

UNIVERSITY OF CAPE COAST

THE STANINE GRADING SYSTEM USED IN THE BASIC EDUCATION
CERTIFICATE EXAMINATION IN GHANA: A CRITICAL
ASSESSMENT.

EKOW ADDADZI-KOOM

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ASSESSMENT

BY

EKOW ADDADZI-KOOM

Thesis submitted to the Institute for Educational Planning and Administration of the Faculty of Education, University of Cape Coast, in partial fulfilment of the requirements for award of Master of Philosophy Degree in Educational Planning.

JANUARY 2013

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature:..... Date:.....

Name: Ekow Addadzi-Koom

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature:..... Date:.....

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ABSTRACT

The thesis sought to establish an understanding of the Basic Education Certificate Examination (BECE) grading system and thus deciphering the mechanisms through which candidates' final grades are determined.

The study objective was realised through semi-structured interviews with ten test experts from the West African Examinations Council (WAEC), Ghana Education Service (GES), University of Cape Coast (UCC) and University of Education, (UE) Winneba. The recorded interviews were transcribed and analysed.

The research revealed that, the stanine grading system used in grading BECE candidates is norm-referenced and one not suitable for both selection and certification. Secondly, an individual's grade is determined not only by his/her achievements and efforts but also by achievements and efforts of his/her cohorts. This suggests that aggregate scores of candidates are not comparable between years and thus evaluating educational standards over time is impossible.

It is therefore, recommended that Ghana joins the rest of the world by adopting a criterion-referenced system of grading at the basic level of her educational structure. It is further recommended that the Ministry of Education should define a National Minimum Standard (NMS) in the basic education system and incorporate same in the school curriculum.

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DEDICATION

To the memory of my late Grandmother: Mrs. Mary Nyarku (Alias
Adwoa Atta).

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CHAPTER ONE

INTRODUCTION

Background to the Study

The measurement of students' outcomes forms an integral part of schooling. Educational institutions assess students by grading their performance. Grading is a process of deciding how many marks a candidate needs in order to obtain a certain grade. Grades thus provide an easy-to-understand data about student performance. They are meant to be a concrete evaluation of student knowledge, performance and attainment.

According to Guskey (2001):

Grading systems represent just one aspect of an interconnecting network of educational processes, and any attempt to describe grading systems without considering other aspects of this network must necessarily be incomplete. Perhaps the most important of these processes concerns the procedures used to produce grades in the first place (p.20).

Grades influenced by other factors give students a false sense of readiness and misinforms those who seek to guide the students in their future educational pursuits. Hence a good grading system must elicit trust and confidence through

the delivery of fair, reliable and valid assessment outcomes on which both individuals and institutions could make appropriate decisions (Ayesu & Kofitse, 2010). The Basic Education Certificate Examination (BECE) came with the implementation of the Junior Secondary School (JSS) programme in 1987 with the stanine as the grading system. The West African Examinations Council (WAEC) conducts the examination on behalf of the Ghana Education Service (GES). For this reason, all policy decisions about the BECE are made by the GES or with its consent, for WAEC to implement.

In July, 1990, 127,467 JSS 3 pupils sat for the BECE. A total number of 107,907 candidates – representing 85% of the total number of candidates – obtained the minimum aggregate of 36 required for entry into senior secondary school (SSS) (Aboagye, 2002). According to Aboagye (2002), there was a re-awakening of awareness and interest in schools especially in rural communities. Expectations were heightened. The decline in the quality of education in Ghana was believed to be over.

However, their performance at the Senior Secondary School Certificate Examination (SSSCE) in 1993 was generally poor (Table 1). A total of 1,656 candidates – representing 3.93% of the total number of 42,105 candidates passed in all the nine subjects (WAEC releases detail of SSS exams, 1994). The uproar that greeted the results was unprecedented. The situation was compounded by the introduction of the University Entrance Examination by the Inter-University Committee on SSS admission.

Table 1: Summary Statistics of SSSCE 1993 Results

Passes	No.	%	Cumulative	Cumulative %
9	1656	3.93	1656	3.93
8	1791	4.08	3375	8.01
7	2036	4.84	5411	12.85
6	2435	5.78	7846	18.63
5	3120	7.41	10966	26.04
4	3948	9.38	14914	35.42
3	4667	11.08	19581	46.50
2	5427	12.89	25008	59.39
1	8222	19.53	33230	78.92
0	8875	21.08	42105	100.00

Source: Computer Services Division of WAEC (1994)

Following the abysmal performance of students at the first SSS examination, the Ministry of Education in collaboration with the Ghana Education Service put the following measures in place as part of an overall review programme to strengthen the reform (Quainoo & Ofosuhene 1994).

1. A ban was placed on the opening of new Senior Secondary Schools throughout the country. The ban was to enable the Ministry to provide adequate logistics and personnel for the existing ones.
2. A review committee was constituted to examine the various ramifications of the SSS programme.

3. Where two or three Senior Secondary Schools were located in one vicinity, the students were to be merged to form one school for proper utilization of resources.
4. Special centres were set up to re-register SSS graduates who were willing to better their results.
5. School heads were directed to re-admit their former students as day students to enable them resit the examination.
6. WAEC was asked to re-register the students using the same index numbers for the 1993 examination for the resit examination in 1994.

Students, parents, teachers and the general public all questioned the excellent results that had been produced by these same candidates at the BECE three years earlier. Stakeholders became increasingly agitated after the release of each year's BECE results. To minimize the challenges that parents, head of schools and candidates alike go through in negotiating for admission into SHS, the Ministry of Education introduced the Computer School Selection and Placement System (CSSPS) in 2005. With the new system, selection of students into Senior High School (SHS) was based on the total raw score of six subjects.

Nothing has changed since the introduction of the CSSPS. The process is frustrating to many students and their parents. A student scores grade one in all his/her subjects and still fails to get placement in his/her first choice school (Appendix A). Well meaning personalities in academia have questioned the grading system. For example, Anku (2009) posed the questions:

Under what conditions would a student not get posted to his/her first choice school, when this student got a total of aggregate 6 in the required 6 subjects and a surplus of 4 ones in the other 4 subjects? What options are left for the student who got 10 ones but was not offered his/her first choice school and many in a similar situation? What answers do the Ghana Education Service and the Ministry of Education have to these questions? (p.9).

Besides the questions, there were other complaints about the grading system. For example Essah-Hienno (2011) expressed the following concerns:

Zero per cent score at Basic Education Certificate Examination (BECE) in some Junior High Schools has become the order of the day since the inception of the CSSPS in September 2005. It is a common feature these days to hear and read from both the electronic and print media of schools scoring zero per cent in the BECE. It should be pre-prosterous that in this modern day and age, schools should continue to record zero per cent. The CSSPS is in its seventh year and one would have expected that the zero per cent syndrome would have been a thing of the past, but rather strangely, it is still occurring (p.9).

Other significant concerns have been raised by many district assemblies over the poor performance of pupils in basic schools in their respective districts. In some instances, headteachers and circuit supervisors were transferred (Tetteh 2011). The uproar that greeted the maiden SSSCE results now belongs to history. However, concerns over BECE results still persist, more than two decades after the maiden examination. There is, therefore, the need for more understanding of the Stanine grading system as used in the BECE.

Statement of the Problem

Stakeholders' lack of understanding of the stanine grading system used in the BECE has led to this research. A significant concern has been raised by many educators over the need for more understanding of the stanine grading system.

Mereku (2003) asserts that:

Some heads of Senior Secondary Schools (SSS) and concerned educators in the country have observed that there is no match between the apparently high achievement of pupils in the BECE and their performance at the SSS level, and for that reason criticized the validity of the BECE (p.25).

The fall out of the above assertion is the perception that educational standards, especially at the basic level, are falling. This is a development which has dominated public discussion on education over the years and taken a political twist lately. Motey (2012), reports that Dr. Paa Kwesi Nduom has described the

BECE as an obstacle that terminated the education of Ghanaian children and recommended its abolition. Ayesu and Kofitse (2010) are of the opinion that:

There is the need for more frequent engagement with the public and openness on issues the public needs to know. There is also the need to disabuse the mind of the public about certain myth like WAEC does not use continuous assessment scores and people can buy qualifications. The grading systems used for both the WASSCE and BECE need to be clarified as a matter of urgency (p.7).

There is an awful lack of understanding which is essential to the long-term credibility and acceptability of the Stanine Grading System. The objective of the study, therefore, was to systematically probe into the Stanine Grading System to ascertain its validity or otherwise since it is so close to the hearts of stakeholders.

Purpose of the Study

The purpose of the study was to establish understanding of the Stanine Grading System as used in the BECE. There are many ways to add understanding to a field of study. Consequently the objectives of the study were to:

1. State the experts' view about the stanine grading system.
2. State the experts' opinions about the West African Senior School Certificate Examination (WASSCE) grading system.

3. Investigate the appropriateness of the stanine grading system for both selection and certification.
4. Establish the effect of the stanine grading system on performance.

Research Questions

The study was guided by the following research questions:

1. What do the experts know about the stanine grading system?
2. What do the experts' know about the WASSCE grading system?
3. How different is the stanine grading system from the WASSCE grading system?
4. How appropriate is the stanine grading system for both selection and certification?
5. How comparable are aggregate scores between years?

Significance of the Study

Since 1990, students have been questioning their grades in the BECE. The introduction of the CSSPS has not changed stakeholders misgivings about the grading system and they are at a loss as to what exactly the GES and WAEC are unleashing upon innocent students.

How do stakeholders come to terms with the grading system? When will the nightmares of otherwise brilliant students end? Herein lies the significance of this study. Detailed information about the stanine grading system must be gathered and made available to the general public, so that they can in turn make

informed decisions and draw intellectual and logical conclusions on students performance at the BECE.

Delimitation of the Study

The study concentrated on how the final raw scores of students were graded. How these scores were obtained and what constituted the final raw scores were assumed. Therefore, the population for the study consisted exclusively of experts in the field of grading and the study was restricted to the Greater Accra and Central Regions.

Limitations of the Study

The first limitation to the study is the lack of reliable data in State establishments which made it difficult getting access to vital information. In some instance I had to make do with information from secondary sources. But information gathered from a secondary source may not be authentically factual or inappropriate for the current study. For instance, in the absence of the original document on the educational reforms of 1987, I had to rely on the Technical Working committee document on the CSSPS. The document states inter alia that before the CSSPS came into operation in September, 2005, candidates with aggregate 6 – 30 were deemed to have qualified for selection to enter senior secondary school or Technical/Vocational Institute. Clearly, the authors of the document were living in the present since the aggregate was 6 – 36 before the CSSPS came into operation in 2005.

Secondly, there were no controls on informants and thus attributing any particular effect to the stanine system may be invalid. For example, when the transcripts of informants were returned to them for authentication, some came back with opinions completely different from those expressed earlier and which had been taped. There is, therefore, no guarantee that the new responses were the informants own views devoid of external influence(s).

Finally, the outcome of the study may not reflect the typical opinions of the entire academia and experts in the field of measurement and evaluation in the country, since the study was restricted to test experts at WAEC and GES headquarters, the University of Cape Coast and the University of Education, Winneba.

Definition of Terms

The following abbreviations and terms have been used in the study:

- J.S.S - Junior Secondary School. This refers to the last three years of basic school
- B.E.C.E - Basic Education Certificate Examination. This examination is both for certification and selection for Senior Secondary School. It is conducted by the West African Examinations Council on behalf of the Ghana Education Service.
- SSS - Senior Secondary School. This is the former name of second cycle stage of formal education in the Ghanaian system.

- SSSCE - Senior Secondary School Certificate Examination. This examination was both for certification and selection to tertiary institutions. It was conducted by the West African Examinations Council on behalf of the Ghana Education Service.
- WAEC - West African Examinations Council. Refers to the body charged with the responsibility of conducting standardized test to all first and second cycle final year students in Ghana.
- GES - Ghana Education Service. It is the implementing agency for the Ministry of Education.
- SHS - Senior High School. This refers to the reformed second cycle stage of formal education in the Ghanaian system.
- CSSPS - Computer school selection and placement system. Is the system through which successful Junior High School students are placed
- WASSCE - West African Senior School Certificate Examination. This is an international examination for both certification and selection to tertiary institutions. It is conducted by the West African Examinations Council. The West African Examinations Council is the sole assessment board.

Organization of the Rest of the Study

The study consists of five chapters. Relevant and related literature is reviewed in the second chapter. The third chapter discusses the methodology adopted for the study. It describes the research design, population, sample, sampling technique, research instruments, pilot-testing of the instruments, data collection and plan for analyzing the data. Results and discussion are also captured in the fourth chapter. The fifth and final chapter is made up of a summary of major findings, conclusions and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter examines the views of various researchers on grading as a means of evaluating students' attainments, abilities and determining their progress in school. The review of related literature begins with a brief discourse on educational reforms in Ghana and is followed up with a treatise on understanding grading. An examination of grading systems in education in Ghana then follows to give a clear view of the topic.

Educational Reforms

Education is the medium through which a society produces the people who help transform it. The development of every nation, therefore, depends to a very large extent on the quality of education it gives to its youth. Noguera (2009) stated that:

In all societies, and at all times, education plays a contradictory and conflicting role. It must, on the one hand, provide each generation of young people with the knowledge and skills required to participating fully in modern society and it must also cultivate the creativity and problem solving ability for future generations to find solutions to the problems they will inherit from their predecessors (p. 175).

In pursuance of the functions above, successive Ghanaian governments since independence in 1957 have made several attempts to review and/or reform the education system to make it, according to official parlance, “more relevant to national needs”. As a result, several reforms have been made to reflect the needs of the nation. In the early 1970s Ghana embarked on reforms which marked the first clear departure from the colonial education system.

The implementation of the new system was made in September, 1976 with the establishment of nine experimental JSS, one in each region by the GES. By the 1981/82 academic year, there were 118 JSS throughout the country (Table 2).

Table 2: Junior Secondary Schools 1981/82

Region	No.
Ashanti	23
Brong Ahafo	12
Central	07
Eastern	18
Greater Accra	05
Northern	12
Upper	13
Volta	18
Western	10
Total	118

Source: Mimeo, Ghana Education Service, Accra cited by Aboagye (2002, p.64)

The full implementation of the JSS programme started with an official launching ceremony country-wide on 29th September, 1987 (Aboagye, 2002).

Among the objectives of the reforms, according to Benneh (2001) are:

1. Increasing access to education at all levels, providing expansion and equity.
2. Improving institutional infrastructure, pedagogic efficiency and effectiveness.
3. Expanding school curricula to provide for academic, cultural, technical and vocational subjects.
4. Changing the structure of education by reducing the length of pre-university education from 17 to 12 years and increasing cost-effectiveness (p.4).

The Basic Education Certificate Examination (BECE) was introduced as part of the country's education reforms of 1987. The BECE examination is conducted by WAEC on behalf of the GES. For this reason, all policy decisions about the BECE are made by the GES or with its consent, for WAEC to implement.

The grading system adopted by GES for the BECE is the Stanine (an acronym from Standard Nine) system. This grading system uses nine numerical grades (1 to 9) to express the level of performance of candidates. Grade one being the highest and Grade nine, the lowest.

