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## The Effect of Resource Room on Improving Reading and Arithmetic Skills for Learners with Learning Disabilities

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### Abstract

This study aims to measure the effect of resource room on improving reading and arithmetic skills for learners with learning disabilities. The sample for this study consisted of sixty (60) students nominated to joining the resource room in the Najran, Kingdom of Saudi Arabia. The students were divided equally into two groups, control and experimental. The experimental group joined the resource room, while the control group received their lessons in a regular class. The results revealed statistically significant differences favoring experimental group members, these differences, however, could not be attributed to gender.

**Keywords:** Resource rooms, reading and arithmetic skills, learning disabilities.

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### INTRODUCTION

Special education has become one the most important fields in education and an increasing number of countries are devoting time and resources to supporting students with learning disabilities. There are a number of national and global agencies and organizations whose purpose is to assist these students and a great many conferences and conventions focused on learners with disabilities have been organized. A growing concern about learners with learning disabilities is also reflected in the establishment of numerous special education schools and centers and in the specialized training courses delivered for those working in the field of special education. Special education programs in schools include preventive programs (early intervention), therapeutic programs, (addressing the cause of disabilities through teaching and training), and compensatory programs (providing tools to learners to help them adapt to their disabilities) (Friend & Bursuk, 2002).

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Teaching learners with learning disabilities requires providing special services that will enable them to receive the utmost benefit from the curriculum – modifications of the current curriculum or new special education programs. Learners with learning disabilities need services that will enable them to develop, affirm themselves, and ensure their integration in the regular class and broader community. This means offering up the maximum investment in their cognitive, social, professional, and emotional potentials (Fraihat, 2007).

Special education programs seek to provide quality programs that eventually lead to effective educational output that helps learners with learning disabilities to progress and develop. A number of researchers recently sought to assess the inputs in the education process (teacher, curriculum, administration, school facility, equipment, and instructional methodologies) given the difficulty of assessing educational output (achievement). Educational inputs are, in fact, considered one of the criteria through which the effectiveness of the educational process can be assessed (Hallahan et al, 2005).

Educational alternatives, where educational services for learners with learning disabilities are offered, vary. Generally, educational alternatives refer to a group of therapeutic and educational programs through which educational services are provided according to each student's needs (Al-Khateeb & Hadidi, 2010). One such educational alternative is the resource room – a room, annexed to the regular school that provides special educational services to learners with learning disabilities. Learners participating in a resource room will receive special academic and behavioural classes. They receive these classes according to a certain schedule and in addition to their other regular classes (Lerner, 2003).

Al-Zoubi (2011) and De l'Eoile (2005) note that learning disabilities can include an inability to learn certain academic skills, such as reading, writing, spelling, and math. Some students suffer from difficulty in one subject, while others may have difficulty with two, more or even all subjects. Resource rooms are critical in that they provide important supplementary services for learners with learning disabilities in regular schools. They also tend to draw the attention of researchers, educators, and parents, and yet they remain a controversial issue in the field of special education.

According to McNamara (1985) there are two methodologies generally used in resource room activities and programs. The first is based on specific aspects of the disability and a process is followed in order to enable the learner to acquire the basic skills needed for academic progress. The second is based on providing academic support for the activities conducted in the regular class. McNamara (1985) notes that teaching basic skills should, as much as possible, be the focus of early periods in the resource room.

Sartawy and Abu Nyan (1998) identify a group of basic resource room activities including providing diagnosis and assessment scales to detect learners with learning disabilities, providing proper instructional methodologies, teaching learners in groups that take into account the kind and degree of the learning disabilities of each learner, and planning and cooperation between the regular class teacher and resource room teacher.

Resource rooms can be divided as follows:

- **Categorical Resource Room.** This is the most common type of resource room. In this kind of resource rooms, learners with learning disabilities and behavioral and emotional disorders share one resource room (McNamara, 1989; Bender, 2008). This type of resource rooms is presently used in the Kingdom of Saudi Arabia.
- **Cross-Categorical Resource Rooms.** In this type of resource room, learners are divided according to their needs without much attention given to traditional categories. While this division may not help teachers to build suitable educational programs, attention is paid to similar identifying students with needs, such as academic, behavioral and physical needs (Bender, 2008).
- **Non-Categorical Resource Rooms.** This type of resource rooms requires highly trained instructors because a high percentage of learners with learning disabilities are unprepared for special education, but are receiving it on trial basis in order to discover the extent to which they need these services (Bender, 2008; Hallahan et al, 2005; McNamara, 1989).

A number of recent studies have been conducted on resource rooms, their programs and their effectiveness:

- Philips (1990) sought to investigate the satisfaction of students and teachers with a particular educational program used in teaching learners with learning disabilities in resource rooms. This program aimed to develop students' self-awareness and the results revealed that parents were highly satisfied with the resource rooms.
- Stephenson (1992) set out to explore the level of satisfaction of the parents of learners with learning disabilities in terms of integration in the resource room, regular classroom, and special classes. The results show that the parents were highly satisfied with their children joining the resource rooms and the services provided for them.
- Susana (1995) investigated the appreciation of learners with learning disabilities for the services provided in the resource room. The results revealed that the learners in the resource room desired more assistance from the teacher.
- Bentum & Aron (2003) explored the effect of instruction in the resource room on IQ. The results indicated that teaching the students in the resource room had not helped the learners improve their reading skills.
- Naser (2006) assessed resource rooms in Jordan and proposed a new educational program for them. The results of this study showed the need reconsider a number of elements in resource rooms including diagnosis, equipment, curriculum, teaching strategies and the application of educational technology.
- Fraihat (2007) conducted a study looked at services in the resource rooms from the perspective of parents and regular classroom teachers. The results revealed that both were satisfied with the services offered in the resource rooms for learners with disabilities.
- Al-Natour, Alkhmara, & Al-Smadi, (2008) investigated the assessment practices used by resource room teachers to identify learners with learning disabilities and the obstacles encountered in these practices. The results revealed that the teachers most often depended on achievement tests to assess learners and they encountered obstacles in the referral process.
- Ismail, Al-Zoubi, Bani Abdel Rahman and Shabatat (2009) measured the effect of a training program module on improving knowledge competencies for resource room teachers. The results revealed that the module did improve competencies for teachers in the experimental group.
- Al-Khateeb and Hadidi (2009) assessed the level of satisfaction of resource room teachers and of the parents of learners with learning disabilities about the services provided in the resource rooms. Teachers in the resource rooms were satisfied with the work in the resource room but not with the parents who fail to participate in the programs of the resource rooms.
- Al-Zoubi, Ismail, and Bani Abdel Rahman (2010) analyzed an in-service training program aimed at improving the performance competencies of resource room teachers. The results revealed that the training program has improved the performance competencies of teachers in experimental group.
- Moreover, Sabbah & Shanaah (2010) investigated the effect of resource rooms from the perspective of principals, teachers, and educational supervisors. The results showed that principals, teachers and educational supervisors are highly satisfied with the effectiveness of the resource room and its tools, methodologies, educational programs and equipment.
- Bataineh and Al-Shehry (2010) explored the effectiveness of different resource room components from the perspective of resource room teachers. In this study, resource room teachers ranked aides and methods first, the progress of the educational program second, the instructional curriculum third, and resource room equipment fourth/last.
- Somaily, Al-Zoubi, and Bani Abdel Rahman (2012) looked at the attitudes of parents of children with learning disabilities towards the resource room. The attitudes of parents were generally quite positive.

The educational program applied in the resource rooms in the Kingdom of Saudi Arabia is a parallel curriculum focused on the basic skills of reading and arithmetic. This program depends on the assumption that the learners in the resource room have not mastered basic skills in reading and arithmetic. In the skills assessment and diagnoses stage, however, the resource room instructor defines the strengths and weaknesses of each learner. The instructor thus determines the extent of the disability before designing an educational program based on the learner's existing reading and arithmetic skills. The preferred instructional methodology is one based on small group work with learners who share the same weaknesses.

The Kingdom of Saudi Arabia is presently witnessing remarkable developments in the field of special education services. This is reflected in the keenness of the Ministry of Education to open resource rooms for learners with learning disabilities all over the Kingdom. This study emerged from this keenness and seeks to investigate the effect of resource rooms programs on improving the skills of reading and arithmetic for learners with learning disabilities. In order to ensure success, a number of factors must be present in resource rooms. These include the appropriate equipment, educational methodologies, and educational programs. The effectiveness of each of these factors as they now exist must thus be assessed.

