

A Comparative Study on the Academic Achievement of Non-Disabled Learners in Inclusive and Non-Inclusive Classrooms at a Rural Primary School in Zimbabwe

Elliott Nkoma¹

¹ Great Zimbabwe University, P.O Box 1235, Masvingo, Zimbabwe

Correspondence: Elliott Nkoma, Great Zimbabwe University, P.O Box 1235, Masvingo, Zimbabwe.

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Abstract

The study sought to compare the academic achievement of non-disabled learners in inclusive classrooms and non-inclusive classrooms in mathematics at a rural primary school in Zimbabwe. A quasi-experimental research based on a factorial design was utilised. Three grade 4 classrooms with each class having 2 learners with moderate intellectual disabilities comprised the experimental group (inclusive classroom). The remaining three classrooms with learners without disabilities formed the control group (non-inclusive classrooms). A partially adapted Wide Range Achievement test—Revised Level 1 was used to determine the academic achievement in mathematics at the beginning and end of the school calendar. The pre-test resulted in a sample size of 168 participants (84 in the experimental group; 84 in the control group) equally distributed by level of achievement (28 low; 28 average; 28 high) for each group and matched by gender achievement (42 in inclusive and 42 in non-inclusive classrooms, with each variable having 21 boys and 21 girls). The post-test results indicated a non-significant main effect for class type, indicating that non-inclusive classes ($M = 27$) had higher mean scores than inclusive classes ($M = 25$), $F(1, 164) = 1.54, p > 0.05$. The main effect for gender was also non-significant. Males had higher scores ($M = 27$) than their female counterparts ($M = 25$), $F(1, 164) = 1.54, p > 0.05$. The two factor analysis of variance, also, showed a non-significant main effect for class type, $F(1, 162) = 2.32, p > 0.05$; a significant main effect for achievement level (low, average and high achieving learners), $F(2, 162) = 12.36, p < 0.05$. The effect size ($f = 0.39$) was large. The degree of association between performance and their low, average and high achievement levels (estimated $\omega^2 = 0.17$) was small. A non-significant interaction between class type and achievement, $F(2, 162) = 2.07, p > 0.05$ was found.

Keywords: achievement, inclusive education, mathematics, WRAT-RL1

1. Introduction

Inclusive education involves the placement of learners with special educational needs in general education classrooms with their typically developing peers (Rhoad-Drogalis & Justice, 2020 cited in Kart & Kart, 2021) wherein learning is of a high standard for all, with supports provided to learners and teachers to enable them to be successful (Dudley-Marling, & Burns, 2014). This means that schools need to recognise and respond to the diverse needs of learners and ensure quality education for all through the provision appropriate curricula and teaching strategies and resource use so that barriers to achievement for all are minimised.

Such a thrust focuses on the right for all students to be educated in regular school. However, advocates of segregation often mention that including learners with special education needs in mainstream classes might have a negative impact on their non-disabled peers (Ruijs, 2017). Studies on the positive effects of inclusive schooling for learners with special education needs in educational achievement, social and emotional development are well documented but there is less research for those without disabilities in inclusive settings (Francisco, Hartman &

Wang, 2020).

To be consistent with the definition of inclusion, which stresses quality education for all, there is need to extend research evidence on the impact of inclusive education for those learners without disabilities.

2. Literature Review

Some qualitative studies have examined the development of students' attitudes, empathy and understanding of others. For example, Grütter et al. (2017) analysed the role of friendship between students with and without SEN and found that opportunities to forge close friendships between students with and without SEN enhance the positive attitudes of students without SEN toward students with SEN. Similarly, Roldán, Marauri, Aubert and Flecha (2021) found that students without SEN benefit from participating in interactive learning activities with peers with SEN in different ways: (1) they learn to respect others, accept differences, and acknowledge different abilities, thereby creating opportunities for new friendships to develop; (2) they learn about abilities related to helping others participate and learn, to be patient and to gain the satisfaction in helping others learn and behave better; and (3) they benefit from the cognitive effort required to explain themselves and from the contributions of peers with SEN from which they can learn. Tafa and Manolitsis (2003) found that typically developing children educated in inclusive programmes with children with SEN have increased respect, awareness, and acceptance of their peers' needs, develop less prejudices, and learn to be more helpful and supportive towards people with disabilities.

