groups do not perform better in the pre-test since their average performance is below 50% which is a pass mark in Ghanaian schools.

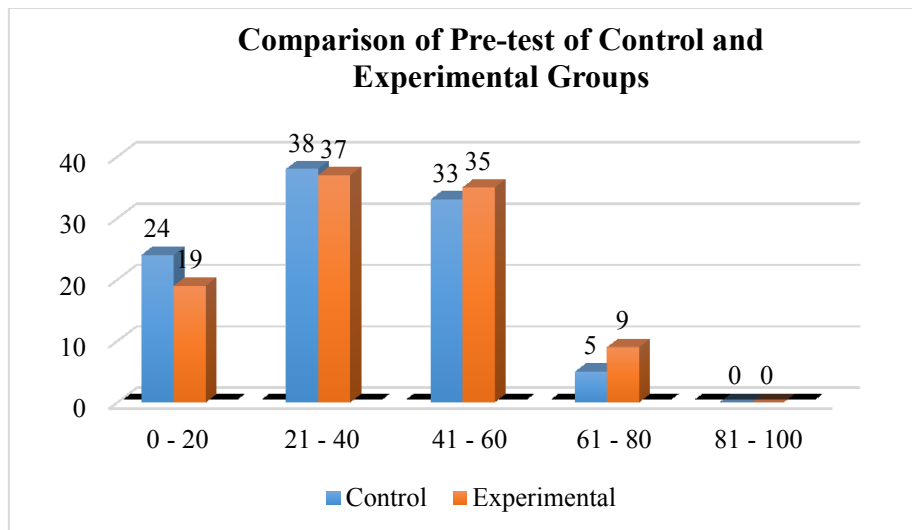


Figure 1. Comparison of Pre-test of Control and Experimental Groups

Comparison of Post-test of Control and Experimental Groups

In the comparison of the results of the post test of both control and experimental groups as presented in Figure 2, it is clear that more than 70% of the pupils in the control group fall in the lower marks range of 0-20 and 21-40. The control group leads in the lower marks range but when it comes to the higher marks ranges from 41-60, 61-80 and 81-100, the experimental group recorded higher marks than that of the control group. In the mark range 81-100, there is a 23% record of marks for the experimental group, although, none of the groups recorded any mark in that category in the pre-test. This indicates that, the intervention is effective because the

experimental group appreciated tremendously in terms of scoring higher marks. Even though the experimental group was already leading the control group in higher marks in the pre-test, the margin of increase of higher marks is overwhelmingly higher in the post-test results illustrated.

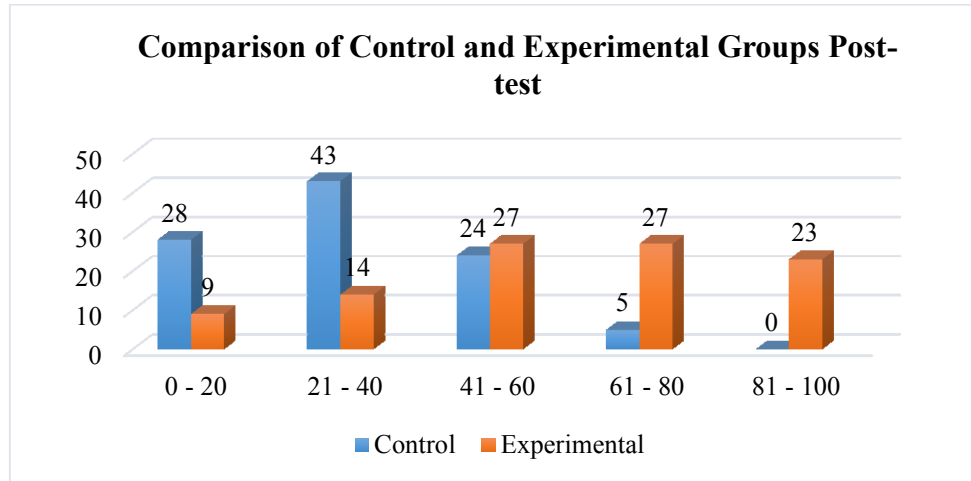


Figure 2. Comparison of Post-test of Control and Experimental Groups

Comparison of Pre-test and Post-Test of Control Group

In Figure 3 where the pre-test results and post-test results of the control group is compared, it is clear that the group did not record any improvement, although there is a marginal increase in the mark ranges 0-20 and 21-40 which are both lower marks. However, in the higher mark range 41-60, instead of the group appreciating, it rather decline in the post-test results. Again, instead of the group getting higher marks in the post-test results in the mark range 61-80, it recorded same marks with the earlier pre-test. None of the pupils in the control group scored any mark in the mark range 81-100, indicating that there is no any improvement in terms of performance as far as the control group is concerned.