Understanding Grading

Grading involves the collection and evaluation of evidence on students' achievement or performance over a specified period of time. Through this process, various types of descriptive information and measures of students' performance are converted into grades that summarize students' accomplishments (Guskey & Pollio, 2005).

Grades imply a set of symbols, words, numbers, or letters that are used to designate different levels of achievement or performance. They might be letter grades such as A, B, C, D, E, F, as happened with the Senior Secondary School Certificate Examination (SSSCE) or numbers such as 1, 2, 3, 4, 5, 6, 7, 8, 9 as in the BECE. Some grades are also expressed as a combination of alphabets and numbers (alphanumeric) such as A1, B2, B3, C4, C5, C6, C7, E8, F9 for the WASSCE or simply as pass/fail as in most professional examinations such as the Association of Certified Chartered Accountants (ACCA).

Grading and reporting, according to Guskey and Pollio (2005), are relatively recent phenomena in education. Throughout much of the nineteenth century teachers reported students learning progress orally to parents, usually during visits to students' homes. As the number of students increased, schools began to group students into grade levels according to their age.

With the passage of time, the number of students entering high schools increased. As a result, subject area instruction in high schools became increasingly specific and student populations became more diverse. High school teachers began using percentages and other similar markings to certify students'

accomplishment in different subject areas. This was the beginning of the grading systems that exist today. Grades provide incentives to learn for many students. Most students are motivated to attain the highest grades and to receive the recognition that often accompanies such grades, and they are motivated to avoid the lowest grades and the negative outcomes that sometimes are associated with those grades.

Grades provide basis for self evaluation and for analysis of strengths and weaknesses, and for creating a general impression of academic promise, all of which may enter into educational and career planning (Azeem, Afzal and Majoka, 2010). Scriven (as cited in Azeem et al., 2010), identifies six functions of grading:

1. To describe unambiguously the work, merit, or value of the work accomplished.
2. To improve the capacity of students to identify goodwork, that is, to improve their self-evaluation or discrimination skills with respect to work submitted.
3. To stimulate and encourage good work by students.
4. To communicate the teacher's judgment of student's progress.
5. To inform the teacher, about what students have and haven't learned.
6. To select students for rewards or continued education.

Grades are therefore, intended mainly to communicate the achievement status of students. The grade, then symbolizes the extent to which a student has attained the important instructional goals of the reporting period for which the

grade is assigned. Grades would not be needed if there were no need to communicate achievement to students and others outside the school setting.

Assigning grades is one of the most difficult tasks that educational establishments and teachers face in teaching. Teachers have to combine a variety of contrasting elements of student performance into a single grade: verbal skills, ability to memorize, retention of factual information, ability to synthesize material, ability to make reasoned judgments about the material. To this end, Airasian (2000), suggests the following guidelines to aid grading:

1. The chosen grading system must be consistent with the purpose of grading.
2. Data for grading ought to be gathered throughout the grading period.
3. Varied pieces of data should be collected (tests, quizzes etc).
4. Inform students about the system used in grading them.
5. The grading system must separate subject matter achievements from non-academic performance (effort, motivation etc). Non-academic performance is to be evaluated independently of subject matter performance.
6. Grading should be based on valid and reliable assessment evidence.
7. Important evidence of achievement must be weighted more than less-important evidence (eg tests weighted more than quizzes).
8. The grading system must be applied consistently across all students.

Grades stimulate, direct and reward the educational efforts of students.

Ebel and Frisbie (1991) underscore this point thus:

To serve effectively the purpose of stimulating, directing and rewarding students efforts to learn, grades must be valid. The highest grades must go to those students who have demonstrated the highest levels of achievement with respect to course objectives. Grades must be based on sufficient evidence. They must report the degree of achievement as precisely as possible under the circumstances. If grades are assigned carelessly, their long-run effects on the educational efforts of students cannot be good. (p. 264).

Grades also reflect the mastery of skills and provide information for the promotion of students to higher education. Grades depend a great deal on values, assumptions, and educational philosophy.

The Meaning Grades Convey

The process of assigning grades to students' achievement is called grading. Ebel and Frisbie (1991) have opined that:

Grading involves the use of a set of specialized symbols whose meanings ought to be clearly defined and uniformly understood by all concerned. Only to the degree that the grading symbols have the same meaning for all who use them and it is possible for grades to serve the purposes of communication meaningfully and precisely (p. 268).

Thus, the meaning of each grading symbol ought to be clearly defined. Since the meaning of grading practices are matters of legitimate concern to others, the meaning of a grade should depend as little as possible on the instructor, department or institution who issued it. According to Ebel and Frisbie (1991), a particular grade carries three distinct pieces of information:

1. A grade represents the comparison of a student's performance with some absolute standard (i.e independent of the performance of his/her cohorts) or with some relative standard (i.e with reference to the performance of his/her cohorts).
2. A grade represents quality of performance with respect to either amount of effort experienced or amount of achievement demonstrated.
3. A grade represents either the amount of knowledge possessed at the end of instruction or the amount of learning attributable to the instructional programme.

Developing a Grading Philosophy

The process of grading, according to Azeem et al. (2010), requires educational authorities to make a number of decisions that are grounded in their value system. What to do about grading or how to do it is often, less a matter of correctness and more a matter of preference and perceived value or importance. Educationists have identified a number of questions, about which people might disagree because of their personal beliefs, values, and experiences. These are:

1. What meaning should each grade symbol carry?
2. What should “failure” mean?
3. What elements of performance should be incorporated in a grade?
4. How should grades in a class be distributed?
5. How should components of the grade be combined?
6. What method should be used to assign grades?
7. What other factors can influence the philosophy of grading?

These are questions for which research studies cannot provide answers, but they are the types of questions that must be answered by each teacher/agency who issues grades. Grading systems, in general, are based on the following four philosophies of grading:

1. **Performance Comparison:** Grades are indicators of relative knowledge, skill, and proficiency in terms of performance that a student has and should be compared to the performance of other students in that course. The performance of students’ can be compared in various ways. The standard to be used for the grade is the mean or average score of the class on a test.
2. **Criteria Based Performance:** Grades are based on preset expectations or criteria. Students’ performance is reported according to preset criteria. Every student has the chance to obtain the same grade if each of them met the preset expectations. The grades are usually expressed as the percentage of success achieved. The performance ranges are not fixed, they may vary from institution to institution.

3. **Poor Performance Reflected in Grades:** Students come into the course with an A, and it is theirs to lose it through poor performance or absence. The class teacher considers all factors that contribute towards assessing students' performance and then rate students. Teacher revises students grade A and awards him/her lower grade that he/she deserves.
4. **Grades as Per Requirements:** Grades are subjective assessments of how a student is performing according to his/her potential. Students who plan to major in a subject should be graded higher than a student just taking a course out of general interest.

Generally the first three philosophies are in use for assigning grades to the student. Mostly, the grades reflect students' achievements in tests and these grades are used for comparison, and ranking of students such as the merit calculation. There is a need to devise a criterion which reflects the performance of students that is grades should reflect the performance of all the activities performed by the student during the assessment period.

Elements of a Grading System

A good grading system, may meet three criteria (Azeem et al., 2010):

1. It should accurately reflect differences in student performances.
2. It should be clear to students so they can chart their own progress.
3. It should be fair.

Any grading scheme that a teacher uses, should allow students to calculate (at least roughly) how they are doing in the course at any point in the academic year. Some grading schemes make it impossible for students to estimate their final grades because the cut off points in the final distribution are not determined until the end of the course.

A complete description of the grading system should appear in the course syllabus, including the amount of credit for each assignment, how the final grades will be calculated, and the grade equivalents for the final scores. Also, students should perceive the grading system to be fair and equitable, rewarding them proportionately for their achievements.

The two most common forms of grading are, letter grades (eg A, B, ..., F) and numerical grades (eg 1, 2, 3, ..., 9). However, the most widely used system is letter grades, which is the main grading system in secondary and tertiary institutions. There are three facets to the meaning of a letter grade, and the teacher needs to make a decision about each facet for his or her plan. First, the grade compares performance either to a relative standard or to an absolute standard.

A second facet of the meaning of grade indicates whether achievement or effort is being described. Obviously, effort and achievement are not independent but a single grade cannot describe both. Ideally, separate grades or marks should be used for each trait so that the two can be described more accurately at the same time. If only one grade can be issued, then describing achievement rather than effort seems more beneficial.

The third fact is a time-related reference-growth versus status. If a grade is to indicate the amount of growth from the beginning of the grading period until the end, the highest grades should be assigned to those who demonstrate the greatest gains. In many subject areas, those with high beginning achievement levels will likely to grow the least. In fact, in some units of instruction, the highest achieving student may grow very little. Interestingly, assigning low grade to such a student seems opposite to the general notion of what grades usually predict.

In short, most parents, students, and teachers are interested in whether growth has occurred, as they should be. More important to them is the level of achievement at a particular time and whether that level is sufficient for moving onto the next class. There are many grading methods, most of these methods may be examined using two basic models. These models are criterion referencing using absolute standards and norm referencing using relative standards.

Problems of Grading

The problems of using grades to describe student achievement, according to Ebel and Frisbie (1991) have been persistently troublesome at all levels of education. Problems of grading are difficult to solve permanently for the simple reason that they are philosophical in nature. Grading systems tend to be issues in educational controversies. Drifts and shifts in educational philosophy influence some educationists to espouse one philosophy, as against another.

In addressing the issue of problems associated with grading, Ebel and Frisbie (1991) are of the belief that:

No system of grading is likely to be found that will make the process of grading easy, painless, and generally satisfactory. This is not to say that present grading practices are beyond improvement. It is only to say that no new grading system, no matter how cleverly devised and conscientiously followed, is likely to solve the basic problems of grading. The real need is not for some new system. Good systems already exist. The real need is in using the existing systems to produce the most valid grades possible for the limited set of purposes grade should serve (pp. 266 – 267).

Clearly, there are no hard – and – fast rules about the best ways to grade. There are different grading methods. Educationists have to decide which best serves their situation. There is, however, the need to have a grading system that makes the interpretation of grades easy and allows all stakeholders make prediction about the performance of students on the basis of grades obtained.

Short Comings of Grades

Stiggins, Frisbie and Griswold (as cited in Ebel and Frisbie, 1991) have identified two major deficiencies of grades, as they are assigned in many educational institutions. These are:

1. The lack of clear and generally accepted definitions of what the various grades mean.
2. The lack of sufficient, relevant, and objective evidence to use as a basis for assigning grades

The consequences arising out of these shortcomings include the following:

1. Grading standards and the meanings of grades tend to vary from institution to institution.
2. Validity of grades is reduced.
3. Grades can be inflated.

In the light of the above, Ebel and Frisbie (1991) made a recommendation which I want to allude to. They recommended that the tools of performance assessment must be well designed and their collective worth reliably administered.

Validity of Grades

Grades should reflect the true academic achievement and readiness of the student for further studies. However, grade inflation as a result of leniency in the grading system gives students a false sense of readiness and provide misinformation to those who seek to guide students in their future educational endeavours.

In the words of Ebel and Frisbie (1991):

A distinction should be made between the aspects of performance that a teacher evaluates and the subset of those that are appropriate to use for assigning course grades. Components that contribute to determining course grades should reflect students' competence with respect to the instructional objectives. The components of a grade should be academically oriented: grades should not be tools of discipline or rewards for pleasant personalities or good attitudes. A student who is assigned an A grade should have a firm grasp of the skills and knowledge taught (pp. 273 – 274).

It is difficult to devise a grading system in which the final grade fairly reflects all aspects of a student's performance. The problematic nature of grading is fostered from the difficulties associated with evaluation, differing educational philosophies, and the unpleasant task of judging a learner's ability. In summary, Ebel and Frisbie (1991) admonish:

If grades are inaccurate, invalid, or meaningless, the remedy lies less in de-emphasizing grades than in assigning them more carefully so that they more truly report the extent of important achievements. Instead of seeking to minimize their importance or seeking to find some less painful substitute, teachers should devote more attention to improving the validity and precision of the grades they assign and to minimizing misinterpretation of grades by students, teacher, and others who use them (p. 265).

Grades are necessary and their effectiveness is highly dependent upon the accuracy of the tests on which they are based. Because the purpose of grades is to communicate the extent to which students have learned the course materials, grades should be based primarily on the students' performance on exams, quizzes and other measures of learning specified at the beginning of the course. Items such as effort, attendance, or frequency of participation, although contributing factors to student learning, do not actually reflect the extent to which students have learned the course materials. Grades, therefore, should be based on sufficient data and the basis statistically sound to permit valid evaluations of student achievements.

Types of Grading Systems

Grades are summary evaluations of how well a student has performed a set of tasks in one instructional unit or over a series of several units. They are used as self-evaluative measures and also report students' educational status to parents, future teachers, and prospective employers. Grades must be based on sufficient evidence. They must report the degree of achievement as precisely as possible under the circumstances. If grades are assigned carelessly, their long-run effects on the educational efforts of students cannot be good. To serve effectively the purpose of stimulating, directing and rewarding student efforts to learn, grades must be valid. The highest grades must go to those students who have demonstrated the highest levels of achievement with respect to course objectives. (Ebel & Frisbie, 1991).

Most nations have individual grading systems unique to their own schools. However, several international standards for grading have arisen recently. Grading systems can be classified into two broad systems. These are:

1. Norm-Referenced
2. Criterion-Referenced

Norm-Referenced Grading Systems

Norm-referenced grading systems, also known as grading on the curve, are based on the statistical principle of normal distribution. According to Tamakloe, Amedahe and Atta (2005, p. 173), “norm-referenced test measures an individual’s performance against the scores attained by others completing the same test”. In other words, norm-referenced grading identifies whether the test taker performed better or worse than other test takers, but not whether the test taker knows more or less material than is necessary for a given purpose. Students are simply rank-ordered according to some measure of their performance or proficiency.

Norm-referenced scores, therefore, depend upon a relative standard in evaluating students’ performance. The relative standard can be in terms of mean score of the group, standard scores or percentiles (Tamakloe et al., 2005). The process of transforming a raw score to a standard score is referred to as standardization.

Besides standardization, another approach is to set a quota of students who are going to pass at each grade. This method specifies the precise percentages of

students that should be assigned each grade. A 6-22-44-22-6 system would imply, the top 6% are graded A, the next 22% are graded B, grade C is awarded to the next 44%, grade D to the next 22% and the bottom 6% graded E (Guskey & Pollio 2005).

Grading on the curve is considered appropriate because it is a well known fact that the distribution of students' intelligence test scores approximates a normal probability curve. Since innate intelligence and school achievement are thought to be directly related, such a procedure seems both fair and equitable. Grading on the curve also relieves examining bodies of the difficult task of having to identify specific learning criteria (Guskey & Pollio, 2005).

Advantages

Norm-referenced grading systems are very easy for educators to use. They work well in situations requiring rigid differentiation among students, where, for example, due to programme size restrictions, only a certain percentage of the students can advance to higher level courses. They are generally appropriate in large courses which do not encourage cooperation among students (University of Minnesota, UOM, 2012).