## METHODOLOGY

The population of the study consisted of all students with learning disabilities in the resource rooms in Najran, Kingdom of Saudi Arabia. The sample, however, consisted of (60) students, males (n=30), and females (n=30, who were randomly chosen. The sample was divided into two groups each of (30) students. One of the two groups was randomly chosen as a control group and the other as an experimental group. Students in the experimental group attended the resource room for a full school year, while students in the control group received their education in a regular class.

### Research Instruments

Standardized Diagnostic Scales in Reading and Arithmetic, accredited by the Ministry of Education in Kingdom of Saudi Arabia, were used in this research. They were used to investigate the strengths and weaknesses of students with learning disabilities in these academic fields. The Reading Diagnostic Scale consists of alphabet recognition skills, alphabet breaking and combining skills, skills related to assessing letter position in words, and skills related to letter that are similar in pronunciation but differ in writing. The Arithmetic Diagnostic Scale consists of number recognition, writing two digit numbers, understanding the (>) and (<) sign, adding two decimal digit numbers, recognizing geometric shapes, and addition and subtraction skills.

## RESULTS

Before answering the study questions, researchers ensured that the two groups were at equal reading and arithmetic pretest levels. The means and standard deviations were computed for the two groups in the pretest period in reading and arithmetic. Table 1 shows the results.

Table1: Means and standard deviations in the pretests of the two groups

Test	Independent Variable	Levels	Mean	SD
Reading	Group	Control	39.90	7.067
		Experimental	39.66	6.509
	Gender	Male	35.90	5.961
		Female	43.66	5.060
Arithmetic	Group	Control	40.46	7.713
		Experimental	36.30	7.465
	Gender	Male	39.80	7.572
		Female	36.96	7.919

Table 1 shows that there are differences between the means of the two groups in the pretest of reading and arithmetic based on the two variables, (group & gender). To investigate the statistical significance, ANOVA was used in the reading test as shown in Table 2.

Table 2: ANOVA results for two groups in reading pretest

Variable	Source of variance	$\Sigma$	Df	Means Squares	F	Sig.
Group	Within	6.217	1	.270	1.108	.383
	Between	8.783	58	.244		
Gender	Within	7.650	1	.333	1.629	.092
	Between	7.350	58	.204		

Table 2 shows that there are no significant differences between the members of the two groups in the reading pretest that can be attributed to either of the two variables: gender and group. These results lead to the conclusion that the two groups are comparable and there are no circumstances favoring either in the reading pretest. To investigate the statistical significance of the performance of the two groups on the arithmetic pretest, ANOVA was used and results are shown in Table 3.

Table 3: ANOVA results for two groups in arithmetic pretest

Variable	Source of variance	$\Sigma$	df	Means Squares	F	Sig.
Group	Within	6.150	1	.256	1.013	.477
	between	8.850	58	.253		
Gender	Within	5.700	1	.238	0.894	.607
	Between	9.300	58	.266		

Table 3 shows that there are no statistical differences between the performances of the two groups in arithmetic pretest that can be attributed to gender or group. These results lead to the conclusion that the two groups are equivalent and that there are no circumstances favoring either in the arithmetic pretest.

This study is guided by three research questions: what is the effect of the resource room on improving reading skills of learners with learning disabilities? What is the effect of resource room on improving arithmetic skills of learners with learning disabilities? In addition, is there an effect of resource room on improving reading and arithmetic skills of learners with learning disabilities attributable to gender? In order to answer these questions, the means and standard deviations of the performance of the two groups in the reading and arithmetic skills are investigated by the posttest. Table 4 shows the results.

Table 4: Means and standard deviations in the posttests of the two groups

Test	Independent Variable	Levels	Mean	SD
Reading	Group	Control	43.33	7.058
		Experimental	71.83	4.410
	Gender	Male	55.60	17.45
		Female	59.56	13.28
Arithmetic	Group	Control	48.16	8.917
		Experimental	69.76	7.568
	Gender	Male	58.40	1.394
		Female	59.53	1.353

Table (4) shows that there are differences between the performance of the two groups in the posttest in reading and arithmetic. In order to investigate the statistical significance, ANOVA was used for the reading posttest, as shown in Table 5.

Table 5: ANOVA results for the means of the two groups in reading posttest

Variable	Source of variance	$\Sigma$	df	Means Squares	F	Sig.
Group	Between	12183.750	1	12183.750	351.775	.000*
	Within	2008.833	58	34.635		
Gender	Between	236.017	1	236.017	.981	.326
	Within	13956.567	58	240.630		

$\alpha \leq .05$

Table 5 shows that there are statistically significant differences at  $\alpha \leq .05$  in the reading posttest where the  $F = 351.775$  and  $P = .000$ . This is a statistically significant difference favoring the members of the experimental group. Table 5 confirms that these differences cannot be attributed to gender. It is also clear from Table 5 that there are differences in the means of the two groups in arithmetic posttest. In order to investigate the statistical significance of these, ANOVA was used for the arithmetic posttest as shown in Table 6.

Table 6: ANOVA results for the means of the two groups in arithmetic posttest

Variable	Source of variance	$\Sigma$	Df	Means Squares	F	Sig.
Group	Between	6998.400	1	6998.400	102.307	.000*
	Within	3967.533	58	68.406		
Gender	Between	19.267	1	19.267	0.102	.750
	Within	10946.667	58	188.736		

$\alpha \leq .05$

Table 6 shows that there are statistically significant differences at  $\alpha \leq .05$  for the arithmetic posttest where  $F = 102.307$  and  $P = .000$ . This is a statistically significant difference in favor of the experimental group. Table 6 also shows that these differences cannot be attributed to the gender.

## DISCUSSION AND CONCLUSION

This study has investigated the effect of resource room on improving reading and arithmetic skills for learners with learning disabilities. Instruction in this resource room is based on an individualized educational program which assesses the current performance level of learners by identifying their strengths and weaknesses and tailoring learning to these strengths and weaknesses. Vaughn, Elbaum & Boardman (2001) note that the effectiveness of instruction in resource rooms in terms of improving the performance of learners with learning disabilities, especially when teaching students in a less restrictive environment, increases their acceptance in the community and improves their social skills and self-esteem. Saeed (2002); Mohammed (2002); Al-Smadi (1996); Abu Alia & Mulhem (1998) explored the effectiveness of resource rooms and found improvements in reading, writing, and arithmetic, and reductions in the behavioral problems of learners with learning disabilities. This study also found that learners joining a resource room were able to master the basic academic skills in the early elementary stage.

Calhoun and Fuchs (2003) found that teaching mathematics in the resource room for a number of learners with learning disabilities contributed to improving their performance and motivation for learning. Englert, Wu and Zhao (2005) investigated the effect of planned assessment and the application in the Internet on the writing performance for a group of learners with learning disabilities joining the resource room. Their results showed that student writing improved noticeably, especially the writing of organized texts.

The visual, auditory, and sensory instructional methodologies used by resource room teachers play a significant role in improving the academic skills of learners with learning disabilities. Some of these include the Fernald, Orton–Gillingham and multisensory strategies. The educational methods used by resource room teachers likewise play an important role in the enrichment of the teaching and learning process and expanding the expertise of learners, and this was confirmed by Al-Makahleh (2011).

Resource room teachers have an important role to play in terms of designing the individualized educational programs that address the special needs of the students joining the resource room. As active members in each student's individualized education program, these teachers are also a critical link between learning in the resource room and both regular classroom teachers and parents. According to McQuarrie and Zarry (1999) resource room teachers play numerous roles that all contribute to improving the academic skills of learners with learning disabilities. They also perform/offer evaluation, guidance, and cooperation with/for parents, teachers of the regular classrooms, and school administrators.

Despite the effect of resource rooms in terms of improving the reading and arithmetic skills of learners with learning disabilities, some studies found that the performance of learners declined after receiving instruction in the resource room. Elbaum (2002) showed, for example, that the self-esteem of learners with learning disabilities declined after joining a resource room when compared with their peers in the regular classes. Bryan, Burstein & Egul (2004), point out however, that learners with learning disabilities tend to be more susceptible to social and emotional problems when compared with their regular classroom peers. They tend to suffer from low self-esteem and a lack of acceptance by others. Part of this may stem from low social cognition and the misunderstanding of the feelings and reactions of others. Bender, Rosenkrans and Crane (1999) contend that the social and emotional problems of learners with learning disabilities tend to be more pronounced among those who struggle with mathematics. They are also more visible among students who have difficulty performing place-visual tasks, those challenged by self-organization, and those with nonverbal disabilities. Wong and Donahue (2002) affirm in their study that learners with learning disabilities lack the social acceptance that enables them to socialize with their regular peers.