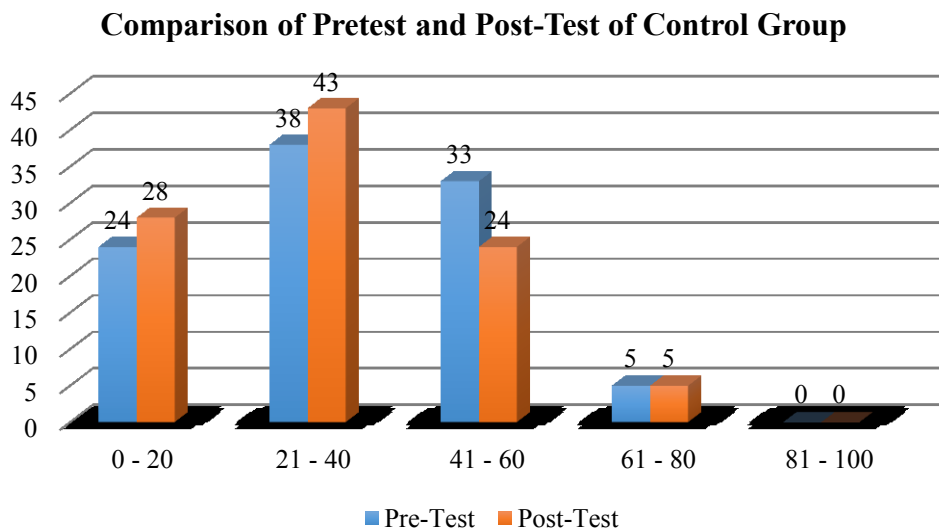


Figure 3. Comparison of Pre-test and Post-Test of Control Group

Comparison of Pre-test and Post-Test of Experimental Group

In Figure 4, the comparison shows that the pre-test results of the control group are higher in the lower mark ranges at 0-20, 21-40 and 41-60. That should not be misunderstood to mean the pre-test results is, in general, better because in the higher mark ranges at 61-80 and 81-100, there is a tremendous increase in marks in the post-test results as compared to the pre-test. As a matter of fact, the score of pre-test at mark range 81-100 is 0, meaning that nobody scored any mark in the pre-test but in the post-test, there is a record of pupils scoring marks as can be seen in the Figure 4. The pupils who score in mark range 81-100 are 23%. This means that there is a significant improvement of performance in the post-test, pointing to a conclusion that the drawing intervention was really effective in the experimental group.