Disadvantages

One objection to norm-referenced grading systems is that an individual's grade is determined not only by his/her achievements but also by the achievements of others. In a large, non-selective class, you can be fairly confident

that the class is representative of the student population, however, in small classes the group may not be a representative sample. One student may get an A in a low-achieving class while a fellow student with the same score in a higher-achieving class receives B.

A second objection to norm-referenced grading system is that it promotes competition rather than cooperation. When students are pitted against each other for the few A's to be given out, they're less likely to be helpful to each other (UOM, 2012).

Modification

Norm-referenced grading systems can be modified. One method of modifying a norm-referenced system is anchoring. The distribution of examination scores accumulated over many years serves as the anchor. The present cohort is compared with the cumulative distribution to judge the ability of the group and the appropriate allocation of grades. Anchoring works well in multi-section courses where the same text, same syllabus and same examinations are used. The common examination can be used to reveal whether and how the cohorts differ in achievement and the grade in individual courses are adjusted accordingly. Modifying the norm-referenced system by anchoring helps mitigate the feelings of competition among students since they may feel they are not directly in competition with each other (UOM, 2012).

Criterion-Referenced Grading Systems

A criterion-referenced test basically measures whether a student has or has not attained a specified level of standard. That is to say a criterion-referenced test determines the degree to which the student has attained a criterion performance. It answers the question concerning/dealing with what a person can do or cannot do with respect to a specific instructional programme, that is if he has reached an established absolute standard of mastery or not. In other words it tells us what a student has learned or not learned. The standard used to determine mastery or non mastery is based upon an analysis of well defined instructional objectives. This is independent of the scores obtained by other students completing the same course and taking the same test (Tamakloe et al., 2005).

According to Guskey and Pollio (2005), criterion – referenced grading typically fall into three general categories:

1. **Product** criteria grading communicates a summative evaluation of student achievement and performance. In other words, it focuses on what students know and are able to do at a particular point in time. Grades are thus based exclusively on final examination scores.
2. **Process** criteria grading reflects not just the final examination scores but also how students got there. Effort or work habits, regular classroom quizzes, homework, class participation and attendance are considered before grades are awarded.
3. **Progress** criteria, often referred to as improvement scoring, learning gain, or value-added grading, consider how much students have gained from their

learning experiences. In other words, how far students have come over a particular period of time is taken into consideration, rather than just where they are.

Educators who base their grading procedures on learning criteria typically use some combination of these three types. However, researchers and measurement specialists generally recommend the use of product criteria exclusively in determining students' grades. They point out that the more process and progress criteria come into play, the more subjective and biased grades are likely to be.

To develop a grading system that provides quality information about student learning, therefore, requires clear thinking, careful planning, excellent communication skills, and an overriding concern for the well-being of students. A combination of these skills and an in-depth knowledge of effective practices will inevitably result in a more efficient and effective grading system.

Advantages

Students are not competing with each other and are thus more likely to actively help each other learn. A student's grade is not influenced by the calibre of his/her cohorts (UOM, 2012).

Disadvantages

It is difficult to set a reasonable standard for student without a fair amount of teaching experience. Most experienced educators set criteria based on their knowledge of how students usually perform; thus, criterion-referenced systems often became fairly similar to norm-referenced systems (UOM, 2012).

Modifications

Educators sometimes choose to maintain some flexibility in their grading system by lowering the threshold for grades if it seems appropriate. Another way of doing criterion-referenced grading is by listing course objectives and assigning grades based on the extent to which the student achieved them (UOM, 2012).

The Role of Grading in Education

Nayak and Rao (2004, p.1) define education as “the process of developing the capacities and potential of the individual to be successful in a specific society or culture”. The enterprise of education, therefore, requires planning, which Coombs (1970, p.14) describes as “the application of rationale, systematic analysis to the process of education development with the aim of making education more effective and efficient in responding to the needs and goals of its students and society”. For education to be effective and efficient, assessment and grading must be inescapable and indispensable. The reason is that, they are the primary means of evaluating students’ attainments and abilities and often determine their progression in school and/or placement in jobs.

For instance, the BECE is the basis for selection into second cycle institutions while the WASSCE takes one to tertiary institutions. In the area of employment, the WASSCE is the basic requirement for entry into clerical grades and junior levels in many establishments.

In the view of Tamakloe et al. (2005), before any meaningful teaching can take place the teacher should have a clear idea of the entry behaviour of his/her students. He/she should know the students abilities, interests and deficiencies well enough to direct and facilitate his/her learning.

Again, students can and do learn many things well without grades. However, the existence of grades play an important role in determining how much effort students put forth. Most students view high grades as positive recognition of their success and some work hard to avoid the consequences of low grades (Guskey & Pollio, 2005). The implication of the above discussion is that, a good grading system is paramount in the provision of effective, efficient and quality education.

A grading system must possess certain characteristics in order to be effective and efficient. According to Guskey and Pollio (2005) these include:

1. Communicating the achievement status of students to their parents and other interested parties.
2. Providing information to students for self-evaluation.
3. Selecting, identifying or grouping students for certain/various educational paths or programmes.
4. Providing incentives for students to learn.

5. Documenting students' performance to evaluate the effectiveness of instructional programmes.
6. Be discriminating – make a distinction between and among grades.
7. The grading process should be impartial and compare each student to the same criteria.
8. The basis for the grading should be statistically sound.

Since no single grading method adequately serves all purposes, educators must first identify their primary purpose for grading and then select or develop the most appropriate approach. This process involves the difficult task of seeking consensus among diverse groups of stakeholders. Grading requires inherently subjective judgments.

Negative consequences result when subjectivity is translated into bias. This occurs when factors apart from students' actual achievement or performance affect their grades. A mitigating factor against the negative effect of subjectivity is the acquisition of the fundamental principles, skills and techniques of test construction, administration and scoring by teachers (Guskey & Pollio, 2005).

Ayesu and Kofitse (2010), opine that:

As a matter of priority, we should offer training and support to teachers in the area of test construction especially. This is because their school based assessments scores affect the final grading of candidates. This will help deal with the issue of unreliability of continuous assessment scores (p.6).

Without an effective and efficient grading system, educators will have no basis of knowing whether or not educational standards are improving. A good grading system must reflect variations in the performance of pupils from year to year. One major objective of the free compulsory universal basic education (FCUBE) programme is to improve quality teaching and learning, but the Stanine system of grading does not indicate what a pupil is able to do after having gone through the instructional period. The BECE grading system does not provide the requisite information on the quality of education in basic schools.

Grading systems represent just one aspect of an interconnecting network of educational processes. Thus, any attempt to describe grading systems without considering other aspects of this network must necessarily be incomplete (Guskey & Pollio, 2005). As Munk and Bursuck (2004) pointed out:

The purpose for grades may be thought of as what the grading system is designed to measure or report, or what the grade “means” to a student, parent, teachers, counselor, or employer. Establishing what purpose(s) a grade will serve and implementing a grading system that is perceived to meet that purpose can lead to increased student, parent and teacher satisfaction (p.1).

When grades are thought about in this way, they can be used to improve learning. As it now stands, however, the communicative purpose of grading is ordinarily submerged in their more ordinary use as a means of rating and sorting students for social and institutional purposes not directly tied to learning.

Another function of grades is to provide feedback. When grades are integrated into a coherent teaching and learning strategy, they serve the purpose of providing useful and meaningful feedback not only to the larger society but to the individual student as well.

Variations in Grading Systems

Grading practices are generally more consistent and much more traditional at the secondary school level. Some educators attempt to enhance the discriminatory function of letter grades by adding plusses or minuses, or by pairing letter grades with percentage indicators as shown in Table 3.

Table 3: Six – Point Grading System

Letter Grade	Mark %	Description
A	80 – 100	Excellent
B ⁺	75 – 79	Very Good
B	70 – 74	Good
C ⁺	65 – 69	Very Satisfactory
C	60 – 64	Satisfactory
F	Below 60	Fail

Source: Brochure on Graduate Studies (2006 – 2010), University of Cape Coast

Generally, the greater the number of units in the grading system the more precisely it quantifies student performance. Variations in the breadth of a grading

system, therefore, have significant educational implications. Grading scales having a large number of units indicate a relative comfort in making precise distinctions (Table 4). This system of grading is common in pre-tertiary institutions.

Table 4: Nine-Point Grading System

Number Grade	Percent	Description
1	90 – 100	Distinction
2	80 – 89	Excellent
3	70 – 79	Very Good
4	60 – 69	Good
5	50 – 59	Credit Pass
6	40 – 49	Pass
7	35 – 39	Weak
8	30 – 34	Very Weak
9	0 – 29	Failure

Source: Mfantsipim Basic School (2000)

Grading scales with fewer units suggest a relative discomfort in making precise distinctions as shown in Table 5. This grading type is used mainly in higher institutes of education.

Table 5: Four-Point Grading System

Letter Grade	Percent	Description
A	85 – 100	Excellent
B	75 – 84	Good
C	50 – 74	Fair
D	0 – 49	Fail

Source: Grade education – Wikipedia the free encyclopedia (2012)

Types of Grading Adaptations

The most commonly cited types of grading adaptations, according to Munk (2003) are those that involve:

1. Prioritizing of content and related assignments.
2. Considering student effort.
3. Considering how well the student uses “processes” to complete his or her work.
4. Considering improvement over past performance.
5. Changing the weights that certain types of assignments count toward the grade or altering the grading scale used to assign letter grades.

Each type of grading adaptation has its own advantages and shortcomings. One way to capture the complexity of possible ways in which grades are produced is to consider the set of implicit choices that lie behind an educator’s use of a specific grading procedure.

What evaluation procedure should one use? In-class tests or classroom discussions? If tests, what kind(s)? Essay, true/false, fill-in-the-blank, or multiple-choice? If multiple-choice, what grading model to use? Normal curve, percent-correct, improvement over preceding tests? If percent-correct, how many tests? Final only or continuous assessment and a final? How should each test be weighted if the choice is continuous assessment and a final? What grade report system to use? Pass/fail; A, B, C, D, F; or 1, 2, 3, 4, ..., 9?

An examination of this collection of possible choices suggests that educators have a large number of options as to how to go about testing and grading their students. Any consideration of the ways in which testing and grading relate to one another must also deal with the ways in which one or both of these activities relate to learning and teaching.

Grading Systems in Education in Ghana

WASSCE Grading System

The WASSCE grading system is a 9-point scale, as shown in Table 6, modified norm-referenced grading system. It tilts more towards criterion-referenced grading system than the norm-referenced grading system that it really is.

Table 6: Grade Interpretations in WASSCE

Grade	Interpretation
A1	Excellent
B2	Very Good
B3	Good
C4	Credit
C5	Credit
C6	Credit
D7	Pass
E8	Pass
F9	Fail

Source: Test Development Division, WAEC (2010)

Grading Procedure

To improve assessment and grading and also introduce uniformity in schools, the Curriculum Research and Development Division (CRDD) in the Teaching Syllabus for Mathematics (2007), recommended the adoption of the grade cut-off scores for assigning grades as shown in Table 7.

Table 7: Grade Cut-off and Interpretations for S.H.S Mathematics

Grade	Cut – off Score (%)	Interpretation
A	80 – 100	Excellent
B	70 – 79	Very Good
C	60 – 69	Good
D	45 – 59	Credit (Satisfy)
E	35 – 44	Pass
F	≤34	Fail

Source: CRDD, Ministry of Education (2007)

The recommendation, according to the CRDD, was informed by the following considerations:

1. The adoption of a fixed cut-off score grade system amounts to using the criterion-referenced grading system.
2. Students must make a specified score to earn the appropriate grade.
3. The grading system will challenge students to study harder to earn better grades.
4. It is very useful for achievement testing and grading.

The WASSCE grading system is not based on fixed cut-off scores, rather it is based on the following three key elements (WAEC, 2009):

1. Grade Descriptions – competencies in which a candidate obtaining any of the critical grades (i.e B2, C6, E8) should be able to demonstrate.

2. Grade setting – using descriptions after marking the examination scripts to advice on scores which will match the critical grades.
3. Grade cut-off point – using the set critical grade scores to determine the cut-off scores for all other grades.

Since the award of grades is a vital activity in any examination, WAEC, in determining marks for the critical grades, combine statistical evidence with the professional judgment of both the Chief Examiners and Subject Officers. With the recommendations from the Chief Examiners and comparison of the paper contributions to the critical grades of the last three years, the marks for the critical grades are fixed for all the papers. If the paper is deemed to be harder than the previous years paper, the threshold is lowered and raised otherwise. A lower threshold, therefore, means better candidature will result in higher pass rate. However, a lower pass rate results if the threshold is higher.

After the judgmental thresholds are determined, arithmetic and computers are made to suggest the rest of the thresholds. A novel feature of the WASSCE grading system is the addition of continuous assessment scores to the examination marks to determine the grades of candidates.

Rationale for Adopting the WASSCE Grading System

WAEC adopted the WASSCE grading system for the following reasons (WAEC, 2009):

1. The fixed cut-off score for all subjects every year as obtains in a criterion referenced system is:
 - i. Inappropriate across different subjects.
 - ii. Inappropriate across different sessions/papers.
2. The fixed percentage quota for all subjects every year used in a norm-referenced system is
 - i. Inappropriate for different subjects.
 - ii. Unfair for candidates who happen to be in a "good" year.
 - iii. Especially difficult for global examinations.
 - iv. Countries come and go from syllabuses.
3. It is functionary discriminatory.
4. Very useful for both selection and certification.

Ayesu and Kofitse (2010) assert that, an indicator of the rationale was the decision by the universities to admit candidates holding SSSCE certificates without recourse to the University Entrance Examination which was conducted for three years following the introduction of SSSCE. They also reported of a study by the Research Department of WAEC on the predictive validity of the SSSCE as a selection tool for university admissions which showed a positive correlation between performance in both examinations.

Disadvantages of the WASSCE Grading System

Even though WAEC arrives at decisions, regarding grading of students by consensus, taking national interests in consideration, the process is not without the following shortcomings:

1. The procedure is cumbersome and time consuming-for each subject, there must be an awards committee to go through the following documents among others:
 - i. Statistical information on mark distribution of students.
 - ii. Chief Examiner's Report.
 - iii. Sample scripts.
 - iv. Question papers.
 - v. Final marking schemes
2. The procedure is very expensive – considering the numbers and calibre of officers involved:
 - i. Chief Examiners
 - ii. Subject Officers
 - iii. Head of Sections
 - iv. Heads of Departments/Divisionsamong others, the cost of convening a successful awards committee meeting could be astronomical.
3. The human element of subjectivity must be confronted to ensure fairness and reliability.

BECE Grading System

Prior to the educational reforms of 1987, basic school pupils wrote two examinations namely;

1. Common Entrance Examination (CEE).
2. Middle School Leaving Certificate Examination (MSLCE).

The CEE was open to pupils from Primary 6 up to middle Form 4 who desire to pursue secondary/technical education. Pupils, mostly high achievers, took four papers in:

1. English Language
2. Mathematics
3. Verbal Aptitude
4. Quantitative Aptitude

The examination was solely for selection into second cycle institutions and the selection was based exclusively on the total raw scores of candidates. The maximum total raw score was four hundred (400). The MSLCE was the preserve of middle Form 4 pupils. The examination was terminal and solely for certification. Candidates wrote four papers in:

1. English Language
2. Mathematics
3. Geography
4. History/Home Science

Grading was descriptive: Distinction, Pass and Fail. Pupils who failed were not awarded certificates. The BECE replaced the CEE and MSLCE and the grading system adopted is the stanine, which is a 9-point standardized grading system as shown in Table 8.