With regards to the academic achievement, some studies found that inclusion has a neutral effect and/or positive effect on non-disabled students' academic achievement. For example, Korenich and Fox, cited in Spence, (2010) found that placement of non-disabled students in inclusive classrooms did not have an impact on their academic performance. Dessemontet and Bless (2013) found that the inclusion of students with mild or moderate intellectual disabilities in classrooms did not appear to affect the academic progress of non-disabled students, regardless of whether they were low-, average-, or high-achieving. A review by Salend and Duhaney (1999) found that the placement of students without disabilities in inclusion programmes does not appear to interfere with their academic performance. Also, Ruijs, Van der Veen and Peetsma (2010) found no differences between typical students in inclusive and non-inclusive primary school classes in mathematics and Language tests. In contrast, A Meta-analysis of 47 studies on effectiveness of inclusive education for students without special educational needs found that inclusive education impacts positively on school achievement of students without SEN (Szumski, Smogorzewska & Karwowski, 2017). Similarly, Hanushek, Kain, and Rivkin (2002) and Cole et al. (2002) found positive effects on the achievement level (i.e. mathematics and reading) of children without SEN in inclusive classrooms. Castro (2007) compared the academic achievement of non-disabled elementary students in inclusive classrooms and non-inclusive classrooms and found that test scores and attendance rates were significantly higher for non-disabled students served in inclusive settings than for non-disabled students served in traditional general education classrooms. A review by Kefallinou et al. (2020) showed that the inclusion of students with disabilities did not negatively affect the learning outcomes and there was a small - but positive - impact on the academic achievement of students without SEN. A review by Ruijs and Peetsma (2009) found that inclusion was generally associated with either positive or neutral effects on academic outcomes for non-disabled students. Kalambouka, Farrell, Dyson and Kaplan (2007) found that non-disabled students either experienced no effects or experienced positive effects on their academic development as a result of being educated alongside students with disabilities.

On the other hand, studies have found that inclusive classrooms have a negative impact on non-disabled students' academic achievement. Hienonen et al. (2018) found that the presence of SEN students in regular classes is related to slightly lower performance of their peers without SEN. Krammer, Gasteiger-Klicperab, Holzinger and Wohlhar (2019) found a very small effect of the presence of students with special needs on the national mathematics standard scores of their classmates. Similarly, Fletcher, cited in Constantinescu & Samuels (2016) found that having a classmate with an emotional disability was associated with lower test scores in reading and mathematics for learners who did not have a disability. Brown and Babo (2017) found that placement in an inclusive classroom did have a slight, yet statistically significant, negative influence on non-disabled grade 11 student performance on the arts literacy subtest.

Some studies reported conflicting findings on the effect of inclusion on non-disabled students' achievement. Krammer, Gasteiger-Klicpera, Holzinger and Wohlhart (2019) found only a very small effect (positive or negative depending on class conditions) of the presence of students with special needs on the national mathematics standard scores of their classmates. Robinson (2012) found mixed results when he studied the performance of non-disabled students in two schools. In one school, non-disabled students placed in inclusion classrooms scored lower than their non-disabled peers who were placed in general education classrooms on the reading and mathematics tests. At the other school, however, there were no significant differences in reading and mathematics test scores of students placed in inclusive and non-inclusive classrooms. Spence (2010) found no

significant test score differences in reading achievement between non-disabled students placed in inclusive classrooms and non-disabled students placed in general education classrooms. However, in mathematics, non-disabled students in inclusive classrooms scored lower than non-disabled students in general education classrooms.