Finally, Bentum & Aaron (2003) found that the spelling abilities of learners with learning disabilities become better after spending three years in the resource room. Resource rooms in this study, however, did not improve reading comprehension or word recognition. This latter failure of resource rooms, according to the authors, may be attributable to the positive or negative role played by resource room teachers, their experience, motivation, and attitude towards their work, and the availability of various instructional methodologies that attract the learners and help them to improve and succeed academically.

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## Exploring the Contextual Limitations of Angoff Grading Model: The Case of Botswana

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### Abstract

Grading is a central component of educational assessment because it is through grading that a student's performance is judged as having satisfied the requirement for a given unit or grade level. Accurate determination of the cut-off point between adjacent grades is thus critical in ensuring that a letter grade assigned, and ultimately the certificate given, are a true reflection of a candidate's mastery of the assessed subject matter. Different systems are used to establish cut-off points; each method with its own advantages and disadvantages. In Botswana, the Angoff grading model was adopted following the introduction of criterion referenced testing in 1997. This model was implemented in order to correctly reflect the achievement level of primary school graduates and at the same time, maintain performance standards from year to year. While this model appears to have robust theoretical foundations, its practical application and success are highly constrained by contextual country-specific factors. This paper outlines the observed practical limitations of the Angoff grading system in Botswana.

**Keywords:** Angoff Grading System, Botswana, Performance Standards, Grading Cut-off Point.

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### INTRODUCTION/BACKGROUND

The Angoff grading method was implemented following the introduction of the first primary school criterion referenced graduation examination in 1997. At the time, a team of primary school teachers was assembled and trained on how to use Angoff procedures. Each teacher (or judge) read each item and determined the number of minimally competent candidates within each grade band who would be able to answer the item correctly. The proportions produced by each teacher/judge are then averaged to generate cut-off scores for the grades: A, B, C and D.

Although Angoff procedures have a sound theoretical background supported by empirical evidence from a wide variety of fields (Ashby, 2001; Supernaw and Mehvar, 2002; Carlson, Tomkowiak & Stulp, 2009; Stahk, 2009), this paper contends that the accuracy, and as such the validity, of the Angoff system can seriously be constrained by contextual factors prevalent in a particular education system. In Botswana for example, the educational enterprise is in

a state of flux as is evidenced by numerous reforms recently implemented by the government of Botswana in conjunction with other education stakeholders.

The Primary Education Improvement Project [PEIP], which was jointly operated and financed by Botswana Government and United States Agency for International Development [USAID] from 1981 to November 1991, offers a prime example of this partnership strategy. The existence and longevity of this reform program is an indication of the fact that teaching and learning in Botswana schools is at a less than desirable level. As such, a grading model that relies on teachers, who themselves are in need of professional development, to generate cut-off points may results in less than accurate cut-off points. This paper thus contends that grading procedures which may have worked in other educational systems may not be automatically transferable to countries where key educational inputs are still at a formative developmental stage.

Two contextual challenges that stand to compromise the accuracy of Angoff in Botswana are the current status of the teaching profession and learner performance at the primary school level. The factors potential impacting the quality of education at the primary school level are numerous, complex, and interrelated. Two central factors affecting the quality of teaching and learning and consequently on the quality of education as a whole are the teaching force and learner performance. The teaching force at primary school level has been characterized as being of low quality due to low entry requirements (the minimum qualification for students interested in joining the profession at the primary school level has been a primary or junior school certificate) and short training periods:

The present admission requirements into primary teacher training fall into three levels. Firstly, a Junior Certificate fail or Standard 7 with at least two years teaching experience; secondly, a JC pass and one year work experience preferably in teaching; or thirdly, COSC with one year of work experience, preferably in teaching. Candidates holding JC pass account for about 85% to 90% of PTTC entrants while only 4% hold GCE. (Republic of Botswana, 1993, p. 345)

The second factor impacting the quality teaching is the pre-service programme offered at various Teacher Training Colleges. Prospective student teachers enrol in a two year training programme at the end of which they receive a Primary Teaching Certificate or PTC:

The two-year training period further produces an under-trained teacher as it does not afford enough time for the trainee to acquire the necessary knowledge and skills required to make an effective and confident teacher (Republic of Botswana, 1993, p. 345).

The very short programme does not give teacher trainees adequate time to acquire the academic knowledge and pedagogical skills needed to be effective teachers once they are in the classroom. Given that the teacher is the main facilitator in the classroom, the quality of learning and hence achievement levels are directly depended on the quality of the teacher. Though poor learner performance cannot be wholly attributed to quality of teaching, research studies have in fact found a substantial degree of correlation between the two variables (Republic of Botswana, 1997).

The consequence of the two factors discussed above has been the dominance of PTC teachers in primary schools; this phenomenon is reflected in Table 1 below.

Table 1: Standard Four Teachers with Primary Teaching Certificate and Secondary Teaching Certificate (STC) and Pup

Subject	Primary Teaching Certificate		Secondary Teaching Certificate		
<b>Mathematics</b>	5446		2030		
<b>Setswana</b>	5461		2045		
<b>English</b>	5446		2039		
<b>Average</b>	5451	<b>73%</b>	2038	<b>27%</b>	<b>7489</b>
					<b>100%</b>

Source: Botswana Examinations Council (2007).

Table 1 indicates that by 2007, the majority or 73% of standard four pupils were being taught by teachers with a Primary Teaching Certificate confirming that primary school education continues to be dominated by teachers with Primary Teaching Certificates.

### Learner Performance Levels

Learner achievement is a key indicator of the quality of instructions in schools. Low performance levels among primary school learners in Botswana have been observed as far back as the 1970s.

The first National Commission on Education concluded from a study it administered on Standard Seven 7 Pupils in 1976 that average scores on achievement tests were low and a substantial proportion of children attained unacceptably low scores on their reading and mathematics test. In another survey conducted by the International Association for the Evaluation of Educational Achievement in 1990/91 to test the reading ability of 14 year olds in 32 countries, Botswana ranked last in all types of reading tests (story, textbook and document reading) (Report of the National Commission on Education, 1993).

In a study examining the learning achievement of standard four pupils in Botswana in 1999 by the Examinations Research and Testing Division, the low level of competence in numeracy, and literacy in English and Setswana, was taken to imply that the concern expressed in 1977 over low academic achievement persists today (Government of Botswana, 2000 p. 96).

Table 2: Performance of Standard Four Pupils

Performance of pupils		Number	Mean Percentage	Standard Deviation	Maximum	Minimum
<b>Mathematics</b>	Overall	6217	29.8	17.28	95	0
	Girls	2878	31.95	17.31	95	0
	Boys	3038	28.65	17.09	92	0
<b>Setswana</b>	Overall	6228	45.02	16.84	96	0
	Girls	2898	48.77	16.29	96	0
	Boys	3062	42.16	14.48	90	0
<b>English</b>	Overall	6171	33.53	15.58	88	0
	Girls	2837	36.39	15.81	88	0
	Boys	2994	31.5	14.99	84	0

Source: Botswana Examinations Council (2007)

Generally pupils performed poorly in all the subjects with the mean performance being less than 50%. The mean performance for Setswana was 45.02%, for Mathematics was 29.80% and for English was 33.53%. These low means suggest that the pupils found the three tests to be quite difficult. Other studies conducted in Botswana for different grade levels, such as Monitoring of Learning Achievement (MLA, 2001) for Standard Four pupils, Trends in International Mathematics and Science Study (TIMSS, 2003) for Form One students, and Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ II, 2005) for Standard Six pupils also revealed low performance by students in Botswana.

The contextual challenges discussed above have been a concern to the government of the day since the country attained independence in 1966. As a result successive governments have developed policies and programs to try and address the low quality teaching force and poor learner performance. The minimum required qualification for entry into Primary Teacher Training College, for example, was raised to the Cambridge Overseas Schools Certificate [COSC] and the length of the training programme was increased from two years to three years. Diagnostic and remediation assessment were introduced at the primary school level to try to improve classroom assessment practices and hence learner performance. These factors are, however, still a concern today and cannot be ignored during any new standard setting exercises.