Table 8: Grade Interpretations in BECE

Grade	Interpretation
1	Highest
2	Higher
3	High
4	High Average
5	Average
6	Low Average
7	Low
8	Lower
9	Lowest

Source: Basic Education Certificate (2010)

The Stanine is a norm-referenced grading system; which allows students to be compared in order to establish a hierarchy of excellence that is used in grading, certification and selection (Akyeampong et al., 2000). It is thus used to determine how much or less a student has learned in comparison to his/her cohorts.

The Stanine system, just like the WASSCE, also adds continuous assessment scores to the examination marks to determine the grades of candidates. The stanine system facilitates the process of grading as it is simple and quick to apply and much less expensive to use. Unlike the WASSCE grading system, it does not require much human intervention to determine minimum grade.

The stanine system of grading is based on the statistical principle of normal distribution. The principle is based on the observation that the distribution of natural independent characteristics for a large number of randomly selected samples of a population clusters around the mean and assumes the shape of the normal curve (a bell-like shape).

The stanine grading system divides the normal curve into nine segments. These segments represent fixed percentages under the curve which are used to determine the grades of the candidates (Table 9). These fixed percentages are applied to each subject separately each year to determine the grades of the candidates.

Table 9: Stanine Scale

Stanine %:	4%	7%	12%	17%	20%	17%	12%	7%	4%
Grade:	1	2	3	4	5	6	7	8	9
Cumulative %:	4%	11%	23%	40%	60%	77%	89%	96%	100%

Source: Public Affairs Department of WAEC (2009)

Table 9 shows that the percentage of candidates that obtained Grade 1 in Mathematics in the first BECE in 1990 is the same as that which obtained Grade 1 in Mathematics in the 2009 examination and indeed, in any other subject for the examination in all the years. However, the number of candidates obtaining this grade will vary according to the number of candidates that take the examination in each year. For instance, 4% of 500,000 is not the same as 4% of 35,000. The minimum mark for obtaining a grade may however, change depending on the performance of the candidates. In fact, the minimum mark for obtaining a grade may differ from subject to subject and from year to year (Public Affairs Department of WAEC, 2009).

Computing Stanine in BECE

According to Etsey (2011, pp. 206 – 207), stanine is generally computed from raw data. The method involves three steps.

1. Rank the scores from the highest to the lowest.
2. Obtain the number of scores for each stanine category using the following percentages.

Result Ranking:	4%	7%	12%	17%	20%	17%	12%	7%	4%
Stanine	1	2	3	4	5	6	7	8	9

3. Determine approximate cut-off points by finding the mean of adjacent scores, and use class boundaries.

Given the scores: 48, 36, 52, 38, 42, 50, 35, 60, 55, 47, 52, 58, 72, 54,
48, 42, 45, 56, 62, 70, 74, 75, 78, 65, 46.

Stanine groups are computed as follows:

1. Arranging the scores in descending order gives:

78, 75, 74, 72, 70, 65, 62, 60, 58, 56, 55, 54, 52, 52, 50, 48, 48, 47, 46, 45,
42, 42, 38, 36, 35.

2. Calculating the number of scores:

$$4\% \text{ of } 25 \text{ scores} = \frac{4}{100} \times 25 = 1$$

$$7\% \text{ of } 25 \text{ scores} = \frac{7}{100} \times 25 = 1.75$$

$$12\% \text{ of } 25 \text{ scores} = \frac{12}{100} \times 25 = 3$$

$$17\% \text{ of } 25 \text{ scores} = \frac{17}{100} \times 25 = 4.25$$

$$20\% \text{ of } 25 \text{ scores} = \frac{20}{100} \times 25 = 5$$

Obtaining the number of scores for each stanine category (grade) gives:

Result Ranking:	4%	7%	12%	17%	20%	17%	12%	7%	4%
Number of Scores:	1	1.75	3	4.35	5	4.35	3	1.75	1
Real Number of Scores:	1	2	3	4	5	4	3	2	1
Stanine (grade):	1	2	3	4	5	6	7	8	9

The real number of scores are approximations where the number of scores are made whole number to remove the decimal fraction to give a total of 25. The corresponding scores, numbers and stanine (grade) are shown in Table 10.

Table 10: Stanine Catergorization

Scores	Number	Stanine (Grade)
78	1	1
75, 74	2	2
72, 70, 65	3	3
62, 60, 58, 56	4	4
55, 54, 52, 52, 50	5	5
48, 48, 47, 46	4	6
45, 42, 42	3	7
38, 38	2	8
35	1	9

- For the group of scores in Table 10, the cut-off points for the stanine (grades) are shown in Table 11.

It must be noted that the cut-off points are exact boundaries. These boundaries can be used because the scores are generally whole numbers. It may seem that the result for each subject and for that matter the entire examinations always assume a perfect normal curve.

Table 11: Stanine class boundaries

Stanine	Score Range
1	Above 76.5
2	73.5 – 76.5
3	63.5 – 73.5
4	55.5 – 63.5
5	49.5 – 55.5
6	45.5 – 49.5
7	40.5 – 45.5
8	35.5 – 40.5
9	Below 35.5

In practice, the cut-off points only determine the “blocks” into which the candidates are put depending on their performance. The nature of the curve is thus not pre-determined. Even though the top 4% are awarded Grade 1, the next 7% Grade 2 and so on, the resulting normal curve is not always perfect. Most of the times, it is skewed since candidates with the same percentage score must be given the same grade. To illustrate this fact the following percentage scores of hundred students come in handy:

96, 91, 90, 90, 90 89, 88, 88, 87, 86, 85, 85, 85, 84, 84, 83, 83, 83, 81,
81, 80, 79, 79, 79, 78, 78, 77, 77, 77, 77, 76, 76, 75, 74, 74, 74, 74, 73,
73, 72, 70, 70, 70, 69, 69, 69, 68, 68, 67, 65, 65, 65, 63, 63, 61, 61, 59,
59, 59, 58, 58, 55, 55, 55, 55, 53, 53, 49, 49, 48, 48, 48, 45, 44, 44, 43,

42, 41, 41, 38, 37, 35, 35, 34, 34, 31, 29, 27, 26, 26, 26, 25, 24, 23, 20,
19, 14,

Theoretically, the results of the candidates are as indicated in Table 12.

Table 12: Theoretical stanine grading of 100 candidates

Result Ranking:	4%	7%	12%	17%	20%	17%	12%	7%	4%
No. of Scores	4	7	12	17	20	17	12	7	4
Grade:	1	2	3	4	5	6	7	8	9

However, the above illustration is not the case practically. The actual grade distribution is shown in Table 13.

Table 13: Practical stanine grading of 100 Candidates

Scores	Number	Grade
96, 91, 90, 90, 90	5	1
89, 88, 88, 87, 86		
85, 85, 85,	8	2
84, 84, 83, 83, 83,		
81, 81, 80, 79, 79, 79,	12	3
78, 78, 77, 77, 77,		
77, 76, 76, 75, 74,		
74, 74, 74, 73, 73,	17	4

Table 13 continued

Scores	Number	Grade
72,70,70,70,69,69		
69, 68, 68, 67, 65, 65,		
65, 63, 63, 61, 61, 59,		
59, 59,	20	5
58, 58, 55, 55, 55,		
55, 53, 53, 49, 49, 48, 48, 48, 45,		
44, 44, 43,	17	6
42, 41, 41, 38, 37, 35,		
35, 34, 34, 31, 29, 27,	12	7
26, 26, 26, 25, 24,		
23, 20,	7	8
19, 14,	2	9

Five candidates obtained Grade 1 since both the 4th and 5th placed candidates both score 90%. Similarly 8 candidates are awarded Grade 2 since the 6th, 7th and 8th ranked candidates all obtained 85% and all must be given the same grade as well.

It is thus, clear from Tables 12 and 13 that the stanine does not determine the nature of the normal curve but rather the performance of the candidates. With the large numbers of candidates, in hundreds of thousands, the normal curve will be always skewed positively since the scores are ranked in ascending order and graded from the top grade to the bottom grade.

Brief Background of Stanine

The stanine grading system was developed in about 1942 for the selection of applicants for the American Fighter Pilot programme during the Second World War and later found applications in personnel selection in industry. It is purely a norm-referenced ranking system and has very little to do with the assessment and grading of school performance (Quansah, 2012).

According to Guskey and Pollio (2005) to ensure a fairer distribution of grades and to bring into check the subjective nature of scoring, the idea of grading based on the norm probability, bell-shaped curve became increasingly popular. They further assert that grading on the curve also relieves teachers of the difficult task of having to identify specific learning criteria. On research findings, Guskey and Pollio (p.4) point out that:

Modern research has shown that the seemingly direct relationship between aptitude or intelligence and school achievement depends on instructional conditions. When the quality of instruction is high and well matched to students' learning needs, the magnitude of this relationship diminishes drastically and approaches zero. Moreover, the fairness and equity of grading on the curve is a myth.

Relating grading to learning criteria therefore, provides a clearer and fairer picture of students' achievements. It basically measures whether or not a student has attained a specified level of standard.

Rationale for Adopting Stanine System for BECE

According to WAEC (2009, p. 11) the adoption of the stanine grading system was based on the following reasoning:

1. It is useful in competitive situations where high performing candidates are to be selected from a group to benefit from limited opportunities such as selection into second cycle institutions.
2. Facilitates the process of grading as it is simple and quick to apply and much less expensive to use.
3. It does not require much human intervention to determine minimum grade marks and thus eliminates human error and subjectivity.
4. The same proportion of candidates gets the same grade each year. It is thus easy to predict the absolute numbers that would qualify for SHS.
5. With the abolition of the common Entrance and Middle School Leaving Certificate Examinations, the BECE is for both certification and selection.

Disadvantages of the Stanine System

The main shortcomings of the stanine system are:

1. It is difficult to use it to make comparisons of candidates' performance across subjects or from one year to another. No meaningful performance

analysis can be done on the basis of the system because the proportions of candidates in each grade for each subject remain almost the same across the years (WAEC, 2009, p. 11).

2. It does not reflect steadily rising or declining standards at the basic level, and thus, the results neither reflect improvements in teaching and learning nor in candidates' performance. Hence we cannot diagnose what is wrong or propose remedial measures (Akyeampong et al., 2000).
3. The system assumes that each year, regardless of performance of candidates, a fixed percentage should get Grades 1 or 2 or 3 etc. For instance, the minimum raw score for the top 4% obtaining Grade 1 in mathematics one year can be 78%, and in another year this can get as low as 56% and yet 4% of the candidates will still obtain Grade 1 (Akyeampong et al., 2000).
4. The stanine system pre-judges the performance even before the examination is taken. (Asomaning, 2002, p. 3).
5. Hardwork goes unrecognized and unrewarded – a disincentive (Asomaning, 2002, p.3).
6. The stanine grading system created a disparity between candidates raw scores and their grades. A clear example is illustrated in Appendix B where RME (Grade 3) was chosen over Fante (Grade 1).

Since the proportions of candidates in the grades are fixed under the stanine system, it is easy to deduce the number of candidates who will qualify for

selection into second cycle institutions each year. Selection and placement of candidates into second cycle institutions was manually done by school heads. The practice was bedeviled with issues of missing cards, rejection of second and third – choice candidates by some heads and the inability of candidates to select schools from more than one region among a host of other challenges.

In 2005, the GES introduced the CSSPS based on the following criteria for placement in SHS (CSSPS Guidelines, 2007, pp.1,2).

1. Selection is based on the raw scores of six subjects. This comprises 4 core subjects and two best elective subjects.
2. The core subjects are English Language, Mathematics, Science and Social Studies for Senior Secondary Schools. For Technical Institutions, the fourth core subject is Pre-Technical Skills instead of social studies.
3. To qualify for admission a candidate's grade in any of the four core subjects is expected not to exceed five.
4. The minimum grade for each of the best two elective subjects should not exceed six; and if added to the four core subjects, must not exceed an aggregate of 30.
5. A candidate whose grade for any of the core subjects exceeds five or whose subject(s) is/are cancelled by WAEC will be deemed not qualified for selection and placement.

Table 14 illustrates the application of the selection criteria to five BECE candidates who wish to enter SHS. The figures in asterisks are those for core subjects and two best subjects for each candidate.

Table 14: Application of the Selection Criteria to Five BECE Candidates

Subjects	Cand. 1	Cand. 2	Cand. 3	Cand. 4	Cand. 5
Core					
English Lang.	1*	5*	7*	-	1*
Mathematics	3*	6*	1*	1*	3*
Science	3*	6*	6*	1*	2*
Social Studies	3*	6*	1*	1*	2*
OTHER					
Religious & Moral Education	3*	4	1*	1	2
Agriculture	2*	4	4	1*	4
French	3	5	5	1*	2*
Ghanaian Language	3	4*	3*	1	-
Catering	7	4*	3	1	1*
AGGREGATE	15	31	19		11

Source: CSSPS Guidelines, Ministry of Education, Accra

The following must be noted:

1. Candidate 1: Aggregate 15: candidate qualifies for selection

2. Candidate 2: Aggregate 31>30; candidate does not qualify for consideration for selection. Grades for Social Studies >5, Mathematics >5, Science >5.
3. Candidate 3: Aggregate 19<30; but candidate does not qualify. Grade in English 7>5, grade in Science 6>5.
4. Candidate 4: Aggregate incomplete (English cancelled). Not qualified does not have a minimum of 6 subjects/scores.
5. Candidate 5: Aggregate 11<30; but not qualified (Ghanaian Language cancelled).
6. For technical institutes pre-technical skills replaces social studies.

Before the introduction of the CSSPS in 2005, it was expected that about 77% of the candidates (i.e 4% + 7% + 12% + 17% + 20% + 17% for Grades 1 to 6) will obtain up to grade 6 in each subject every year. This translates to about 77% of the candidates obtaining up to aggregate 36 (6 subjects x Grade 6) in every BECE. In real terms, this implies that about 80% (77% + 3%) of the candidates who sit for the examination each year will qualify since candidates will move in and out of the grades that are aggregated. Because candidates who score the same mark must be given the same grade, the actual percentage qualifying may sometimes exceed the theoretical value.

With the introduction of the CSSPS, it is envisaged that about 60% of the candidates (i.e 4% + 7% + 12% + 17% + 20% for grades 1 to 5) will obtain up to grade 5 in each core subject every year. This translates to about 60% of the

candidates obtaining up to aggregate 30 (6 subjects x Grade 5) in every BECE. In real terms, this implies that about 56% (60% - 4%) of the candidates who sit for the examination each year will qualify since candidates who move out of any of the 4 core subjects automatically fail to qualify for selection and placement. The actual percentage value could be less than the theoretical value since candidates who score the same mark must be given the same grade.