Such findings divide educators, parents and advocacy groups on whether to educate learners with disabilities in inclusive settings. For example, some parents and teachers might have concerns that the inclusion of learners with disabilities might come at the expense of their non-disabled classmates suggesting that more research is needed to determine the impact of inclusion on non-disabled students' academic achievement.

3. Inclusive Education in Zimbabwe

Zimbabwe is a signatory to both regional and international instruments, which include the United Nations Convention on the rights of the child and the African Charter on the Rights and Welfare of the child (Author, 2018). The country ratified the Convention on the Rights of the Child in September 1990 and national responses are guided by the following core principles of the convention: non-discrimination (article 2), right to education (articles 28 and 29), and rights of children with disabilities (article 23) (UNICEF, 2011). Inclusive education in Zimbabwe is defined as the elimination of barriers that may hinder learners' participating in schools and communities (Mutepfa, Mpofu & Chataika, 2007). Presently, inclusive education occurs in a few model schools. Educational psychologists in the Ministry of Primary and Secondary Education have the primary responsibility to assessing and recommending placement of learners' in inclusive classrooms, segregated classrooms in main school classrooms or in special schools with parental consent. They train general education and special education teachers on inclusive education practices and co-teaching.

However, parents or guardians have a right to choose between special schooling and inclusive schooling in general classes at a nearby public school. Most parents of learners with disabilities prefer their children to be educated in special schools maybe because these special schools are better resourced than general education classes (Author, 2018) and/or maybe parents are concerned about attitudes of non-disabled learners and teachers towards their children. Also the Basic Education Assistance Module (BEAM) pays for exceptional learners' fees at day or boarding schools. Most learners with special education needs in rural schools are in unplanned or defacto inclusion (Author, 2018). Unplanned inclusion is where children with disabilities find themselves in regular classes and are exposed to the full curriculum by default (Mutepfa, et al., 2007) because their unique needs are not recognised by teachers. There is no documentary evidence by the school for their specific disabilities and they are in unplanned or de facto inclusion by default (that is in the absence of options), rather than by design (Mutepfa et al, 2007) and a significant number of students with severe disabilities in de facto inclusion drop out of school by the third grade (Mutepfa et al., 2007). The most common type of inclusion in regular schools is partial withdrawal of special needs learners from special classes for one or two lessons in mainstream classes at the recommendation of a class teacher who had identified their strengths in those subject areas. However, these learners do the remaining subject areas in their special class.

There is no specific legislation for inclusive education in Zimbabwe but there are several government policy issues which are consistent with the intent of inclusive education (Author, 2018). For example, The Education Act of 1987, requires all children to have access to basic education at their nearest school and The Education Secretary's Circular Minute No. P.36 of 1990 provides guidelines for placement of learners in special classes, resource units, and special schools (refer to Author, 2018). This circular is not specific on who does the placement and it also legitimises the placement of learners with disabilities or special education needs in segregated classes implying that there would be misinterpretation of special education by stakeholders as a special location instead of a set of supports and services to be delivered to any location (Authors, 2018).

Several schools in Zimbabwean urban areas resist inclusive classrooms because they show concern about the negative impact of the academic performance of typical learners that will lower their academic standards. As a developing nation, there are no state standardised tests to determine learners' achievement levels at middle primary school levels. However, educational psychologists rely on imported, partially adapted achievement tests to determine achievement levels of learners with special education needs and typical learners.

4. Statement of the Problem

Studies devoted to inclusive education usually focus on students with SEN (Freeman & Alkin, 2000; Lindsay, 2007). However, several scholars have indicated paucity of empirical research on school achievement of students without special education needs (e.g., McDonnell, Thorson, Disher, Mathot-Buckner, Mendel & Ray, 2003; Farrell, 2000; Francisco et al., 2020; Goransson & Nilholm, 2014; Lindsay, 2007). Also, some studies reported conflicting findings on the effect of inclusion on non-disabled students' achievement. Terminal examinations in Zimbabwe at grade 7 and form 4 are used to determine school accountability rather than the needs of all learners (including those with special needs or disabilities). Literature searches have found no research in Zimbabwe on

the achievement levels of non-disabled learners in inclusive classrooms. This exploratory study was designed to extend the research base in the area of school achievement of non-disabled learners in inclusive classrooms.