Angoff standard setting as practiced in Botswana has relied heavily on primary teachers to set grade cut-off points. The accuracy and validity of such cut-off points is thus open to scrutiny based on the observed constraints related to low quality teaching and poor performance by learners. In this system, individual teachers or judges will set a passing score based on their subject matter knowledge and the status of the learner being graded. If both of these two conditions are at an undesirable level, the standard set will be low since no judge can be expected to set a standard that is over and above what they know and can defend.

## LITERATURE REVIEW

According to Stahl (2008), the central issue in any standard setting procedure is generating a defensible categorization of exams on the basis of the subject matter tested as reflected by a set of test items. Firstly, an appropriate measurement scale has to be identified and applied to differentiate exams according to the underlying construct being tested. Cut-off points along the scale then define each category or grade as explained below.

The second condition is placement of a point or points on this scale of measurement using a psychometrically sound procedure. These points are frequently referred to as cut-off points. The points demarcate regions on the scale of measurement that are deemed to be different in terms of the purpose of the test. A point may separate a region of pass from a region of fail. Multiple points may separate regions of insufficient mastery from acceptable performance and separate regions of acceptable performance from mastery. An examinee’s performance on a test will place them in one of these regions (Stahl, 2008).

An assessment of literature on standard setting shows that there are many standard setting procedures available but in most cases two methods are generally applied. Standards are generally classed as absolute (criterion-based) or relative (norm-based). An absolute standard determines the pass/fail outcome in terms of how well a candidate performs and he/she is usually judged against an arbitrarily set external standard. Hence it is independent of the performance of the group. A relative standard on the other hand, compares how well the examinee has performed compared to others who took the test and hence the outcome (pass/fail) is dependent on the performance of the group (George, Haque, & Oyeboode, 2006). Angoff falls under absolute grading standards as the performance of the candidate is as much as possible independent from or not necessarily influenced by performance of the norm group.

According to Carlson and Tomkowiak (2009), the Angoff standard has three basic elements: conceptualization of the borderline examinees, identification of specific test items, and the usage of experts to estimate whether a borderline examinee will appropriately perform each of the test items. Conceptualization of the borderline examinee or the minimally competent examinee is central as their performance is ultimately used as a cut-off point between two adjacent grades. The minimally competent examinee score is used in this case to identify the lowest possible or acceptable level of performance for any candidate to be classified under that particular grade or labelled as pass or fail in case of dichotomous classification. The score obtained by a minimally competent candidate then becomes the grade boundary between adjacent grades. Candidates scoring below this level are believed to lack sufficient knowledge, skills, or abilities to be certified. Subject-matter experts (SMEs) have to read each test item and then predict how many minimally-qualified candidates would answer the item correctly. The sum of the predicted difficulty values for each item averaged across the judges and items on a test is the recommended Angoff cut score (ALTA Language Services, 2008). Table 3 below illustrates how the procedure works for a single grade. As shown in the table, the minimum score generated is 99.45 out of a total of 150 items in the test. The panel will then have to repeat the procedure in order to arrive at a cut of score for other grades.

Table 3: Angoff Estimated Probabilities

	Angoff Panel Judge					Across Judges	
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Average</i>	<i>Standard Deviation</i>
<i>Question 1</i>	.75	.75	.80	.65	.70	0.73	.057
<i>Question 2</i>	.65	.70	.75	.65	.80	0.71	.065
<i>Question 3</i>	.70	.65	.60	.65	.65	0.65	.035

<i>Question 4</i>	.65	.75	.65	.70	.60	0.67	.057
<i>Question 5</i>	.55	.50	.45	.65	.55	0.54	.074
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<i>Question 146</i>	.80	.80	.80	.70	.60	0.74	.089
<i>Question 147</i>	.80	.75	.70	.55	.65	0.69	.096
<i>Question 148</i>	.55	.60	.65	.65	.45	0.58	.084
<i>Question 149</i>	.65	.65	.70	.75	.65	0.68	.045
<i>Question 150</i>	.65	.70	.65	.65	.55	0.64	.055
<i>Passing score</i>	101.25	102.75	101.25	99	93	99.45	3.846

Retrieved from; <http://chrp.com/angoff-panel/>

The Angoff grading procedures enjoy wide application cross many diverse fields and the method has proven to be a reliable and credible one for setting a cut-off score for exams. An excerpt from Näsström and Nyström (2008) confirms this observation. According to these authors, the Angoff method is chosen to represent the test-centered methods because in its original version, or in a modified and extended version, it is the most widely used procedure for standard-setting. Furthermore, a modified version of the Angoff method is used regularly as the standard setting procedure for the national tests in mathematics in Sweden (Näsström & Nyström, 2008).

The Angoff procedure has been known to produce meaningful cut-off points especially in cases where there is high inter-judge consistency which produces considerable confidence in the resulting cut-scores (Hambleton & Pitoniak, in Näsström & Nyström, 2008). Cut-off scores are generated systematically as using the Angoff method ensures that the passing grade of a test is determined empirically. Another cited advantage of the Angoff method is that it is fairly easy to employ because it does not require judges to directly observe every student's performance, a process that is very time consuming (Carlson & Tomkowiak, 2009).

Several researchers have, however, documented weaknesses associated with the Angoff standard setting method. The first noted weakness is that 'judges occasionally report feeling that there is no firm basis for the standard that is set, since they are predicting performance as opposed to directly observing examinee performance' (Carlson & Tomkowiak, 2009). Secondly, it has been observed that the Angoff method relies on subjective estimations of the ability of a minimally competent candidate or MCC. SMEs base their decisions on the mental image they form of this candidate and this is not an easy task as explained below.

The way that SMEs are asked to use this estimation is problematic. By definition, SMEs are familiar with the content tested on an examination. By the process described above, they refine their concept of the candidates' abilities. The problem arises when they are asked to combine their content expertise and their conceptualization of the ability of the MCC in ways that are outside their expertise (Stahl, 2008).

This observation resonates with Boursicot and Roberts's comments on the viability of Angoff. These two scholars refer to the idea of a borderline or minimally competent candidate as a 'nebulous concept' and research has shown that often judges find it difficult to accurately define and understand a hypothetical borderline student (George, Haque, & Oyebode, 2006)

The third weakness of this approach is the tendency of judges to use Angoff to produce low cut off scores when compared with other grading methods. This effectively means more candidates are able to access higher grades than would have been the case if a different method was used. For the students participating in the exam generating data for this study, the Angoff method yielded a 100% passing rate (percentage of students who scored above the passing cut-off) compared to lower passing rates for both other standards set. This may imply that the cut-off scores produced by the Angoff method are in fact too lenient (Carlson & Tomkowiak, 2009). Table 4 provides more evidence to support the argument that the Angoff grading method frequently generates lenient cut off points when compared with other methods.

Table 4: Comparison of Angoff and Absolute Grading Procedures

	Mean Score	Standard Deviation	Angoff		Arbitrary – Absolute		Norm	
			Cut-off	Pass	Cut-off	Pass	Cut-off	Pass
<b>Pre – Op</b>	86%	9.0	63	<b>100%</b>	70	<b>89</b>	77	<b>82</b>
<b>Shortness of Breath</b>	73%	11.8	70	<b>69%</b>	70	<b>69</b>	61	<b>86</b>
<b>Acute Abdomen</b>	86%	8.8	62	<b>100%</b>	70	<b>93</b>	77	<b>77</b>
<b>Lower Back Pain</b>	72%	13.0	52	<b>91%</b>	70	<b>58</b>	59	<b>79</b>
<b>Full Exam</b>	79%	7.1	62	<b>100%</b>	70-	<b>88</b>	72	<b>81</b>

Source: Carlson, J. & Tomkowiak, J. (2009).

The Angoff method has wide application and is able to produce good standards. However, the procedure has serious limitations that cannot be ignored. Its theoretical foundations – requiring a panel of judges to form a mental picture of a minimally competent candidate – are hard to prove empirically since different judges would undoubtedly generate different images. Secondly, validity and reliability of the method depends to a large extent on the SME’s characteristics such that different groups of judges could produce quite different standards. For example, a panel made up of teachers may produce different cut-off scores from a panel made up of curriculum officers. Care should thus be taken that the standards generated do not depend on the kind of panel selected.

### Implementation of Angoff Grading Method in Botswana

Table 5 below shows how the Angoff standard setting method has been used in Botswana to generate cut-off points for five subjects: Setswana, English, Science, Social Studies and Mathematics.