The introduction of the CSSPS brought with it a gargantuan reduction in the percentage of candidates qualifying for selection and placement in second cycle institutions. A fact expressed by Essah-Hienno (2011) when he stated that:

In 2006, a year after the inception of the CSSPS, out of the 308 379 BECE candidates who sat for the examination, 160 119 qualified for placement which works up to 51.9 per cent. The succeeding years (2007 and 2008) did not see any improvement above the 50 per cent mark, as it was the case in 2009 where out of a total of 395, 649 candidates who wrote the examination, only 198 642 qualified for placement which represents 50.2 per cent. Last year, out of the 350 888 candidates who sat for the BECE, only 172 359 representing 49% qualified for placement.

In 1990, 127 467 pupils wrote the maiden BECE. Almost a decade and half on in 2004, 278 391 pupils sat for the same examination. An incredible increase in pupil population by 118%. Thanks to the stanine grading system

which regulates the proportion of candidates as to who gets what grade. Policy-makers hid behind the challenges confronting heads of second cycle institutions in manually selecting qualified pupils into their school and introduced the CSSPS in 2005 to drastically reduce the number of students who would otherwise have qualified for selection and placement. In the words of Asante (1996):

When many students fail an examination, we may blame the students, the teachers or both. We seldom question the examination which failed the students. We take the validity of the examination for granted. But our JSS and SSS examinations results suggest that the examinations have on the whole failed us. The examinations have largely failed because their aims were blurred and their objectives multi-purpose (p.5).

I, therefore, have an unenviable task of critically assessing the stanine grading system to determine its reliability and validity and make recommendations that would assist in reducing if not completely eliminating the annual nightmares of students, parents and stakeholders.

Summary of Literature Review

The stanine grading system is norm-referenced and is used mainly to identify a student's level of performance in relation to his/her cohorts. Unlike the WASSCE grading system, it works well in situations requiring rigid

differentiation among students and thus suitable only for selection purposes. It also masks teacher deficiencies since normal score distribution results regardless of what happens in the classroom.

A major drawback of the stanine grading system, to borrow the words of Aviles (2001, p.608) is that, “it is not possible to examine grade spreads and know anything about the instructional methods, testing or the grading that generated them”. The implication, therefore, is that evaluation of the educational system becomes impossible and educators are unable to predict whether educational standards are improving or otherwise.

The present study was designed in the light of the above reasons to find:

- i. The experts’ views about the stanine grading system as used in Ghana,
- ii. The appropriateness of the stanine grading system for both selection and certification purposes.
- iii. And the effect of the stanine grading system on academic performance of students.

CHAPTER THREE

METHODOLOGY

This chapter is concerned with the methodological framework adopted for the conduct of the study. This includes the research design, target population, sample and sampling procedure, instrument used for data collection, data collection procedure analysis and all other activities that went into the data collection and analysis procedures.

Research Design

Qualitative research does not belong to a single discipline; neither does it have a distinct set of methods that are entirely its own (Merriam and Associates 2002). Johnson and Christensen (2008) identified four major designs – Phenomenology, Ethnography, Case Study and Grounded Theory. Creswell (1994) also identified four designs – Phenomenology, Grounded Theory, Ethnography and Case Study. Merriam and Associates (2002) on the other hand lists eight approaches – Basic Interpretive, Phenomenology, Grounded Theory,

Case Study, Ethnography, Narrative Analysis, Critical and Postmodern – Poststructural.

Qualitative research is defined by Savenge and Robinson (2010, p.1046) as “research devoted to developing an understanding of human systems, be they small; such as a technology – using teacher and his or her students and classroom or large; such as a cultural system”. Savenge and Robinson further explain that qualitative research methods typically include interviews and observations. Also, qualitative research has several hallmarks:

1. It is conducted in a natural setting without intentionally manipulating the environment.
2. It involves high detailed and rich descriptions of human behaviours and opinions.
3. The research questions often evolve as the study does, because the researcher wants to know “what is happening”.
4. The researcher becomes a part of the study by interacting closely with the subjects of the study.
5. The researcher is bounded by the values and world views of the subjects.

The perspective is that humans construct their own reality and an understanding of what they do may be based on why they believe they do it. There is allowance for the “multiple realities” individuals might thus construct in an environment.

The intent of qualitative research is to understand a particular social situation, event, pole, group or interaction. It is largely an investigative process where the researcher gradually makes sense of a social phenomenon by contrasting, comparing, replicating, cataloguing and classifying the object of study (Creswell, 1994). In summary, Merriam and Associates (2002, p.6) state that:

Qualitative research attempts to understand and make sense of phenomena from the participants perspective. The researcher can approach the phenomenon from an interpretive, critical or post modern stance. All qualitative research is characterized by the search for meaning and understanding, the researcher as the primary instrument of data collection and analysis, an inductive investigate strategy, and a richly descriptive end product.

I sought to discover and understand the stanine grading system, the worldviews of the people directly involved in the conduct of the BECE and experts opinion on the stanine grading system. Hence the Basic Interpretive Qualitative study approach was adopted in order to present in the words of Merriam and Associates (2002, p.38) “a holistic and in-depth description” of grading systems in general and the stanine grading system in particular.

In conducting a basic qualitative study, data are collected mainly through interviews which are inductively analyzed to identify recurring patterns or

common themes that cut across the data. Thus a rich, descriptive account of the finding is presented and discussed, using references to the literature that framed the study (Merriam and Associates, 2002).

However, researcher bias is a potential threat due to the exploratory, open-ended and less structured nature of basic qualitative study. A researcher may, in the words of Johnson and Christensen (2008), “find” what he/she wants and write up his/her results.

Population

The target population for the study comprised test experts in the Ghana Education Service (GES), and the West African Examinations Council (WAEC) as well as measurement and evaluation specialists in academia. The accessible population, however, was test experts at the Curriculum Research and Development Division (CRDD) of the GES and Test Development Division (TDD) of WAEC and Measurement and evaluation specialists from the University of Cape Coast and the University of Education Winneba.

Sample and Sampling Procedure

A purposive sample of WAEC and CRDD senior staff were selected for this study. Criteria for the sample were threefold: the institutions are solely responsible for the development of school curriculum and the conduct of examination at the pre-tertiary level in the country, they are the right and legitimate bodies to identify and recommend eligible informants within and

outside their domain and they constitute and represent test and evaluation experts in the entire nation. Ten informants were purposively selected and interviewed in a friendly and relaxed atmosphere.

The 10 informants were made up of four from WAEC (two males and two females), two from CRDD (one male and a female), a retired director of CRDD (male), one each from UCC and UEW (both males) and a retired Professor (male). The four informants from WAEC were senior staff of the Test Development Division, while the two from CRDD were deputy directors of education. The retired CRDD director was in active service at the time of the 1987 educational reforms. The Akyeampong Review Committee on the Basic Education Certificate Examination grading system (2000) and the Anamuah-Mensah Education Reform Review Committee (2004) both had one member each as informant. The tenth informant was a measurement and evaluation lecturer at the University of Cape Coast.

Instruments for Data Collection

The main research instrument used for the study was a semi-structured interview schedule for the simple reason that “qualitative interviews can be used to obtain in-depth beliefs, knowledge, reasoning, motivations and feelings about a topic” (Johnson & Christensen, 2008, p. 207). Qualitative interviewing according to, Johnson and Christensen, allows a researcher to:

1. Enter into the inner world of another person and to gain an understanding of that person’s perspective.

2. Establish trust and rapport, making it easy for the interviews to provide information about his or her inner world.
3. Listen carefully and be the repository of detailed information.
4. Arm himself/herself with probes or prompts to use when greater clarity or depth is needed from the person being interviewed.
5. Ask follow-up questions that may naturally emerge during the interview.

Also Sarantakos (1998, p.255) points out that:

In qualitative methodology, interviews are basically semi – standardized and open and use a standard technique of data collection. In principle they are similar to the interviews employed by quantitative researchers: they contain interviewers and interviewees, who discuss certain questions. Nevertheless, qualitative interviews vary markedly in their theoretical framework, structure, process and orientation from those employed in quantitative methodology.

Sarantakos (1998, p.255) further states that “qualitative interviews vary significantly in structure, length, intensity, order and type of questions and interviewee participation”. The following are thus suggested to be an important criterion distinguishing qualitative interviews:

1. They use open – ended questions only.
2. They are predominantly single interviews, questioning one person at a time.
3. The question structure is not fixed or rigid; allowing change of question order, even the addition of new questions where necessary.
4. They offer interviewers more freedom in presenting the questions, changing wording and order, and adjusting the interview so that it meets the goals of the study.

According to Dawson (2002), there are many types of interview in social research and that the most common of these are unstructured, semi-structured and structured interviews. We find below an explanation of these interview types:

Unstructured Interviews are sometimes called life history interviews. This is because they are the favoured approach for life history research. In this type of interview, the researcher attempts to achieve a holistic understanding of the interviewees' point of view or situation. The participant is free to talk about that he or she deems important, with little directional influence from the researcher. This type of interview can only be used for qualitative research.

Semi-Structured Interviews are the most common type of interview used in qualitative social research. In this type of interview, the researcher wants to know specific information which can be compared and contrasted with information gained in other interviews. To do this, the same questions need to be

asked in each interview. However, the researcher also wants the interview to remain flexible so that other important information can still arise.

Structured Interviews are used frequently in market research. This research method is highly structured – hence the name. Structured interviews are used in quantitative research and can be conducted face-to-face or over the telephone, sometimes with the aid of lap-top computers.

The key strengths and weaknesses of these three types of qualitative interviews are classified in Table 15 (Patton, 1987).

Table 15: Classification of Unstructured, Semi-Structured and Structured Interviews

Type of Interview	Strengths	Weaknesses
Unstructured	Increase the salience and relevance of questions. Interviews are built on and emerge from observations. The interview can be matched to individuals and circumstance.	Different information collected from different people with different questions. Less systematic and comprehensive if certain questions do not arise “naturally”. Data organization and analysis can be quite difficult.

Table 15 (continued)

Semi- Structured	<p>Informants answer the same questions, thus increasing comparability of responses. Data are complete for each person on the topic addressed in the interview. Reduces interviews effects and bias when several interviewers are used. Permits evaluation users to see and review the instrumentation used in the evaluation. Facilitates organization and analysis of the data.</p>	<p>Less flexibility in relating the interview to particular individuals and circumstance. Standardized wording of questions may constrain and limit naturalness and relevance of questions and answers.</p>
Structured	<p>Data analysis is simple. Informants can be directly compared and easily aggregated. Many questions can be asked in a short time.</p>	<p>Informants must fit their experience and feelings into the researcher's categories. May be perceived as impersonal, irrelevant, and mechanistic. Can distort what informants really mean or experience by so completely limiting their</p>

response choices.

The semi-structured interview was my preferred type of interview because it allowed me to:

1. Enter the inner world of the informant to gain an in-depth understanding of his/her perspective.
2. Ask follow-up questions that naturally emerged during the interview.

Basic Interpretive Design

According to Merriam and Associates (2002, pp.6 – 7):

In conducting a basic qualitative study, you seek to discover and understand a phenomenon, a process, the perspectives and worldviews of the people involved, or a combination of these. Data are collected through interviews, observations or document analysis. These data are inductively analyzed to identify the recurring patterns or common themes that cut across the data. A rich, descriptive account of the finding is presented and discussed, using references to the literature that framed the study in the first place.

Some of the informants provided written documents that addressed some of the issues directly related to the study. “Thus, the multiple sources of data

collection methods of interviews and documents was a means of triangulation” (Merriam and Associates, 2002, p.70).

Data Collection Procedure

As Sarantakos (1998, p.293) pointed out, “the purpose of pilot studies is to discover possible weaknesses, inadequacies, ambiguities and problems in all aspects of the research, so that they can be corrected before actual data collection takes place”. Consequently, a pilot study was conducted at the University of Education, Winneba (UEW), using the interview guide. The study proved to be worthwhile by offering me the opportunity to:

1. Re-frame, delete and add to the questions in the interview guide. For example, the first question for the pilot study was; what is stanine grading system? This was re-framed after the pilot study to read: What is your understanding of the stanine grading system as used in the BECE? Again the question: Does the stanine grading system discriminate between subjects? was deleted from the interview guide after the pilot study.
2. Re-word some of the objectives of the study. As shown in Table 16.
3. Completely re-organise the research questions. As shown in Table 17.
4. Change the recording equipment and also do the transcriptions of the interviews personally.
5. Refine and improve my interviewing skills.

Table 16: Research Objectives Before and After Pilot Study

Before Pilot Study	After Pilot Study
To state the experts' views about the stanine grading system.	To state the experts' views about the stanine grading system.
To state the experts' opinions about the WASSCE grading system.	To state the experts' opinions about the WASSCE grading system.
To differentiate the stanine grading system from the WASSCE grading system.	To investigate the appropriateness of the stanine grading system for the selection and placement.
To investigate the appropriateness of the stanine grading system for different subjects.	To establish the effect of the stanine grading system on performance.
To establish the effect of the stanine grading system on performance.	

Table 17: Research Questions Before and After Pilot Study

Before Pilot Study	After Pilot Study
What do the experts' know about the stanine grading system?	What do the experts' know about the stanine grading system?
What do the experts' know about the WASSCE grading system?	What do the experts' know about the WASSCE grading system?
How different is the stanine grading system from the WASSCE grading system?	How different is the stanine grading system from the WASSCE grading system?
How appropriate in the stanine grading system for different subjects?	How appropriate is the stanine grading system for both selection and certification?
How far is the stanine grading system to candidates in different years?	How comparable are aggregate scores between years?
What are the effects of the stanine grading system on performance?	

Individual interviews with 10 informants were audio-taped and transcribed which constituted the data collection for the research. The interviews were semi-

structured to allow for a more valid and in-depth response from the informants' understanding and experience of grading systems in general and the stanine grading system in particular. To help create a rapport with informants, I met them to first explain the rationale for the topic. I shared with informants the context within which I was doing the study, after which a date and time was agreed on for the interviews.

The interview questions used in this research were planned prior to the interviews. An interview guide (Appendix C), which allowed informants to digress and explore their thinking on particular issues was used. Using semi-structured interviews allowed me to establish an understanding of the informants' view of the stanine grading system.

When the informants were unclear about a question or how to respond appropriately, the questions were reiterated. I also prompted when a response was unclear, ambiguous or incomplete. By using the interview as the data collection method, informants were able to reflect on their practice and knowledge and respond in-depth, informed by their own experiences, values and understanding of the questions rather than have quick responses that would be the likely outcome of a questionnaire.

Data Analysis

By working within a qualitative methodology, it was my hope to explore the area of grading systems which many educators and stakeholders in education may not have considered in any great details. I did this to enable me obtain the

intricate details about the processes and learn about the various types of grading systems through more conventional research methods.

In the view of Savenge and Robinson (1996), researchers using interpretive approach to qualitative data analysis seek to present a holistic view of data rather than a condensed view. Merriam and Associates (2002) also state that the analysis of the data involves identifying recurring patterns/themes that cut through the data.