5. Aim

To compare the academic achievement of non-disabled learners in inclusive classrooms and non-inclusive at grade 4 level in mathematics at a rural primary school in Zimbabwe.

5.1 Research Questions

1. Class type (inclusive and non- inclusive classrooms) has no effect on the achievement of learners without disabilities.
2. There are no differences in mean achievement among typical boys and girls in inclusive and non-inclusive classrooms.
3. Overall, there are no differences in mean achievement among the low, average and high achievers.
4. There is no interaction between type of class and low, average and high achieving learners.

6. Methodology

6.1 Research Design

The study used a quasi-experimental research based on a factorial design in order to determine the impact of including learners with moderate intellectual disabilities in general education classrooms on the academic achievement of their peers without disabilities. The partially adapted Wide Range Achievement test – Revised Level 1 was used to determine academic achievement at the beginning and end of the school calendar (January to December 2018).

6.2 Research Context and Participants

The purposely selected primary school in Masvingo rural - is a pilot project on inclusive education which started in 2016. The experimental group (inclusive class) consisted of three grade 4 classes in which each class had two learners with moderate intellectual disabilities. The remaining three grade 4 classrooms (control group) comprised of learners without special needs. These classes were identified by educational psychologists working under the Ministry of Primary and Secondary Education, Department of School Psychological Services and Learner Welfare in Masvingo Province, Zimbabwe. The grade four classes were purposely selected because Educational Psychologists' interventions begin at this level and they receive referrals from schools for learners at this level. Teachers who were teaching inclusive classrooms were selected on the basis that they believed that they had a responsibility to work with learners with disabilities in their classrooms. According to Dyson, Polat, and Farrell (2004) staff who valued both inclusion and academic achievement produced learners with higher achievement scores, whether or not the learners had special education needs. The grade 4 classes were being taught by female teachers with teaching diplomas and teaching experience ranging from 10 to 12 years. The class sizes in the experimental group ranged from 31 to 33 wherein two learners with moderate intellectual disabilities were included. Learners with intellectual disabilities in inclusive classrooms were formally designated and receiving special education programmes through Individual Education Plan (IEP) goals for some time during the school day in a separate special education classroom. Such learners participated in general education activities an average of 84% of the school day. Participants in the control group were in class sizes ranging from 47 to 52.

Learners with moderate intellectual disabilities were enrolled in age appropriate grade 4 classrooms. A total of 102 typically developing learners were in inclusive classes while 146 were in non-inclusive classrooms. All these learners participated in the pre-test at the beginning of the school year in January 2018. The criteria for selecting low, average and high – achievers was based on the mathematics sub-test of the Wide Range Achievement test Revised L1 scores and their grade equivalence. Those learners with scores ranging from 27 to 29 were considered average (they performed at grade equivalence – that is, grade 4 level). Learners scoring below 27 but above 24 were viewed as low achievers while those scoring above 29 were seen as high achievers because they were achieving below and above grade 4 level respectively.

Non-disabled learners in inclusive classrooms were then divided into similar number of boys and girls and then equal number of participants in each level of achievement (low, average and high). This resulted in 21 pairs (21 boys and 21 girls) while the number of low, average and high achieving learners was 28 in each category.

Then, learners in the experimental group (inclusive classrooms) were then paired with those in the control group (non-inclusive classrooms) basing on gender and academic achievement levels on the pre-test (low, average and high). Socio-economic status was not considered as these learners were coming from the same rural community and attending the same school as day scholars. A total of 42 pairs for gender were found. Twenty-eight pairs of learners were classified as low, average and high achievers.