Table 5: Angoff Generated Cut Off Points for five Subjects

		Holistic Grading Method				Angoff Grading Method			
		A	B	C	D	A	B	C	D
<b>Setswana</b>	<b>Dimensions</b>	91	64	36	18	<b>81</b>	68	57	41
		82	57	28	12	<b>72</b>	61	52	35
		80	70	40	20	<b>77</b>	68	57	40
		<b>84.3</b>	<b>63.7</b>	<b>34.7</b>	<b>16.7</b>	<b>76.7</b>	<b>65.7</b>	<b>55.3</b>	<b>38.7</b>
<b>English</b>	<b>Dimensions</b>	74	63	45	32	84	68	56	37
		80	64	48	28	80	69	55	33
		<b>77</b>	<b>63.5</b>	<b>46.5</b>	<b>30</b>	<b>82</b>	<b>68.5</b>	<b>55.5</b>	<b>35</b>
<b>Science</b>	<b>Dimensions</b>	80	65	40	15	<b>77</b>	63	45	25
		75	60	25	15	82	65	53	35
		85	70	35	15	<b>80</b>	64	48	32
		<b>80</b>	<b>65</b>	<b>33.3</b>	<b>15</b>	<b>79.6</b>	<b>64</b>	<b>48.6</b>	<b>30.6</b>

<b>Social Studies</b>	<b>Dimensions</b>	80	65	50	35	74	66	54	29
		85	68	50	37	76	63	51	28
		87	60	50	35	81	70	58	32
		84	64.3	50	35.6	77	66.3	<b>54.3</b>	<b>26.6</b>
<b>Mathematics</b>	<b>Dimensions</b>	82	66	48	28	91	81	63	31
		81	67	53	29	91	79	58	28
		<b>82</b>	<b>67</b>	<b>50.5</b>	<b>29</b>	<b>91</b>	<b>80</b>	<b>60.5</b>	<b>29.5</b>

Source: Examinations Research and Testing Grading Document for 1997.

A panel of judges made up of primary school teachers was assembled for each of the five subjects and asked to read each item in the test so as to determine its difficulty level. Each judge then worked independently to generate two separate cut-off points using the Holistic and then Angoff procedure. The scores for each judge were then averaged to arrive at a composite cut-off point for each grade. As shown in the table above, the cut-off points for Grade A that were generated using the Angoff method are generally lower than the corresponding cut-off points arrived at using the Holistic method. The cut-off for an A grade in Setswana Dimension B, for example, is 91% based on the Holistic method and 81% based on the Angoff method. This means that more examinees would access an A grade under Angoff. The situation is reversed at the lowest point on the scale. The minimally competent D student would need to score 18% in the Holistic method but 41% in the Angoff method, a difference of 23 points. A further inconsistency produced by the Angoff method can be observed in the grading of mathematics. Although Angoff cut-off points are higher than Holistic ones, the two procedures seem to have comparable cut-off points for a D grade. With the Angoff method, however, there is a difference of 32 points between a C and D grade as shown by the 31% cut-off for D and 63% for C. This wide gap may point to problems associated with the conceptualisation of a minimally competent candidate.

It is appropriate at this juncture to further explain or summarize the factors in Botswana that may limit the effectiveness of the Angoff standard setting procedure.

- a) Conceptualisation of a Minimally Competent Examinee [MCE]: the panel of judges often finds it difficult to form a mental picture of a MCE. Different judges have different conceptualisations resulting in low inter-judge agreement. Alternately, judges might be operating on the basis of an average student within each grade band thus generating a midpoint score rather than a cut-off point. The situation above where cut-off points for grades C and D were set at 61% and 31% respectively serves as a good example. The 61% for C appears to be a midpoint for a C grade rather than a score for a minimally competent C examinee.
- b) Subject Matter Experts [SMEs]: the generation of accurate, and as a result, valid cut-off points depends entirely on the characteristics of the judges or SMEs in the panel. It is not unusual for two different panels to produce different standards for the same examination paper. As noted above, the panel of judges used in Botswana is made up of entirely of primary school teachers. The accuracy of the standards generated would then be influenced by the current subject matter expertise possessed by the judges. Given the low entry levels for teacher trainees and inadequate training programmes, it seems reasonable to expect that judges will set standards that correspond to their current knowledge level. This effectively means setting lower cut off points.
- c) Learner Performance at School Level: corollary to the point above, the judges themselves are not only constrained by their knowledge status, but are also aware of students' low performance levels. The final decision of a judge is thus influenced by an interplay of these two factors: lack of requisite subject matter expertise as a result of recruitment practices and pre-service training on one hand, and low performance levels of primary school learners on the other hand. These two factors will lead judges to lower the cut off point in order to accommodate the learning and teaching limitations experienced in the field.
- d) Content Domain Assessed: a panel of judges that is entirely made up of teachers leads to the enhancement of the effective curriculum at the expense of the official curriculum. The difference between the two is important. The curriculum that is actually implemented by teachers in schools is called the effective curriculum. The effective curriculum consists of those topics and learning objectives that teachers actually teach to students. The effective



curriculum stands in contrast to the desired curriculum. The official or desired curriculum consists of those topics and learning objectives which are found in the national curriculum and which government desires to be taught. The effective and desired curriculums are often overlapping, but are also different. Obviously, when a national curriculum exists and when government invests in educational inputs, it is desirable to have these two curricula be congruent.

- e) Test Dimensionality: the introduction of Criterion Referenced Testing following the Revised National Policy on Education recommendations in 1994 encouraged assessment of a broad range of skills. Every examination paper developed was based on a blue print that ensured test items targeted both low order and high order cognitive skills. The Angoff method, however, does not require SMEs to consider the dimensionality of the test when determining cut off points; this apparent oversight has been noted by Ricker (2003). An examinee can meet a performance standard set using an Angoff method either by being minimally competent on all dimensions or areas of a test, or by making up for deficiencies on a given dimension with strengths in other dimensions. Using the Angoff method, judges only decide the probability that a minimally acceptable candidate will answer an item correctly, but they cannot determine that a student must answer a question correctly in order to be considered competent. (Ricker, 2003)

The only way to ensure that national aspirations on basic primary education are achieved is to assess learners on the basis of the official curriculum. This can be done by setting pre-determined cut-off scores that reflect desired national expectations as embodied in reform policies and programmes.

## CONCLUSION

The Angoff standard setting model has very solid theoretical background and the model is used in many fields. However, the reliability and validity of standards set using Angoff depend to a large extent on the prevailing contextual conditions specific to a country. In Botswana, the educational sector is still at a formative stage as exemplified by numerous government sponsored reforms. Any grading system adopted should enable generation of standards that captured the spirit of those reforms. This translates into setting high standards that would help in the identification of strengths and weaknesses in the learning and teaching processes. A grading system, such as Angoff, that produces lenient cut off points only helps in maintaining the status quo. In the long run, the aims and objectives of the reforms will not be achieved. The observed limitations of commonly used grading systems such as Angoff should serve as a reminder to education researchers and measurement experts to constantly review, refine, modify and develop procedures that are relevant and have the potential to improve the quality of teaching and learning processes.

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## Cultural Concepts of Learning and Development

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### Abstract

People in different cultures vary in their descriptions of their self-concept. These descriptions tend to be either individualistic or collectivist. Individualistic cultures preface independence and self-fulfillment, while collectivist cultures tend to be more group-oriented and carry more social responsibilities. Immigration and colonization have had an impact on many collective cultures that had lived among independent ones. Conflict often occurred when interdependent cultures tried to maintain their identity in their new independent environment. Teachers and students at schools frequently experience similar challenges. Theories of cognitive development show that parents differ in their perception of intelligence among these two cultural types (independent and interdependent).

**Keywords:** Collectivistic, Individualistic, Culture, Educational Psychology, Immigration, development

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## INTRODUCTION

Cultures have long been described as either individualistic or collectivistic, suggesting that people in these cultures differ in the way they live, learn, and socialize as people generally become a product of their cultural values, beliefs and norms. Hofstede (1980) used the terms individualism and collectivism to describe relations between individuals and the groups they identify themselves with (Greenfield, Trumbull, Keller, Rothstein-Fisch, Suzuki, Quiroz, 2006). Individualistic cultural conceptions stress individual “identity, independence, self- fulfillment and “standing out”, while the collectivist cultures focuses on group identity, interdependence, social responsibility and fitting in” (Greenfield et al., 2006, p. 676).