I read the text of the data of the interviews line by line and placed descriptive words or phrases in the left-hand margin next to the segments of text. I also placed brackets around the segments of data to make it clear where each segment started and ended (Johnson & Christensen, 2008). Thus, the data were broken down into manageable units. Information deemed important were placed under themes while constantly making reference to the data. I was, therefore, able to uncover and interpret the meanings these informants gave to their experiences, knowledge and understanding of the stanine grading system (Merriam and Associates, 2002).

The research process spanned a period of 10 months – from September 2011 to July 2012. It took six weeks and two days to gather data through interviews. Between interviews, I transcribed and returned the completed transcripts to the informants for checking (Appendix D). I allowed for a period of between two to four weeks and went for the edited transcripts (Appendix E). Data analysis took a little over two months and the final draft of the thesis presented in August 2012.

Responsibilities as an Interviewer

According to Becker, as cited in Sarantakos (1998, p.257), I had as an interviewer the following tasks:

1. Select and/or approach the informants and prepare the interview environment.
2. Arrange the time, date, duration and conditions of the interview.
3. Control the interview situation by reducing or eliminating registrance, suspicion and prejudice within the interview environment.
4. Avoid bias by adhering to the principles of social research and work towards an objective and ethnically based data collection.

The above responsibilities were religiously executed since “interviewers hold a central place in the research process. They are assigned significant tasks, and failure to fulfil them accurately has serious consequences for the research as a whole (Sarantakos, 1998).

I also took a few notes during the interviews and did post-interview notes where necessary. The notes taken were used to guide the next interview while the previous one was being transcribed. This extra effort was justified as a risk mitigation strategy. Once the interview process was completed, I was obliged to accurately transcribe and return the transcripts as quickly as possible for informants to read through, authenticate and return.

Credibility, Dependability and Confirmability

The criteria for evaluating the quality and validity of qualitative studies vary and based on the methods used. Johnson and Christensen (2008, pp. 275 – 276) assert that “when qualitative researchers speak of research validity, they are usually referring to qualitative research that is plausible, credible, trustworthy and therefore, defensible”. They thus suggest strategies to help promote the validity of a qualitative research which are presented in Table 18.

Table 18: Strategies used to promote qualitative research validity

Researcher – as detective	Description
Rule out alternative explanations	A metaphor characterizing the qualitative researcher as he or she searches for evidence about causes and effects. The researcher develops an understanding of the data through careful consideration of potential causes and effects and by systematically eliminating rival explanations or hypotheses until the final case is made beyond a reasonable doubt.
Rule out alternative explanations	Making sure that you have carefully examined evidence for competing or rival explanations and that yours is the best explanations.
Triangulation	Cross-checking information and conclusions through the use of multiple procedures or sources. When the

	different procedures or sources are in agreement you have corroboration.
Table 18 (Continued)	
Participant feedback	The feedback and discussion of the researcher's interpretations and conclusions with the actual participants and other members of the participants community for verification and insight.
Researcher – as detective	Description
Peer review	Discussion of the researchers interactions and conclusions with other people. This includes discussion with a disinterested peer (i.e with another researcher not directly involved). This peer should be skeptical and play the devil's advocate, challenging the researcher to provide solid evidence for an interpretations or conclusions. Discussion with peers who as familiar with the research can also help provide useful challenges and insight.
External audit	Using outside experts to assess the study quality.
Reflexivity	Involves self-awareness and critical self-reflection by the researcher on his self – reflection by the researcher on his or her potential biases and predispositions as these may affect the research process and conclusions.
Pattern matching	Predicting a series of results that form a distinctive

pattern and then determining the degrees to which the actual result fit the predicted pattern or “fingerprint”.

Quality was the driving force behind this research work. But the credibility, dependability and confirmability of information gathered from an interview could determine the quality or otherwise of the research. I, therefore, did not in the words of Johnson and Christensen (2008, p.275) “find what I wanted to find and then wrote up the results”. Researcher bias was dealt with by actively engaging in critical self-reflection of my predispositions. The interview questions were open, semi-structured and tailored to gather data that addresses the study’s purpose and goals.

I also ensured that the results were an accurate account of the information given by the informants. Further, the interview transcripts were returned to the informants for editing. Finally, colleague researchers, experienced educationists and examiners played the devil’s advocate by peer reviewing the findings as they emerged during the study.

Ethics

According to Sarantakos (1998, pp. 20 – 21):

Social research is a dynamic process, which involves researchers and informants, and which is based on mutual trust and cooperation, as well as promises and well-accepted conventions and expectations. On the basis of this, researchers enter the research field with relatively few limits and many options for action. This freedom of action has always been thought to offer the best opportunities for answering the research questions or solving the problem under investigation.

Bogdan and Bilken (1998, p.9) also outlined the following seven ethical considerations to guide researchers:

1. Avoid research sites where informants may feel coerced to participate in the research.
2. Honour your informants' privacy.
3. There is a difference in informant's time commitment to you when you do participant observation in a public place and when they do an interview with you. Always let your participants know what is expected of them and what they can expect of you and the process.
4. Unless otherwise agreed to, the informants identity should be protected so that the information that you collect does not embarrass or in other ways harm them.
5. Treat informants with respect and seek cooperation with them throughout the research process.
6. In negotiating permission to do a study, you should make the terms of the agreement clear. The agreement goes both ways and all parties should abide by the contract.
7. Tell the truth when you write up and report your findings.

The ethical considerations enumerated above were my guiding principles throughout the interview process. I took an introductory letter from the Institute for Educational Planning and Administration of the University of Cape Coast

(Appendix F) to the administrative heads of both WAEC and CRDD. Potential informants were identified, contacted and consent sought through their departmental heads for their involvement in the study. Individual informants recommended by both WAEC and CRDD were likewise contacted (Appendix G). Informants were fully briefed on the requirements and the focus of the stored, accessed, interpreted and presented. An open and transparent research process was key to ensuring potential misconception or deception was nipped in the bud.

To ensure that the informants' right to privacy was protected, I did not mention them by name. Rather, I used pseudonyms such as Informants A, Informants B and so on to represent informant's name. The informants were also made aware of their right to continue or withdraw at any time up to the signing of their transcripts during the period of the research process.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter deals with the analysis and discussion of data obtained from the interviews with the informants. The chapter explains informants worldview of the Stanine Grading System through various discourse. The discussion focuses on the nature, type, strengths and weaknesses of the Stanine Grading System as used in the Basic Education Certificate Examination (BECE). Through the data collection, analysis and coding, six thematic areas featured prominently with regards to the stanine grading system and one in the WASSCE grading system.

The six themes are:

1. Classification of stanine grading system as norm-referenced.
2. Classification of WASSCE grading system as norm-referenced modified.
3. Stanine grading used solely for selection.
4. Stanine grading does not lend itself to comparison.
5. The stanine grading unsuitable tool for evaluating education standards.
6. The adoption of the stanine grading system was politically motivated.
7. The stanine grading as used in the BECE needs to be changed.

The above themes were arrived at, using the coding method to analyze the data. The themes and their sub-themes are laid out in a step-by-step format with supporting examples from the data and related literature.

Classification of Stanine Grading System as Norm-Referenced

The first theme to emerge from the data collected was the informants' show of understanding that the stanine grading system is norm-referenced. This position is supported by literature since BECE grades do not indicate students' competencies and proficiencies but rather make comparisons among students, thus making it impossible to compare students' performances.

All of the informants explained at length their understanding of the stanine grading system. Some of them described how the stanine works. As informant G notes, "In the stanine the candidates are ranked as if they were from top to bottom. There are fixed percentages for the various grades. For example, the top 4% are given grade 1, the next 7% grade 2 and so on".

The other informants specifically pointed out that it is norm-referenced and went on to explain its modus operandi, which informant B sums up in the following words: "It's norm-referenced and has the normal curve as its basis. What it does is that it puts the candidates, in our circumstance, into nine blocks, depending on their performance". The implication here is that if in a particular paper say, Religious and Moral Education (RME) the lowest score in the examination is 50%, the bottom 4% of candidates will be graded 9.

Similarly, if in mathematics for example, the highest score is 50%, the top 4% will be graded 1. Hence, irrespective of the general performance of any cohort of candidates, a fixed percentage of candidates will be awarded grades from 1 to 9 all of the time.

Classification of WASSCE Grading System as Modified Norm-Referenced

On the WASSCE grading system, some of the informants perceived it to be criterion – referenced. The perception that the WASSCE grading is criterion – referenced is explained by Informant C who explained that:

The major difference is that in the WASSCE grading system the cut off points are not predetermined. In the BECE grading system the cut of point is the percentage of candidates but in the WASSCE the cut off point is a percentage mark. Both of them are norm reference. A modified form of norm reference in the sense that we compare performance over the years with the current performance so that it is easily comparable (Interviewed on 16/01/2012).

Informant C’s view is strongly supported by Informant B who further explained that: “The major difference is that, in the WASSCE grading system, the cut off points are not pre-determined. In the BECE grading system, the cut off points are pre-determined by the percentage of candidates for the various grades.” According to informant I, even though both the BECE and WASSCE grading

systems are norm-referenced, there is a marked dichotomy between the two systems. This significant difference he explicitly explained thus:

The WASSCE is performance oriented because it looks at the performance of individual students and the test items and uses grade related criteria. So its performance based, therefore, one can use that as a way to say, that yes this person has mastered concepts in this area, but has not been able to do well in that area and so on. So you can make real projections about the person's ability. One is norm and the other is criterion related (Informant I, interviewed on 20/02/2010).

Furthermore, in the BECE the candidates are put on the 9 – point scale from the top to the bottom each year. In the WASSCE “sometimes you can get a situation where a few candidates will be getting Grade 1, may not be 4% of the total number of candidates” (Informant H). What this means is that in the WASSCE it is possible that in a particular year no candidate(s) obtain a particular grade or grades. In the words of Informant D:

In the stanine grading system the candidates are ranked and graded based on the performance of other candidates. When it comes to the WASSCE it doesn't matter if everybody, like last year for example, in social studies 11% of the students had Grade A1. They all got it because they made the grade. If the whole cohort gets Grade A1, they will get it (Interviewed on 16/01/2010).

In sum, Informants discussed at length significant insights related to both the BECE and WASSCE grading systems. Both systems are norm-referenced yet the WASSCE grading system is completely different, in practice, from the BECE grading system. The difference is as a result of the modification to the norm-referenced system by the anchoring method.

The anchoring method accumulates the distribution of test scores over many years over many cohorts. The present cohort is compared with the cumulative distribution to judge the ability level of the group and the appropriate allocation of grades. Anchoring works well in multi-section courses where the same text, same syllabus, and same examinations are used. The common examination can be used to reveal whether and how different cohorts differ in achievement, and the grade in the individual sections are adjusted accordingly (UOM, 2012).

Modifying the norm-referenced system by anchoring helps mitigate the feeling of competition among students since they may feel they are not directly in competition with each other. It also enhances the reliability and degree of certainty with which the grades are issued.

Stanine Grading Used Solely For Selection

Virtually all the informants were of the opinion that the stanine grading system was developed solely for selection/classification purposes. As informant B notes, “There must be a large number of candidates. Secondly, it is mainly for

selection purposes”. Similarly Informant C related stanine to population size. She states:

I think it depends on the population size. In my view, the population size determines the appropriateness of the stanine system. The main purpose of the examination is for placement even though it is used for certification, so that those who wouldn't like to continue their education could use the certificate to seek employment (Interviewed on 16/01/2012).

“The examination or test is an aptitude test for selection”, was the response from Informant D which was shared by Informant E with the explanation, “...from theory it was not something that was used for examination in grading candidates. It was used in industry for selecting people”. Informant I sums it all up for the rest in the following words;

I think probably not for promoting people from one level to the next. Not for judging people as having mastered any subject that they are studying. But probably just to get a general view of how the performance looks like and selecting people from that. So you have a general view of all those people who have written the exam i.e how they spread out. But its not good to judge that this person has acquired a certain competency (Interviewed on 20/02/2012).

Interview guide question 2 which sort to understand the circumstances under which stanine grading system is most advisable to use was not put to Informant A. Instead his opinion was sort on whether the norm-referenced stanine is the best for our basic schools especially since it replaced both the common entrance and the middle school leaving certificate examinations. He responded thus: “Well, I can’t say whether it is the best or not. Again it depends on the purpose for which we are using it”. However Etsey (2011) avers that:

Stanine are used mainly to identify an individuals level of performance in relation to a group. Generally, stanines 1, 2, 3 represent performances below average, 4, 5, 6 represent performance on the average and 7, 8, 9 represent performance above average. Using the stanine scoring system you can see, at a glance, whether a student is excelling or whether he or she may need extra help (p.210).

When asked whether the BECE was for selection or certification, Informants H stated that “The BECE is a terminal examination and so it is for certification primarily and then selection”. Clearly, the authorities were forced by circumstances to use the stanine for both selection and certification.

It is thus obvious from discussions so far that it is quite inappropriate to use the stanine grading system to serve the dual purpose of selection and certification. According to Quansah (2012):

The stanine grading system was developed in about 1942 for the selection of applicants for the American Fighter Pilot Programme during the second World War and later found applications in personnel selection in industry. Its continued use for school achievement grading in Ghana is worrying because it was never intended for that purpose. It is purely a norm-referenced ranking system and has very little to do with the assessment and grading of school performance (p. 23).

In summary, stanine is an elusive grading system which only encourages competition among students and educational institutions, leading to negative effects for the learning environment. In the words of Mereku (2003), through the stanine grading system makes the BECE useful mainly for selection to further education, it provides little information about what the majority of pupils who fail to qualify to SSS know and can really do, and hence make their placement into other areas of further education and apprenticeship difficult (p.28).

Stanine Grading Does not Lend Itself to Comparison

There were no hesitations among almost all of the informants when the question was put: Is the stanine system discriminatory (are the aggregate comparable between years)? For example, some were emphatic in stating that “No, you cannot compare”.

In answer to an earlier question: How different is the stanine from the WASSCE grading system? Informant D said among other things that “if they want to make say from 80% to 100% to get Grade A1, then when you speak of A1 candidate, immediately you know that this is a good candidate”. This answer attracted the follow-up question:

The stanine is not discriminatory but the WASSCE is? To this, Informant D categorically stated:

Yeah, the WASSCE is discriminatory but the stanine is not. In the BECE sometimes, for the first 4% you get marks ranging from 56% - 98% and they all get Grade 1. So if you talk of Grade 1, unless you go to the raw score you don't even know what you are talking about. But with the WASSCE, when you say A1, you know A1 ranges between this small boundary and that is where when it comes to placement in the BECE, they go back to use the raw score (Interviewed on 16/01/2012).

This means that a student could obtain grade 1 in all of his/her subjects, an indication of an excellent student and yet this student in just average. Appendix A confirms this assertion. The aggregate of the student's 4 core and 2 best subjects is 69.7%. The implication is that the student's marks either hovered around 60% and 70% or 50% and 80%. Any grading system that awards top grades to very

low percentage marks certainly does not reflect the true performance of its students.

Regardless of the quota-setting strategy used, the stanine grading method seldom carries a defensible rationale. According to Azeem, Afzal and Majoka (2010), “Grades are indicators of relative knowledge, skill, and proficiency in terms of performance that a student has and should be compared to the performance of other students in that course” (p. 382).