The research sample comprised 42 pairs (21 pairs of boys and 21 pairs of girls) resulting in total of 84 participants with an average age of 9 years 4 months. The low, average and high achieving learners had a pair 28 in each category. A total of 168 learners participated in post-test using the WRAT-Revised Level1 at the end of the school year in November 2018. Characteristics of participants in the post- test are presented in table 1.

Table 1. Characteristics of the control and experimental group

	Experimental group	Control group
	Inclusive classes (with two learners with intellectual challenges in each class)	Non-inclusive classes (without children with special needs)
Gender		
Boys	n = 21	n = 21
Girls	n = 21	n = 21
Level of academic achievement		
High		
Middle	n = 28	n = 28
Low	n = 28	n = 28
	n = 28	n = 28

6.3 Instruments

Academic achievement of learners in Zimbabwean schools are mainly determined by a partially adapted Wide Range Achievement Test – Revised Level 1. This test measures learners’ ability to compute solutions to mathematics problems, ability to read and spell words. The group assessment normally takes 30 minutes. In this study the mathematics sub-test was administered and scored by educational psychologists in the Department of School Psychological Services and Learner Welfare. As stated previously, the scores were then converted to grade equivalence. Grade four equivalent scores range from 27 to 29 with an average score of 28. Those scoring below 27 but above 24 and above 29 were viewed as low and high achievers respectively.

6.4 Data Analysis

A two factor analysis of variance was used to assess the impact of classroom type (with or without inclusion) on participants’ academic achievement in mathematics over one school calendar year.

6.5 Research Procedure

Permission to carry out the research was first sought from the permanent secretary in the Ministry of Primary and Secondary Education and then from provincial education director in Masvingo Province. The school head-teacher was then approached and told about the purpose of the research and to notify parents or guardians of grade 4 learners.

6.6 Ethical Considerations

Parents were given consent forms a week before the research and were told that learners can voluntarily participate in the research and that no harm could be envisioned from the research.

7. Results

Table 2. Mean and standard deviation scores for each treatment condition

	<u>Factor B: Gender</u>		<u>Overall mean</u>
	Male	Female	
inclusive	$\bar{x} = 26$	$\bar{x} = 24$	M = 25
	s = 6.24	s = 5.12	
Factor A: Class type Non-inclusive	$\bar{x} = 28$	$\bar{x} = 26$	M = 27
	s = 5.58	s = 6.24	

Overall mean	27	25
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Participants in inclusive classrooms obtained a mean score of 25 while those in non-inclusive classrooms had a mean score of 27. The main effect (differences between the overall means) for classroom type (Factor A) is 2. Similarly B effect is indicated by the 2 point mean difference between the columns. Finally the absence of an interaction is indicated by the fact that the overall A effect (the 2 point difference) is constant within each column; that is the A effect does not depend on the levels of factor.

Table 3. Summary table for the 2 factor ANOVA for the effect of inclusion on male and female performance levels

Source of variation	Sum of squares (SS)	Mean square (MS)	Degrees of freedom (df)	F ratio	p
Between treatments	336		3		
Factor A (class type)	168	168	1	$F(1, 164) = 1.54$	$p > 0.05$.
Factor B (gender)	168	168	1	$F(1, 164) = 1.54$	$p > 0.05$.
A x B (interaction)	0.00	0.00	1	$F(1, 164) = 0.00$	$p > 0.05$
Within treatments	18326	111.74	164		
Total	18741.81		167		

Table 3 presents the means separated by type of class and gender. A non-significant main effect for class type was found, indicating that non-inclusive classes ($M = 27$) had higher mean scores than inclusive classes ($M = 25$), $F(1, 164) = 1.54$ $p > 0.05$. The main effect for gender was also non-significant. Males had higher scores ($M = 27$) than their female counterparts ($M = 25$), $F(1, 164) = 1.54$, $p > 0.05$.