Triandis, Brislin and Hui (1988), reported that when collectivist cultures were asked to complete “I am” sentences they described themselves in terms of organization, family and religion. Hofstede (1980) alternately observed that people from individualistic cultures identified themselves by listing characteristics of personality like hardworking, intelligent and/or athletic. Triandis (1989) has argued that these latter developmental pathways are not universal and seventy percent of the world’s cultures can be defined as collectivists. In collectivist cultures, people

tend to describe themselves in relation to a variety of social groups and they develop collective identity because of their shared experiences with these groups.

Recent increases in migration and immigration across the globe has had an impact on the expansion of educational psychology. Not surprisingly, when people move from their countries of origin to live or work in other countries, they often experience culture shock and face the many challenges of trying to maintain their cultural beliefs in a new and foreign place. The purpose of this paper is an argument within the cultural conception of learning and development. The paper seeks to highlight whether cultural descriptions exist among cultures. Collectivistic and individualistic cultures are also the focus of discussion in this paper. The descriptions above could have an impact on students' learning and cognitive development. Hence, teachers and parents should be aware of these cultural differences so that they can assist learners to adjust in class and community environments particularly if they live among cultures that is not of their own.

## **IMMIGRATION AND EDUCATIONAL PSYCHOLOGY**

Increases in immigration and its effects on educational psychology have led some researchers to develop educational innovations to help immigrant parents and students, as well as teachers in schools. Historically, immigration in America has had a significant impact on education and education systems. Between 1840 and 1920 about 37 million people from Germany, Ireland, Italy, England, Scotland, and Wales immigrated to the United States. They were seeking new opportunities to and a living and were looking to escape the hardships they faced at home (Greenfield, et al., 2006). As school enrollments increased, more teachers were trained and hired in schools across the country. It was in the best interests of the country to have literate citizens and so new post-secondary education institutions were built (Hall, 2003). Programs in existing institutions were upgraded and expanded to reflect the new skills required by teachers. More courses in educational psychology, for example, were added.

Educational psychology and immigration in America were also linked through the notion and process of intelligence testing. As the number of immigrants entering the country increased, so did fears and concerns among some segments of the existing population. This led Immigration and Naturalization Services to be more selective of the immigrants passing through Ellis Island. Educational psychologists were given the opportunity to use intelligence testing to assess the abilities of immigrants. The results of such tests were then used as the basis for admission into the United States.

America today continues to receive immigrants and refugees from across the globe, particularly from Mexico and Central America. Upon settling in their new home, the children in these families, who often hail from collectivist cultures, are enrolled in the much more individual-oriented American public school system (Greenfield et al., 2006). The parents of these children often experience a number of challenges related to the expectations and protocols of their new individualistic culture, while at the same time fighting to maintain their transplanted collectivist culture and values and pass these on to their children. Conflicts for these children emerge when they are expected to uphold one value set at home (the cultural norms of their home country) and expected to adopt and abide by a different value system at school (individualistic values).

The Bridging Cultures Project, an educational intervention helped to resolve such dilemmas, was developed by Greenfield et al in 2006. The project shed new light on our understanding of cross cultural differences and the conflicts faced by children bridging two distinct cultures. The intention was to have individualistic schools develop an awareness of the cultural differences of children accustomed to collectivistic environments and to welcome them regardless of their beliefs. The role of the school was thus seen to be one of assisting students to learn while being aware of their values and beliefs. A child raised in a collective culture, for example, may enjoy working in groups rather than independent work and this should be recognized and encouraged. Children from collectivist cultures may also use other students' belongings (pens, pencils and other materials) without asking for permission to borrow them the sharing of things is valued in collective cultures. Such behaviors can cause confusion even among teachers and so the understanding of these cultural differences is vital to successful student and classroom learning.

Greenfield, et al., (2006) found that immigrant parents were often rooted in their culture of origin when it came to the ways they interacted socially and the cultural norms they taught their children at home. The Latino parents in their study, with children in the third and fourth grades, were often uncooperative with their children's teachers. The disagreements and breakdowns in communication that followed further highlighted the differences between the two cultures. In this context, the following were identified as disputes:

- Individual versus family accomplishments;
- Praise versus criticism;
- Cognitive versus social skills; and
- Oral expressions versus respect for authority (Greenfield, et al., 2006).

Greenfield et al. (2006) worked with seven elementary school teachers and helped them to better understand and create educational bridges between the home culture and the school (p.68). Together the teachers and researchers investigated various ways in which different cultures, values and beliefs could produce different expectations of children and of the school. Greenfield et al. concluded that if schools are to be successful in educating children, parents must participate in the education of their children. At the same time, educators must have knowledge of how cultural values impact the beliefs, expectations and behaviors of the family, teachers and the school community.

It is possible to find features of both individualism and collectivism in every society. Furthermore, cultures are ever changing and new cross-cultural interactions continue to increase the diversity of values held in all societies. It is thus more important than ever that both teachers and parents understand the basic differences between individualistic and collective self-conceptions so that neither puts too much pressure on young learners to abide by foreign or detrimental cultural expectations.

## **COGNITIVE DEVELOPMENT THEORIES**

Theories of cognitive development can be helpful in further understanding collectivist and individualistic cultures and how they differ. Piaget's theory is useful in relation to children's intelligence and is relevant to educational psychology.

Piaget's theory of developmental psychology has grown in popularity from 1928 until the present time. His Western scientific theory of intelligence was influenced by Inhelder and furthered the advancement of intelligence as a developmental goal. According to Greenfield, Keller, Fulign, and Maynard, (2003) the understanding of intelligence as a developmental goal is common to countries characterized by independent social relations because it stresses the individual in relation to the world of objects. Piaget's theory has been widely applied to cognitive development in Europe and other parts of the world and is used mostly in educational settings with regards to children's stages of cognitive development.

Individualistic and collectivist cultures differ in their descriptions of intelligence and how parents perceive intelligence. Africans and Asians generally preface and nurture the social intelligence of their children. Social intelligence is thus dominant in Africa and Asia. In Africa, the theory of development proposed by Nsamenang (as cited in Greenfield, et al., 2006) describes the stages of development in social roles. This notion of development is thought to characterize collective ideas about intelligence (Greenfield et al., 2006). This notion of development is also thought to be more fitting with caregiving practices for infants that stress body contact between the caregiver and the baby, rather than placing the baby to play with developmental toys alone (as is stressed in individualist cultures).

Knowledge is seen as related to intelligence in both individualistic and collective cultures, but each culture has its own unique description of knowledge. The Maya community in Chiapas, Mexico, for example, uses the word 'na' which means 'to know' and refers more to the whole person (Zambrano as cited in Greenfield et al. 2006). The meaning 'na' includes knowing with the body and soul, while 'know' in English generally only includes knowing with the mind and refers to factual knowledge and theoretical understanding (Greenfield, et al., 2003, p. 472). Li (2002) found that the Chinese community has a similar understanding of knowledge as 'na' in that they refer to knowing with the 'heart and soul'. This 'na' type of knowledge involves knowledge that is based in practice and that involves the habit and the character of a person. It is more relevant to a culture which emphasizes and values the social being (Greenfield, et al., 2003).

Social intelligence differs from the sensory motor stage of development as described by Piaget. The Baoule people use the term 'n'glouele' to refer to intelligence and are reluctant to assess their children's current intelligence because they believe that children are always changing, in part because of "educational interventions". They observe their child's behavior in place of observing their intelligence. They are aware that their children will have intelligence in the future as the word "o yo n'glouele foue" means he or she 'who will own intelligence' (Dasen, 1984). For parents

in this culture, the important thing is that their child starts to perform tasks without supervision, is respectful of elders, is polite, speaks well in public, and displays the knowledge needed to use proverbs in speech.

All of these concepts of knowledge and intelligence have implications in learning and thus teachers must endeavor to understand the different types of learners and their socialized knowledge. Research shows that these differences in knowledge and intelligence can result in values conflicts in multicultural communities. In the United States, for example, while schools and teachers concentrate on individual academic success, Latino parents focus more on the social aspects of behavior (Greenfield, et al., 2006). Indicative of this is the Spanish word for education, 'educacion' which means 'the inculcation of proper and respectful behavior'.

Studies of giftedness found similar differences among Native Americans and European Americans (Greenfield et al. 2006). Greenfield (2003) reported that while schooling in the US concentrates more on rewarding the child who stands out from the group (the best of the best), Pueblo Indians (Keres) tend to value the 'community and inclusion' because they believe that the unique qualities of each child will contribute to the welfare of the whole community. Greenfield highlighted two ethno theories of giftedness which are in turn related to two different apprenticeship practices.