Furthermore, the general consensus was that the grades and for that matter the aggregates of candidates across years are not comparable. This general position is what Akyeampong, et al (2000) describe as one of the major demerits of the stanine grading system. They posit that the stanine grading system makes it almost impossible to compare candidates’ performance and to determine from year to year whether or not there has been a nationwide improvement. In addition they pointed out that the minimum raw score for the top 4% obtaining Grade 1, for instance in mathematics, one year can be 78% and in another year this minimum can get as low as 56% and yet 4% of the candidates are still awarded Grade 1.

Informant A is in agreement with the above observation when he stated, in answer to the question whether the grades/aggregates are comparable that: “It is very difficult to tell. You can only do that if you standardize”. However, Informant H seems to have a slightly different opinion in stating that:

As far as the grading system is concerned, they are comparable but then we know very well that from year to year the papers are different. The demands of the papers are different. So you can't generalize that way with certainty. You can say that they are all equally high performers. But that equality cannot in statistical terms be traded. When you give them work, every time there will be differences all right. You cannot say that they are equal, but within that range they are tops. From year to year the error margins are different. So please you will have to put that comparison in a coffin (Interviewed on 10/02/2012).

Fact is no examination body sets the same questions year in and year out, hence the need for moderation of questions to make them standard and also modification of grading systems over time. A good grading system in the opinion of the experts must be impartial and compare each student to the same criteria. The concerns of Informant H are addressed by Informant D when she attempts an explanation citing the WASSCE process:

With the WASSCE grading system we have grade boundaries. These grade boundaries are derived or they come about when the chief examiners meet and decide. Chief examiners create these grade boundaries using a guide. So whether in a particular year they are going up by adding 1 or 2 marks or go down 1 or 2. They look at the question paper, they look at performance etc and make sure that the question paper is of standard. Sometimes when the question paper is very difficult they reduce the grade boundaries by 1 or 2, so we have flexibility in the grade boundaries. If they want to make say from 80% to 100% to get an A1, then you speak of A1 candidates, immediately you know that this is a good candidate. Its clear because the grade boundaries are set (Interviewed on 16/01/2012).

It is important to note, from the discourse above that the stanine grading system even though a simple method to use, has serious drawbacks. When students are ranked from the highest to the lowest in terms of performance, a student may be awarded a lower grade even if he/she performed very well, for example 70% - 80%. Similarly a student may obtain the highest grade even when his/her performance is average, for instance 50% - 60%. Hence, an individual's grade is determined not only by his/her achievements and efforts but also by the achievements and efforts of others who wrote the same test. It, therefore, becomes very difficult if not impossible not only to compare results but also predict a

student's ability to perform at a higher level in a given discipline based on his/her results.

Reflecting on other aspects of assessing and grading students at the BECE level another point emerged relating to the reliability of the BECE grades. Informant I in examining the continuous assessment scores component of the total raw scores of BECE candidates had this to say:

Many teachers, it was found out, were just manufacturing marks for their students. When you look at the marks they bring and you look at the students performance, the correlation is zero. So you ask yourself, is it the same person who had this and that score? (Interviewed on 20/02/2012).

Informant J was also of the view that "...we need to review our assessment system, because there is no match between what is being assessed and the educational goals and standards". These assertions bring to fore the validity of the grades awarded to BECE candidates. Furthermore, Informant E postulated thus, "If it was credible, BECE selection would not use the raw scores".

When grades are determined by combining scores from examination papers and continuous assessment, the components must be highly correlated if grades of maximum reliability is to be obtained (Ebel & Frisbie, 1991). Informant H couldn't have summed it up better when he opined; "We must make our grading system more scientific and more reliable".

The Stanine Grading Unsuitable Tool for Evaluating Education Standards

In eliciting informants views on grading generally, another theme emerged to the effect that the Stanine Grading System is an unsuitable tool for evaluating the teaching and learning process. Informants D averred that:

First I think the criterion – referenced grading makes it easy to compare performances from year to year. It's actually easy for you to state whether standards are going down or going up. If in a particular year you don't get A1 or B2 you can confidently say that this year the candidates did not do well and that something has gone wrong with say the teaching and learning of the said subject, so lets look at it (Interviewed on 16/01/2012).

Informant I, collaborated the views of Informant D and dispassionately discussed the shortcomings of our educational system. Drawing from his vast experience, informant I, draws attention to the fact that evaluating a student's achievement is based not only on his/her final examination score. He elaborates in the following words:

It is good and I think that using performance based system helps a lot for the country to identify where the pitfalls are and the basic needs of our pupils. There are other measurements that we need to do in other to assess things that exams cannot assess. This is where in many places the teacher becomes a very important figure. But I think we abused some of the privileges and opportunities when the continuous assessment came in. (Informant I Interviewed on 20/02/2012).

Educational evaluation is a professional activity that educators need to undertake if they intend to review and enhance the teaching and learning process. However, the Stanine Grading System does not seem to provide the requisite information necessary for an effective evaluation of the educational processes at the basic level. Informant A observed that:

..., the type of English written in the past is better than now. Right now students use text messaging to write essays which was not there in those days. In those days if somebody wrote an essay, you can know that the person has attained a high level of education. Right now English writing, composition has gone done (Interviewed on 06/01/2012).

In spite of the low level of written English, as observed by Informant A, the performance of these students, as evidenced by the BECE results are surprisingly normal. In sum, the stanine method of grading has failed to indicate what a pupil is able to do after having gone through the instructional system.

The Adoption of Stanine Grading System was Politically Motivated

The emergence of the fifth theme was very intriguing. Some of the Informants were very economical with the facts. When informant B was asked about the grading system during the experimental JSS period he noted; “It was the same as in the WASSCE. The stanine system could not have been used because the candidates for those BECEs were not large”.

Asked why the grading system was changed, he retorted; “It is difficult for me to tell you now why it was changed” and added that:

WAEC conducts the BECE on behalf of Ghana Education Service unlike the WASSCE where WAEC owns the examination. For the BECE, WAEC is basically an agent of the Ministry of Education in the conduct and management of the examination. Decisions on the BECE are however, generally taken by consensus (Informant B Interviewed on 16/01/2012).

Decisions regarding the BECE, according to Informant B, are taken by consensus, yet he found it difficult to tell the rationale for the change in the grading system even though he has been around long enough. Informant H adds to

the intrigue when he explains the reason for the change in the following words: “Basic education is a birthright of every child and that everyday should be given the chance whether he/she got grade 9 in all the subjects”.

In the 1970s, grade interpretation for the General Certificate Examination Ordinary Level (GCE ‘O’Level) were changed (Appendix H) without recourse to change in the grading system. Changing the interpretation of Grade 9 from fail to lowest and awarding certificates to all who complete basic school may be the birthright of the child, but certainly untenable as a basis for change in the grading system. Informant F graciously *let the cat out of the bag*. Extracts from his interview are reproduced for appraisal:

When Informant F was reminded that during the 1970’s when we had the experimental JSS, the grading system was criterion-referenced, he responded thus:

That was as you said the pilot JSS and using the criterion – reference the failure rate was a little high. So questions began to be put as to whether the system was good for the country, when we have our JSS graduates failing, so why don’t we change it in order to void provoking political sentiments. In fact, when we are talking about politics we are looking at the economy and education. So if we continue to use the criterion – reference the failure rate will be so high and the government would be made to answer many questions so why don’t we get a system that will ensure high pass rates to put government in a good light (Informant F, Interviewed on 17/01/2012).

Again when asked if at the inception of the BECE he were asked to recommend a grading system, what system would he have recommended and why, he smiled broadly and said:

You would have to look at the exigencies of the time. What does the country need at any given time? Especially at that time when you could be picked up and beheaded or they can plant anybody on you to harass you, you would have to think twice. But if I were given the freedom to think properly, I will surely go in for the criterion – referenced (Informant F, Interviewed on 17/01/2012).

According to Owolabi (2005), “a critical review of policies that have failed in the past will reveal that attempts were not made to ensure the rationality of such policies...” (p.254). The experimental JSS was never subjected to public debate, an essential ingredient in educational policy evaluation, before its full implementation in 1987. When I pointed out to Informant J that the inequalities, in terms of teachers, equipment, textbooks etc, between rural and urban basic schools was given as a deciding factor in the choice of the stanine grading system, he retorted:

I don't think it was the right reason at the time. The whole thing I believe was political from the beginning. Of course all these inequalities were there from the beginning and were in both urban and rural areas, and for that matter could not be the reason for the choice of the stanine (Informant J, Interviewed on 22/02/2012).

Drawing from the discussions with other Informants, I asked Informant I if he had any idea why the change to the stanine system, he opined:

It's speculations but am sure that people always find the area with least resistance. If you are going to use the performance based system, it requires a lot of work compared to using the normative system where you don't have to worry yourself so much in grading the pupils. But am sure that our system is so politically oriented that this could be part of the decision. It's possible because using the performance based system one could find that a lot of people will not qualify for admission into the senior secondary level. But if you used the stanine system you can get more pupils to obtain higher grades. So you can have a lot of people being passed to the next level. As I said these are speculations and one can't say for sure that these are the things that happened. There may be some truth in that, but that's unfortunate (Informant I, Interviewed on 20/02/2012).

There can be no denying the fact that education in Ghana has been so much politicized since the reforms of 1987. If education is to be the bedrock of the development of this nation, then it must be left in the hands of those trained in the field of education. According to Akyeampong and Furlong (2000, p.11). "There has not been a comprehensive attempt to evaluate the impact of the 1987 reforms on the basic school system". For a holistic education and training of the Ghanaian child, educational planning and policy formulation should be de-

politicised. Also to emerge was the introduction of comprehensive education at the basic level by the authorities. A point which was forcefully articulated by Informant H. He stated that:

The decision at that time was that basic education is a birthright of every child and that everybody should be given the chance whether he/she got grade 9 in all the subjects. With the old some candidates were classified as failure and were not given certificates. Even if you got grade 8 throughout, you were not given a certificate. But in this particular case we must have a situation where people must be given certificates to indicate their level of performance as their birthright. Hence the change. (Informant H, Interviewed on 10/02/2012).

Informant J supported this opinion but queried that, “In many countries where we have comprehensive education system, there are differentiated papers. But in Ghana only the international and private schools which take IGCSE have introduced differentiation in their assessment”. All the other informants views gave credence to the idea of the introduction of comprehensive education which is supported by literature. According to Warnock (1988),

The comprehensive education ideal is simply the ideal that holds all children worthy to be educated. It is the ideal of what has been called ‘the democratic intellect’, and it is not the intellect alone that we are concerned with, but morality, judgment, and the taste (p.16).

Some of the Informants, it is interesting to note, alluded to the introduction of comprehensive education at the basic level but not specific to the point. Other Informants intimated that, for a holistic education and training of the Ghanaian child, educational planning and policy formulation should be de-politicised.

The Stanine Grading System as Used in the BECE Needs to be Changed

Virtually all of the Informants opted for the criterion – referenced grading system in place of the stanine grading system. In their professional judgment the criterion – referenced grading system has the following advantages over the stanine grading system:

1. Makes it easier to compare performances from year to year (Informant D).
2. Makes it possible to describe a student's competences based on his/her grades (Informant E).
3. Paints a true picture of student's performances and gives a better grade description (Informant I).
4. It is discriminatory, making it possible to identify the high achievers (Informant J).

Informant B made some seemingly contradictory statements; extract of my interview with him is reproduced:

When I wanted to find out from him if at the inception of the implementation of the BECE he were asked to choose a grading system and that what he said was final, would he have recommended the stanine?

He retorted:

We choose grading systems based on what we want to put the results of the examination to. From that position I have no problem with the stanine. For now the BECE serves mainly as an entrance examination in SHS. Apart from that, it is hardly used for any other purpose, not even for employment. The stanine is actually designed for selection purposes. Apart from selection to SHS what else do we use the BECE results for? Well, the military use it for recruitment (Informant B, Interviewed on 16/01/2012).

Again when I asked for his final comment on grading systems generally, he straightened up and in a clearer tone said:

I think it's high time we moved to the criterion – referenced system. For comparability purposes, candidates will have to meet certain criterion in their performance in certain tasks before they are graded. It seems the whole world is moving in that direction and we must move with the current trend (Informant B, Interviewed on 16/01/2012).

In one breadth Informant B had no problem with the stanine grading system because it was serving the purpose for which it was introduced (i.e selection into SHS). Then almost immediately he is advocating a move to

criterion – referenced system because it seems the whole world is moving in that direction.

Fact is the BECE is first and foremost a terminal examination. The unfortunate impression that it is for selection purposes is as a result of the registration procedure that compels all students to select Senior High Schools and/or Technical Institutes. Ghana cannot afford to be an island on its own, we need to swim with the current. A complete evaluation of the educational reforms of 1987 is therefore imminent if we are to improve on the quality of basic education in the nation.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This final chapter first summarizes the research process and findings of the study. This is followed by the conclusions and recommendations, as well as a concluding statement and recommendations for further study into the topic under investigation is advocated.

Summary

The study sought to establish an understanding of the Stanine Grading System as used in the BECE. The research was undertaken with a view to finding answers to the following research questions:

1. What do the experts know about the stanine grading system?
2. What do the experts' know about the WASSCE grading system?
3. How different is the stanine grading system from the WASSCE grading system?
4. How appropriate is the stanine grading system for both selection and certification?
5. How comparable are aggregate scores between years?

Information for the study was obtained from experts from WAEC, CRDD and Academia. The information dealt with their understanding of both the Stanine Grading and the WASSCE Grading Systems. I was concerned with the type of Grading System that the stanine was, how different it is from the WASSCE Grading System, why the GES chose to use different Grading Systems at the basic and secondary levels of education and the effect of the Stanine Grading System on academic performance especially at the basic level.

The sample of 10 informants was purposively chosen and was made up of experts who are directly involved with curriculum development at the GES, which is the implementing body of government policies on education; experts who are directly involved with the conduct of examinations and grading students locally at WAEC, which is the body charged with the responsibility of conducting standardized test to all first and second circle final year students in Ghana; as well as measurement and evaluation experts from academia.

The data collection devices, used for the study were interviewing and documentation. The interviews were semi-structured which were tape recorded and transcribed. I, personally conducted and transcribed all the interviews from 6th January to 22nd February, 2012.

The transcriptions are attached as Appendix I. The data were analyzed using Basic Interpretive Qualitative Design which involved the identification of recurring patterns, presented as themes, that cut through the data.