Table 4. The means and standard deviations for the performance of learners who low, average and high in inclusive and non-inclusive classrooms

	Factor B: Achievement level			
	Low	Average	High	Total
Inclusive	n = 28 $\bar{x} = 23$ s = 3.51	n = 28 $\bar{x} = 27$ s = 4.66	n = 28 $\bar{x} = 31$ s = 3.35	$\sum X_{\text{inclu}} = 2268$
Factor A	$\sum x = 644$	$\sum x = 756$	$\sum x = 868$	
Class type	SS = 1891	SS = 1903	SS = 2072	
Non-inclusive	n = 28 $\bar{x} = 25$ s = 3.22	n = 28 $\bar{x} = 29$ s = 3.86	n = 28 $\bar{x} = 33$ s = 3.71	$\sum X_{\text{non-incl}} = 2436$
	$\sum x = 700$	$\sum x = 812$	$\sum x = 924$	
	SS = 1897	SS = 1971	SS = 2015	
Total	$\sum X_{\text{low}} = 1344$	$\sum X_{\text{average}} = 1568$	$\sum X_{\text{high}} = 1792$	4704
Marginal means	$\bar{x}_L = 24$	$\bar{x}_A = 28$	$\bar{x}_H = 32$	

N = 168

$\sum X_{\text{TOTAL}} = 4704$

$\sum X^2 = 145722$

Table 5. Summary table for the 2 factor ANOVA for class type and achievement (low, average and high)

Source of variation	Sum of squares (SS)	Mean square (MS)	Degrees of freedom (df)	F ratio	p value
Between treatments	2261		5		
Factor A (class type)	168	168	1	$F(1, 162) = 2.32$	$p > 0.05$.
Factor B (achievement)	1792	896	2	$F(2, 162) = 12.36$	$p < 0.05$.*
A x B interaction	301	150.2	2	$F(2, 162) = 2.07$	$p > 0.05$
Within treatments	11749	72.52	162		
Total	14010		167		

*Statistically significant effect

The means and standard deviations for all treatment conditions are shown in table 5. The two factor analysis of variance showed no significant main effect for class type, $F(1, 162) = 2.32$, $p > 0.05$; a significant main effect for achievement level (low, average and high achieving learners), $F(2, 162) = 12.36$, $p < 0.05$. The effect size ($f = 0.39$) was large. The degree of association between performance and their low, average and high achievement levels (estimated $\omega^2 = 0.17$) was small. A non-significant interaction between class type and achievement, $F(2, 162) = 2.07$, $p > 0.05$ was found.

8. Discussion

The outcomes of a two factor analysis of variance indicate a non-significant main effect for class type, $F(1, 164) = 0.39$, $p > 0.05$. This implies that there is no difference in the performance of learners in inclusive and non-inclusive classes. There was a non-significant main effect for gender, $F(1, 164) = 1.54$, $p > 0.05$. The study found no significant differences in the performance of males and females. Finally, there was a non-significant interaction between gender and class type, $F(1, 164) = 3.33$, $p > 0.05$. It can be concluded that there is no significant interaction between gender and class type. Overall, the placement of learners with moderate intellectual disabilities in general education classrooms did not have a detrimental effect on their non-disabled counterparts in mathematics performance.