Greenfield et al., (2006), define apprenticeship as "informal teaching and learning, a type of knowledge transmission that has evolved from primitive roots in nonhuman primates" (p.678). The apprenticeship process is cherished by the Keres. For them it involves cooperation, mentorship, and inter-generational modeling and "keen observation, attentiveness and focused listening are important methods of learning" (Greenfield et al., 2006 p. 679). Questioning, skepticism, and curiosity though appreciated as methods of learning in individualistic cultures, "are not promoted". Research has found two unique apprenticeship models, the independent model and the interdependent model. Traditional weaving, for example, is an interdependent model of apprenticeship found in Mayan communities in Mexico. Other Mayan communities were found to guide their children in puzzle tasks that also prefaced interdependence (Greenfield et al., 2006). These models tend to be found in 'subsistence economies' where learning occurs in family settings.

The findings of the above researchers have also reported a shifting of these models such that the weaving apprenticeship is becoming more of an "independent mode of learning, as subsistence is replaced by commerce" (p.679). Likewise, in formal education, puzzle learning has shown a shift from a shared cooperative task, in which groups concentrate on a part of the puzzle and share roles in solving that part, to a task in which individuals each work on different parts of the puzzle at the same time (Greenfield et. al., 2006). Both commerce and formal schooling are likened to individualistic types of apprenticeship.

## CONCLUSION

Human beings are products of their environment and they learn the values, beliefs and norms of their culture. Teachers in learning environments need to be aware of and accommodate cultural differences so that learners can maximize their learning and academic potential. Ultimately, Greenfield et al., (2006) concluded that societies are neither wholly individualistic nor collectivistic, but that specific 'cultural patterns and preferences exist'. One of Botswana's four national principles, self-reliance, means for example that the people of Botswana need to have a spirit of working for themselves and of being self-motivated to do so through hard work and personal initiative. In an otherwise or perhaps outwardly collectivist culture, this principle encourages individuals to be independent rather interdependent (Long Term Vision for Botswana, 2016).

While it will remain the prerogative of academics to investigate and report of cultural differences and nuances, it is equally if not more important to ensure that classroom teachers are aware of and prepared to accommodate these differences and the diverse learning styles they engender. It is likewise important that teachers be aware of their own cultural values and endeavor not to impose these uncritically on learners as they interact with them. For parents of students learning in new or foreign cultural environments, it is important that children be given the space to adapt and grow into their new culture should they choose to do so. When children are expected to conform to one culture at school and another at home, these cultural conflicts can create a great deal of stress for young learners. Parents can aspire to maintain and share important cultural traditions and beliefs with their children, but must also allow for certain adaptations to the environment their children presently live in. Educational interventions like the Bridging Cultures Project offers hope that by working together, parents and teachers can help to foster the academic and social success of children living in new or different cultures.

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## The Role of Education in Child Labour Eradication in Akwa Ibom State: A Review of Literature

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### Abstract

For many scholars and policymakers, education is a pragmatic tool for combatting child labour. This is, in part, because a child who is in school fulltime cannot be on the streets fulltime. More so, educational strategies are practical in that their success can be measured in terms of enrolment and attendance rates. Using evidence from studies conducted in developing nations, including Nigeria, this paper argues that despite enrolment and attendance statistics, which are usually quite impressive in initial stages of implementation, unless educational strategies are combined with other non-educational strategies, they will not effectively address the problem of child labour.

**Keywords:** Child Labour, Education, Developing Nations, Nigeria.

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### INTRODUCTION

The incidence of child labour in the developing world, particularly Africa given its long and intractable development crises, is worrisome. Recent statistics reveal that 32% or 48 million child labourers are from Sub-Saharan Africa, 16 million of whom are below the age of fifteen (ILO Report, 1996). The situation in Nigeria, according to the United Nations Children Emergency Fund (UNICEF) State of the World's Children Report (2005), is equally concerning. This report shows that 39% of Nigerian children between the ages of five and fourteen are involved in some form of child labour.

The child labour epidemic has generated great concern, particularly among scholars and policy makers, given its implications for long-term socio-economic development. As Patrinos & Pscharopoulous (1995) point out, child labour inhibits genuine development, creates social problems with serious consequences, and thus thwarts the social development of the nation (Grootaert & Kanbur, 1995). The ultimate goal of such development is, according to the Report of the African Committee of Experts on the Rights and Welfare of the Child (7<sup>th</sup> Ordinary Session (2005), to improve and enhance the quality of all people's life, including children.

It is important to note that everywhere that child labour has been successfully addressed, government has led the formulation of new policies and the implementation of new programmes (Brown, Deardoff, & Stern, 2001). Consequently, governments, especially in developing nations, have been encouraged to adopt, adapt and implement various educational policies in their fight against child labour.



For many scholars and policymakers, education is a pragmatic, “full proof” and tested tool for eradicating and/or controlling child labour in any society (Bhalotra, 2003; Doftori, 2004; Cigno & Rosati, 2006). The attractiveness of educational policies is not unconnected from the fact that education physically removes the child labourer from “the streets” and offers measurable indicators – enrolment rate and attendance rate – which can be used to assess its success. As attractive and potent as the educational option appears to be, however, the available literature suggests that such policies when implemented in isolation from other policies that address poverty will have little effect on ending child labour. The purpose of this study is to evaluate literature reviewing the attempts by some governments to fight child labour through education alone. The aim is to provide new insights on the adequacy or inadequacy of educational policies as tools and to provide as well, a literature base upon which contemporary researchers and policymakers can reassess the current fight against child labour in Nigeria in general and Akwa Ibom State (the study area), in particular.

## **EDUCATION AND CHILD LABOUR**

Education in any society serves as a means for sustaining social cohesion and order, and for the transmission of skills and knowledge across generations. As a means for sustaining social order, education influences children to obey, respond and become skilful without threatening the existing social order. In other words, it ensures the integration of children in society by directing, correcting and shaping their behaviours to fit with the present and future needs of the society. At the same time, it equips the children with the know-how to conquer their environment in order to provide for their needs.

In view of the critical role education plays in any nation, most governments centralize their educational policies and programmes, provide for a child’s right to education in their constitution, and in partnership with international organizations, set and define targets for ensuring education for all. The aim here is to increase the literacy level cum productivity level of the nation (Sinha, 2003). Consequently, education is increasingly geared towards national development to the detriment of individual skill and knowledge development.

According to Doftori (2004), education has a direct link to child labour because child labour is a symptom of a faulty/deprived educational system. This link is not a difficult one to accept given that in those societies where education has been democratized and made accessible to more marginalized families, child labour is rare to non-existent. This is so, in part, because all or almost all children of school age in these societies are in school and so are less vulnerable to exploitation. In societies where education fails and is out of reach for many, children become willing agents for supplementing family income (Ukommi, 2010).

## **EDUCATION AND CHILD LABOUR IN DEVELOPING NATIONS**

Education in developing nations, in addition to preparing students for employment and equipping them with the right value orientation, is also seen as a means for upward social mobility (White, 1996). Thus, people tend to embrace education to the extent that it can help them secure white collar jobs. This explains the emphasis on credentials/paper qualification, sometimes to the detriment of a focus on competence. At a broader level, most developing nations see education as an instrument for national development and a stepping stone to modernization (Levison, 1991). Education is thus widely acknowledged as a vehicle for raising national productivity and for poverty reduction.

Education in developing nations continues to feel the impacts of colonialism (Nielsen, 1998). The colonialists were interested in producing a generation of civil servants that would serve colonial interests. Hence, the education system of the colonial era created Nigerians who were English in attitude, but not in skills. As Rogers and Swinnerton (2000) argue, this approach to education in the developing world is what is giving rise today to a mass of highly certified but largely unskilled people that are unable to address their national challenges.

Today policies on primary and secondary school education in developing nations are largely influenced by the positions of international organisations. The push for compulsory basic education being implemented by most developing nations, for example, is a result of international actions on children’s rights to education (Ray, 2000). These policies, it is hoped, will directly and/or indirectly curb child labour.