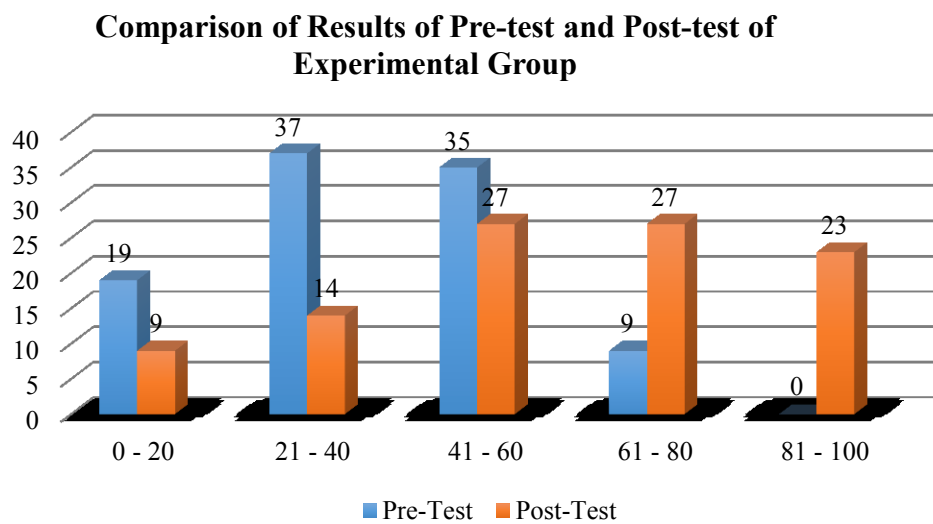


Figure 4. Comparison of Pre-test and Post-Test of Experimental Group

Relationship between the Pre-Test and Post-test of the Control Group and Experimental Group Using Descriptive Statistics

Table 3 presents the mean, standard deviation, minimum and maximum marks for the pre-test and post-test of the control and experimental groups. It is crucial to calculate all these values in descriptive statistics in order to ascertain the real impact of the intervention. The mean values indicate the average performance of each group in each test. Standard deviation is the spread of data sets from the mean. When the standard deviation is low, it means that more pupils had marks close to the mean and when SD is high, it means that pupils' marks are not concentrated or close to mean but widely spread. In these data, it is clear that the standard deviation in each case is low, meaning pupils marks are always close to each other. In the case of failure, they all fail and in the case of pass, they all pass together. The minimum and maximum marks give the lowest and highest values in a data set respectfully (Arhin, 2012).

Table 3. Pre-Test and Post-test of the Control Group and Experimental Group Using Descriptive Statistics

	Pre-Test Control Group	Post-Test Control Group	Pre-Test Experimental Group	Post-Test Experimental Group
Mean	34	30	40	58
Standard Deviation	10.28105	9.31128	12.02497	13.70620
Minimum	10	10	10	10
Maximum	70	70	70	90

From the table, it can be seen that the mean marks of the pre-test of the experimental group which was 40% has been increased to 58% in the post-test while the post-test of the control group rather decrease from 34% in the pre-test to 30% in the post-test. This proves that drawing integration in teaching English Language is highly effective as indicated by (Eisner, 2002). Using Simple Analysis of Change Scores (SACS), the overall effectiveness of the drawing integration is calculated to be 22%. This implies that drawing can help increase English Language acquisition of children with intellectual disabilities by 22%. This percentage is minimal as compared to that of (Arhin, 2012) and (Anang, 2011) who did similar research in regular schools. However, the low performance can be justified in the sense that these children have limitations in intellectual functioning and for that reason they sometimes forget easily what they have been taught.

Another reason that might account for this low performance is that children were not attending school regularly due to parents taking them for treatment or spiritual deliverance. Distance and inability of the school driver to reach such distant places to pick children to school because of insufficient fuel which make children unwillingly truant also accounted for this low performance. Again, some were usually sent on errands during the drawing integration lessons. All these might culminate into the overall effectiveness of the drawing integration.

Conclusion

The analysis of the achievement tests, pre-test and post-test of both the control group and experimental group, has proven that integrating drawing in teaching English language is highly effective in the sense that it improves pupils understanding of language skills. The experimental group had high scores than the control group in the post test even though it had recorded higher marks in the pre-test, the margin of high performance between it and the control group has increased tremendously in the post test. This indicates that the drawing intervention has a great impact in children with disabilities' English Language learning. As indicated earlier, the overall effectiveness of the drawing integration is calculated to be 22%. This implies that drawing can help increase English Language acquisition of children with intellectual disabilities by 22% as compared to standard methodologies used in Ghanaian schools. This percentage is minimal as compared to (Arhin, 2012; Anang, 2011) who did similar research in regular schools, though in different subject areas. However, the low performance can be justified in the sense that these children have limitations in intellectual functioning and for that reason they sometimes forget easily what they have been taught. That notwithstanding, the research proved that teaching and learning of English language is highly effective through drawing intervention. Even though the

research was conducted in only one special school for children with intellectual disability where 43 pupils were involved, it can be generalized to the whole population of children with intellectual disability because the researcher spent much time, eight weeks, with the pupils where many topics were taught within the period. Pupils could communicate freely in class especially during the presentation stages of their drawings.

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