These findings are in tandem with Ruijs, Van der Veen and Peetsma (2010) who found no differences between typically developing learners in inclusive and non-inclusive primary school classes in mathematics and Language tests. Similarly, Hunt, Staub, Alwell, and Goetz (1994) found no difference between the progress of the experimental and control group in mathematics. Similar studies indicate that the inclusion of children with special education needs in general education classrooms does not have a negative impact on the academic achievement of the learners without disability (Cawley, Hayden, Cade, & Baker-Kroczyński, 2002; Demeris, Childs & Jordan, 2007; Dessemontet & Bless, 2013; Hunt, Staub, Alwell, & Goetz, 1994; McDonnell, Thorson, Disher, Mathot-Buckner, Mendel & Ray, 2003; Sharpe, York, & Knight, 1994). In contrast to findings by Krammar et al (2019) this study found no gender differences in mathematics performance between typical learners in inclusive and non-inclusive classrooms. This suggests that learners with moderate intellectual disabilities in general education classrooms does not disrupt the academic achievement of boys and girls without disabilities. However, the findings of this study are not in conformity with other studies that found a positive of inclusion on the academic performance of learners without a disability (for example, Cole et al., 2004; Krammer et al., 2019; Rouse & Florian, 2006). This might be because of the interventions used by general education teachers in the current study, which may have focused more on learners with moderate intellectual disabilities rather than on all learners in the classroom.

The results also indicated a non-significant main effect for class type, $F(1, 162) = 2.32$, $p > 0.05$. This indicates that there are no differences in achievement levels among learners who are low, average and high in inclusive and non-inclusive classrooms. However, there was a significant main effect for level of achievement (low, average and high achieving learners), $F(2, 162) = 12, 36$, $p < 0.05$. The effect size for level of achievement ($f = 0.39$) was large. Estimated Omega –Squared = 0.17 suggests that about 17% of the variance pertaining to participants' performance can be ascribed to their levels of achievement. The three different levels of achievement result in significantly different levels of performance. Participants who were high achievers ($\bar{x}_H = 32$) performed significantly greater than those in the average ($\bar{x}_A = 28$) and below average ($\bar{x}_L = 24$) (see marginal means in the bottom row of Table 5). This variation is not explained by type of class or the interactive effects between type of class and achievement levels.

Lastly there was a non-significant interaction between class type and achievement levels (low, average and above average), $F(2, 162) = 2.07$, $p > 0.05$. This implies that the effect of class type does not compromise the performance levels of low, average and high achieving learners. This is not in tandem with proponents of

segregation who argue that non-disabled learners become bored with the pace of instruction when educated among students with disabilities (Daniel & King, 1997) nor on some parents of non-disabled children who worry about the disruption of school achievement levels of their children when children with disabilities are included in a general education setting (Palmer, Fuller, Arora, & Nelson, 2001). In contrast to Leadley (2004) and Staub and Peck (1994) who intimate that educating students with disabilities in general education classrooms might disrupt academic achievement of students without disabilities. Some sectors of the education system assume that effective teachers focus on those learners who are successful (those who are average and above average) but when those who are below average are introduced it reduces their effectiveness (Demeris et al, 2007). However, Dyson et al. (2004) observed that teachers who collectively valued inclusion were able to raise the achievement levels of all.

9. Conclusion and Implications

This study found no difference in the performance of learners in inclusive and non-inclusive classes and in particular those who were low, average and high in achievement. There was also a non-significant main effect for gender. However, there was a significant main effect for level of achievement (low, average and high achieving learners) suggesting that the three different levels of achievement result in significantly different levels of performance.

The outcome of this research suggests that the government and schools need to pursue legislation or policies on inclusion as learners with moderate intellectual disabilities do not negatively affect the achievement of non-disabled learners. For this to be feasible, the involvement of parents, organisations for the people with disabilities, teachers and learners need to have plans of actions and commitment so that schools can include learners with moderate intellectual disabilities in mainstream classrooms.

9.1 Limitations and Further Research

The study is not applicable to the inclusion of learners with other disabilities like emotional, physical disabilities, behavioural and or multiple disabilities. It is also limited to primary school level. Further research needs to take into account the quality of teachers' instructional strategies and their collaboration so that an in-depth understanding of the results can be known. Research needs to be done at secondary school levels using a wider sample size from different provinces while controlling for the socio-economic status and teaching experience.

Conflict of Interest

There is no conflict of interest in this paper.

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