Apart from striving realize the right to education for children that has been enshrined in the constitution, policymakers in Nigeria have also attempted to enhance primary education by expanding access and providing new infrastructure. Such actions are backed up in most countries with laws that declare education to be free and compulsory at basic level, with punitive measures for erring parents and children. Here again, one of the principles behind such measures is to keep children in school and away from the streets until they acquire the required minimum level of education. According to Lieten (2000), however, a large population of school aged children in the developing world are still not in school and many have already taken to the streets and are involved in hawking

and/or other forms of child labour. The numerous reasons these children are not attending school include inaccessibility of schools, poor school infrastructure, absolute poverty that push parents to put their children to work instead of school, and poor curriculum that alienates students. These factors in turn prompt parents to forbid their children from attending school and raise children with a dislike or suspicion of the education system.

### **CHILD LABOUR SITUATION IN NIGERIA**

The realities of child labour in Nigeria are not significantly different from those in other developing countries (Ukommi, 2010). Due largely to poverty, many parents put their children to work in order to increase the family income and ensure survival. Thus, to the poor, children are seen as wealth creators. This has a number of implications. It creates an urgency to have as many children as possible, and schooling comes to represent delays in children being able to work.

In order to address the problem of child labour, Nigerian governments at various levels have come to rely on educational policies. In 1976, the federal government in conjunction with state governments implemented the Universal Primary Education (UBE) policy. One of the aims of the policy was to remove a large number of poor children from the streets by granting them access to education. Years after, studies have shown that the policy recorded high enrolment rates in the early stages but these rates subsequently fell steadily over the years (Umar, 1987). The reasons that many of these enrolled children eventually exited their schools include an inadequacy of infrastructure, a lack of teachers or low quality of teachers, parental attitudes to education, and the inaccessibility of schools.

### **LESSONS FROM BANGLADESH AND NEPAL**

In his study of Bangladesh and Nepal, Doftori (2004) noted that like other developing countries with a colonial heritage and a large mass of poor families, these two countries, in line with the prescriptions of international organizations, also:

- \* Enshrined the right to children's education in their respective constitutions;
- \* Declared and implemented free and compulsory basic education to give effect to this inalienable right;
- \* Prescribed penalties for defaulting parents;
- \* Outlawed child labour;
- \* Provided for more schools/infrastructure to cater to the envisaged surge in enrolment;
- \* Provided for capacity building training for teachers and school administrators;
- \* Provided for additional school supplies and teaching aids;
- \* Abolished all forms of fees; and
- \* Democratise access to education.

In his findings, Doftori acknowledged that school enrolment rates for the two countries went up significantly due largely to the implementation of the free and compulsory basic education. Attendance rates, however, did decline with time suggesting that students continued to drop out of school at concerning rates. The reasons for these continued drop-outs included:

- (a) Poverty: a number of those who dropped out were from poor homes and neighbourhoods and found themselves back to the street hawking;
- (b) Distance: governments were not able to bring schools nearer to the pupil;
- (c) Relevance: the curriculum did not impact directly on the pupil and/or reflect their life experiences.
- (d) Teaching Quality: Teachers were inadequate, poorly trained for the programme and sometime absent from schools in some cases taking pupils to work on their farms.

### **THE CASE OF YOBE STATE**

A study conducted in 2009 (Ukommi, 2010) in Yobe State of Nigeria reveals that the Yobe State Government also implemented educational policies aimed at addressing the problem of child labour. Aside from the free and compulsory basic education policy implemented in conjunction with the federal government, the State also provided free uniforms to all students, paid examination fees for students, and provided free meals to all boarding secondary school students and a meal to selected primary school pupils. Special attention has also been paid to the education of the girl-child. New schools are built specifically to provide opportunities for girls who have dropped

out of school. These reforms have been backed up by laws to protect the rights of the child and outlaw all forms of child labour.

Analysis of data generated in the course of the study shows a steady rise in the enrolment and attendance rates of pupils in primary one (see Table 1 below).

Table 1: Enrolment, attendance and drop out figures (2003-2007) of selected schools in Yobe State

Year	Enrolment Figure	Attendance Figure	Drop Out Figure
2003	402	375	27
2004	431	415	16
2005	597	568	29
2006	614	591	23
2007	819	788	31

Adapted from Ukommi (2010).

The above table displays the enrolment figure for 2003 as 402. In 2004, it increased to 431, while in 2005 it rose to 597. In 2006, it was 614 and in 2007 it increased to 819. The table further shows that the attendance rate also rose steadily. In 2003, for example, it was 375 while in 2004 it increased to 415. In 2006, it went up to 568 and in 2007 it increased to 788. The dropout figures, however, also fluctuate. In 2003, 27 students dropped out, 16 students dropped out in 2004, 29 in 2005, 23 in 2006, and 31 in 2007.

The study also revealed that the vast majority of those involved in child labour (72.67%) were also in school (see Table 2 below).

Table 2: Child labourers' response on whether or not they were in school

Response	Frequency	Percentage (%)
Yes	436	72.67
No	164	27.33
Total	600	100.00

Adapted from Ukommi (2010)

As the data presented in Table 2 shows, 436 (72.67%) of the respondents (child labourers) were in school, while just 164 (27.33%) were not in school. These findings contradict the notion that fulltime schooling will prevent children from becoming involved in child labour activities. In terms of why they were engaged in child labour, 73.4% attributed it to parental decision and 87.5% of the child labourers' parents attributed their children's involvement to poverty and attendance problems. The import of this finding is that poverty is a key determinant of child labour (see, Okpukpara & Odurukwe, 2006). Attempts to address child labour must therefore not be limited to educational options alone but combined with serious actions to address the problem of poverty that gives rise to child labour at the first place (Basu, 1998).

## THE FUTURE OF THE AKWA IBOM STATE EXPERIMENT

In 2009 the Akwa Ibom State government declared education at the primary and secondary school levels to be free and compulsory. It went on to upgrade and extend infrastructure in schools across the state, supply books and other teaching aids, pay examination fees for students, abolish all forms of fees in schools, pay a subvention of N100 and N300 for each student in primary and secondary school respectively, and reintroduce close monitoring and supervision of schools and the conducting of examinations. The government also commenced selection examinations for students in SS2 for purposes of placement in SS3 and re-invigorated intra/inter schools debates and competitions. All of this was in addition to the promulgation of the Child's Rights Act that clearly outlawed all forms of child labour and child trafficking.

Expectedly, within a year of implementation, school enrolment in secondary schools increased by 300% (The Sensor, 2010). Beyond this impressive increase in school enrolment, however, much remains to be achieved in terms of eradicating child labour in the state. Despite these impressive enrolment increases, for example, the government has yet to increase the number and quality of teachers so as to improve the student-teacher ratio. Though it must be acknowledged that the number of child labourers has decreased, the population of those still

plying their trade is significant enough to warrant serious re-evaluation of the policy. If lessons from elsewhere are anything to go by, the number of children engaged in child labour will increase as the attendance rate of students decreases over time. Meanwhile, other education-related concerns remain: some school administrators have begun to reintroduce school fees under different pretexts, and investments in infrastructure have yet to catch up with increases in enrolment.

## CONCLUSION

The foregoing analysis has suggested that Akwa Ibom State has adopted the traditional-educational approach to eradicating child labour. Like other states and countries that have adopted this traditional approach, Akwa Ibom State may not achieve its desired result, especially in the long term. This is because the root cause of child labour, poverty, has not been adequately addressed. In order for educational policies to achieve their desired goals in terms of child labour eradication and control, they must be implemented along with genuine attempts to empower the populace and free them from poverty. It is only in such a combination that child labour in Akwa Ibom State will truly be eliminated. So long as absolute poverty continues to ravage the people, parents will continue to use their children as income/wealth creators to, in their thinking, guarantee their collective survival.

## RECOMMENDATIONS

In line with the findings of this study, the following recommendations are offered in the belief that they will help in the control and eventual eradication of child labour, particularly in the study area.

(1) Policies aimed at child labour eradication are not comprehensive enough, particularly in the study area, to address a critical factor with a significant impact on child labour – poverty. Thus, for child labour to be successfully controlled and eventually eradicated, the formulation and implementation of a well articulated and comprehensive policy that will improve access to school, enrich curriculum content, raise the income level of households, and enhance the general well-being of the family is recommended. This will reduce the rate at which children are used by families as income earners.

(2) The incidence of child labour appears to be more prevalent in countries and states that are facing severe economic problems. Thus, it is recommended that developing countries and economically weak states make genuine efforts to develop their economy and promote social justice, for it is only in doing so that the standard of living of the people in real terms will improve and reduce the incidence of child labour.

(3) Governments and agencies must closely monitor the implementation of free and compulsory education policies to ensure that policy aims are not abandoned or defeated by the operators of the school system.

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