Key Findings

1. The Stanine Grading Systems is a 9 – point norm-referenced system of grading which sets a quota of candidates to be awarded each of the nine grades. It is a 4 – 7 – 12 – 17 – 20 – 17 – 12 – 7 – 4 systems that awards Grade 1 to the top 4% of candidates irrespectively of their performance. The subsequent percentages of 7%, 12%, 17%, 20%, 17%, 12%, 7% and bottom 4% are awarded Grades 2, 3, 4, 5, 6, 7, 8 and 9 respectively.
2. The WASSCE Grading System is a modified 9 – point norm-referenced grading system, which grades candidates based on their performance. In the WASSCE Grading System, the grade cut-off points are determined by committees of experts after each examination.
3.
 - i. The grade cut-off points of the Stanine Grading System are predetermined, while that of the WASSCE Grading System is not.
 - ii. In the Stanine Grading System, a candidate’s performance is in relation to his/her cohorts. The WASSCE Grading System however, measures a candidate’s performance relative to predetermined performance criteria.
 - iii. The Stanine Grading System pits candidates against each other for the top grades. The WASSCE Grading System encourages co-operation among candidates instead of competition.
 - iv. A candidate’s grade is influenced by the calibre of his/her cohorts in the Stanine Grading Systems. In the WASSCE Grading System, a

candidate's grade has absolutely nothing to do with the abilities of his/her cohorts.

- v. With the Stanine Grading System, each of the 9 grades are awarded to candidates each year. The possibility however, exists that no candidate is awarded Grade A1, or any other grade for that matter, in the WASSCE Grading System.
 - vi. Stanine grades do not tell the real performance or ability of candidates. WASSCE grades make real projections about candidates ability.
4. Stanine is neither meant to judge candidates as having mastered any subject that they are studying nor having acquired certain competencies. Rather it mainly gives a general view of how candidates performance look like and for selection purposes. It is, therefore, inappropriate for certification.
 5. The Stanine Grading System as used in the BECE sets no bench marks for the various grades. Hence aggregates of candidates across years cannot be compared.
 6. The implementation of the stanine grading system had a political inclination or twist to it.

Conclusions

The study aimed at systematically analyzing the Stanine Grading System so as to generate understanding and establish how it impacts on the delivery of education especially at the basic level. Considering the findings of the study two major conclusions were drawn.

First, the stanine system has serious drawbacks. An individual's grade is determined not only by his/her achievements and efforts but also by the achievements and efforts of others. Thus, the Stanine Grading System does not reflect the true performance of the students. Hence, any attempt to evaluate the education system will be a non-starter. Also, the quality of education that the Free Compulsory Universal Basic Education (FCUBE) seek to achieve will continue to be a mirage, since the Stanine system has very little to do with assessment and school performance.

Secondly, the Stanine Grading System ought to be either modified just as the WASSCE grading system or completely done away with and move with the rest of the world by replacing it with the criterion-referenced system, since it provides a clear picture of what students have learnt. In support Azeem, Afzal and Majoka (2010) state that, the criterion-referenced grading emphasizes the objectives of the curriculum and provides feedback relative to learning targets and/or performance standards. Criterion – referenced grading system provides a consistent standard against which the extent of learning is measured and unlike the norm-referenced grading it is adoptable to any student population size.

Recommendations

Based on the findings of the study, the following recommendations are made to help improve quality of education especially at the basic level.

1. The stanine grading system is solely for selection. Thus, the Ministry of Education (MOE) should ensure that the current practice where it is used both for selection into second cycle institutions and for certification be discontinued since it is inappropriate.
2. The MOE should introduce the **exclusive** use of the raw scores of BECE candidates for selection into second cycle institutions. Since it is internationally accepted that nobody fails in a comprehensive education system, the grading system in Table 15 is suggested on subject by subject basis. This should help erase the contortions that characterize the use of the number grading system as we have it now (Appendices A and B).

Table 19: Suggested Grading System for Terminal Examination at the Basic

Level	
Percentage Mark	Grade
80 – 100	Distinction
60 – 79	Credit
Below 60	Pass

3. For effective evaluation of education at the basic level and the achievement of the goals of comprehensive education system:

- i. The CRDD of the MOE should define a National Minimum Standard (NMS) in the basic education system and incorporate same in the school curriculum. The NMS must be clear and put in the public domain.
 - ii. Based on the finding that professional development is key to the delivery of quality education, it is recommended that, intensive in-service training should be organized regularly for all teachers especially at the basic level. This will enable them interpret the rationale of the curriculum and implement same professionally.
 - iii. To a very large extent the quality of teachers superordinates the quality of education, therefore teachers at all levels must be supported and motivated to work towards the achievement of the National Minimum Standard.
 - iv. A system should be put in place by the GES to make it incumbent for the teacher to ensure the child attains the National Minimum standard, failure of which he/she must be held accountable.
4. Finally, while it is entirely right for government to decide on what should be taught in our schools, it is suggested that the design of qualifications must be carried out independently if standards are to be maintained. It must be left entirely with the technocrats.

Suggestions for Further Research

The basis of the study was on how the final scores of students were graded. With reference to this, and on the basis of the findings, it is therefore, recommended that further research could be conducted in three areas which emerged in the course of the research, as outlined below.

First, the continuous assessment scores component of the final scores used in grading candidates was assumed. This seems to be critical in appreciating some of the issues raised in the study. How the continuous assessment scores impact on the final scores of candidates was not considered. How it is arrived at by the schools was a non-issue in the study. Teachers' competence in the area of test construction and the issue of reliability of the continuous assessment scores were taken for granted. Further research study on the continuous assessment scores component of candidates final scores in the BECE grading would be a step in the right direction.

Secondly, there was a hint in the introduction to this study to the effect that there is no correlation between the apparently high achievements of pupils in the BECE and their performance at the SSS level. Excellent performance at the BECE as a predictor of success in the WASSCE is an issue that I would anticipate as an area for future research study.

Finally, the issue of re-sitters was not specifically dealt with in this study. However, there was an assertion in the findings that in a criterion-referenced grading system, unlike a norm-referenced system, a student's performance is not affected by his/her cohorts. Thus if improvement in grade(s) is/are needed, the

student can simply observe the identified learning targets to know what areas he/she should work on. The performance of BECE re-sitters would therefore be an area that logically lends itself for further study.

REFERENCES

- Aboagye, J. K. (2002). *Historical and philosophical foundations of education Ghana*. Winneba: University Press.
- Airasian, P. W. (2000). *Classroom assessment: Concepts and applications* (4th ed.) New York, NY: McGraw-Hill.
- Akyeampong, D. A., Asomaning, W. A., Akyeampong, A. K., Mereku, K., Tingbani, L. T., Addo, B., & Agyeman-Duah, S. (2000). *Report of the certificate examinations (BECE) grading system*, Accra: Curriculum Research and Development Division of the Ghana Education Service.
- Akyeampong, K., & Furlong, D. (2000). *Multi-site teacher education research project (Discussion Paper 7). A baseline study of the teacher education system*. Sussex: Centre for International Education, University of Sussex.
- Anku, S. E. (2009, Sept. 30). Why can't a student get first choice school. *Daily Graphic*, (No. 18034), p. 9.
- Asante, K. B. (1996, March 11). The examinations that failed. *Daily Graphic*, (No. 14077), p. 5.
- Asomaning, W. A. (2002). *The proposed BECE grading system*. Accra: Curriculum Research and Development Division of the Ghana Education Service.
- Aviles, C. B. (2001). Grading with norm-referenced or criterion-referenced measurements: To curve or not to curve, that is the question. *Social Work Education*, 20 (5), 603 – 608.

- Ayesu, P. G. A., & Kofitse, A. (2010). *Sustaining public trust in qualifications awarded by the West African Examinations Council (WAEC) in Ghana*. A paper presented at the IAEA 2010 conference. (Retrieved January 2012, from <http://selectscore.com/fullpaper/32.pdf>).
- Azeem, M., Afzal, M. T., & Majoka, M. I. (2010). How and why grading. *The International Journal of Learning*, 17 (3), 579 – 588.
- Benneh, G. (2001). Education and development: Challenges for the 21st century. *Tertiary Education Series*, 1(1), 4 – 6.
- Bogdan, R. C., & Biklen, S. K. (1998). *Qualitative research for education: An introduction to theory and methods* (3rd ed). Boston: Allyn and Bacon.
- Coombs, P. H. (1970). *What is educational planning*. Paris: (UNESCO).
- Creswell, J. W. (1994). *Research design: Qualitative and quantitative approaches*. California: Sage Publications, Inc.
- Dawson, C. (2002). *Practical research methods*. Trowbridge: Cromwell Press.
- Ebel, R. L., & Frisbie, D. A. (1991). *Essential of educational measurement* (5th ed.). New Jersey: Prentice – Hall, Inc.
- Essah-Hienno, F. (2011, October 4). Zero percent BECE score is misrepresentation. *The Ghanaian Times*, (No. 156,130,701). P. 9.
- Etsey, Y. K. A. (2011). *Educational statistics*. Cape Coast: Centre for Continuing Education, University of Cape Coast.
- Guskey, T. R. (2001). Helping standards make the grade. *Educational leadership*, 59, 20 – 27.

- Guskey, T. R., & Pollio, H. R. (2005). *Grading systems: School, higher education*. (Retrieved January 2012, from <http://selectscore.com/fullpaper/312.pdf>).
- Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches* (3rd ed.). Los Angeles: Sage Publications, Inc.
- Mereku, K. D. (2003). The BECE grading system committees report: Implications for minimum educational qualifications for basic education certificate. *Mathematics Connections*, 3, 25 – 34.
- Merriam, S. B., & Associates (2002). *Qualitative research in practice: Examples for discussion and analysis* (1st ed.). San Francisco: John Wiley & Sons, Inc.
- Ministry of Education (2007). Computerized school selection and placement system. *Guidelines for selection and placement of qualified BECE candidates into senior secondary schools and technical/vocational institutes*. Accra: Ministry of Education.
- Motey, I. (2012). PPP to abolish BECE, make SHS education free. *The Ghanaian Times*, (No. 16, 597), p. 4.
- Munk, D. D. (2003). *Solving the grading puzzle for students with disabilities*. Columbus: Merrill Publishing Company
- Munk, D. D., & Bursuck, W. D. (2004). *Dealing with diversity: Assessing special students* (3rd ed.). Columbus: Merrill Publishing Company.

- Nayak, A. K., & Rao, V. K. (2004). *Educational psychology*. New Delhi: Efficient Offset Printers.
- Noguera, P. A. (2009). Education: The change we need. *First Magazine*, 175 – 176.
- Owolabi, J. (2005). *Policy making and educational policy analysis* (1st ed.). Kampala: Makerere University Printery.
- Patton, M. Q. (1987). *How to use qualitative methods in evaluation*. Los Angeles: Sage Publications, Inc.
- Public Affairs Department of WAEC. (2009, Oct. 12). An assessment of the 2009 BECE. *Daily Graphic*, (No. 18044), p.11.
- Quainoo, J., & Ofosuhene, K. (1994, May 28). Ministry places ban on new SSS. *Daily Graphic*, (No. 13527), p.1.
- Quansah, K. B. (2012). *Report of the syllabus review workshop for basic school english, mathematics and science*. Accra: Ministry of Education.
- Sarantakos, S. (1998). *Social research* (2nd ed.). New York: Palgrave Publishers Ltd.
- Savenge, W. C., & Robinson, R. S. (1996). Qualitative research issues and methods: An introduction for educational technologists. In D. H. Jonassen (ed.). *Handbook of research for educational communications and technology* (pp.1045–1071). Bloomington: The Association for Educational Communications and Technology.
- Tamakloe, E. K., Amedahe, F. K., & Atta, E. T. (2005). *Principles and methods of teaching*. Accra: Ghana Universities Press.

Tetteh, A. K. (2011, September 5). Akyemmansa headteachers to go on mass transfers. *Daily Graphic*, (No. 18630), p.11.

The Editor (1994, May 13). WEAC released details of SSS exams. *Daily Graphic*, (No. 13514), P. 9.

University of Minnesota Center for Teaching and Learning (2012). *Grading systems*. (Retrieved January 2012, from:

<http://www1.umn.edu/ohr/teachlearn/resources/grading/index.html>).

WAEC. (2009). Training of examiners in marking. Unpublished Lecturer notes. *Grading and Grade Review*, 1 – 10.

Warnock, M. (1988). *A common policy for education*. Oxford: Oxford University Press.

APPENDIX A

A STUDENT'S BECE RESULT AND PLACEMENT INFORMATION (1)

FORMATION SERVICE - RESULTS http://ghana.wac

Result Checking

Disclaimer: The results given below are correct at the time of release of the results. The Council and its agents accept no responsibility thereafter for errors or omissions caused as a result of their transmission via the Internet or their downloading or printing by the user.

Candidate's Details

Index Number: 0101169047
 Candidate Name: [REDACTED]
 Type of Examination: BECE, 2011
 Examination Centre: [REDACTED]

Card Details

Card use: 1 of 3

Card use	Results
ENGLISH LANGUAGE	1 HIGHEST
SOCIAL STUDIES	1 HIGHEST
REL. & MORAL EDUC	1 HIGHEST
MATHEMATICS	1 HIGHEST
INTEGRATED SCIENCE	1 HIGHEST
INFO. & COMM. TECH.	1 HIGHEST
FRENCH	1 HIGHEST
ASANTE TWI	1 HIGHEST
B.D.T./PRE-TECH.	1 HIGHEST

The best six aggregate = 06

ion

Page 1 of 1

CSSPS

MINISTRY OF EDUCATION / GHANA EDUCATION SERVICE
 COMPUTERISED SCHOOL SELECTION AND PLACEMENT SYSTEM (CSSPS)
 2011 - BECE CANDIDATE PLACEMENT SLIP

CANDIDATE PLACEMENT INFORMATION

Raw Score: 418
 SHS Placed: 0030601 - Winneba
 Programme: 502 - General Science
 District: Awutu/Efutu/Senya
 Region: CENTRAL

Accra Metro
 GREATER ACCRA

CORE SUBJECTS	Score
ENGLISH	418
MATHEMATICS	
INTEGRATED SCIENCE	
SOCIAL STUDIES	
TWO BEST ELECTIVES	
ICT	
REL. & MORAL EDUC	

*Total Score = 418
 *Total Score = Four Core Subjects plus two Best Scoring Subject

CANDIDATE CHOICES


Senior High School
 0030104 - Mfantsipim Senior School
 0030601 - Winneba Senior High
 0010201 - Tema Senior High
 0020602 - Akim Swedru Senior High

APPENDIX B

A STUDENT'S BECE RESULT AND PLACEMENT INFORMATION (2)

W/RECDIRECT/ONLINE/INFORMATION/SERVICE - RESULTS

http://www.bece.gov.gh



THE WEST AFRICAN EXAMINATIONS COUNCIL
Official website: Ghana

Result Checking

Disclaimer :: The results given below are correct at the time of release of the results. The Council and its agents accept no responsibility thereafter for errors or omissions caused as a result of their transmission via the Internet or their downloading or printing by the user.:

Candidate's Details

Index Number: [REDACTED]

Candidate Name: MENSAH RICHARD NANA K

Type of Examination: [REDACTED]

Examination Centre: FLOWERS GYM JHS

Card Details

Card use: 2 of 3

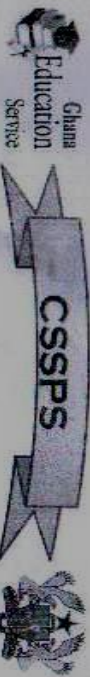
Results

ENGLISH LANGUAGE	1	HIGHEST
SOCIAL STUDIES	2	HIGHER
REL & MORAL EDUC	3	HIGH
MATHEMATICS	1	HIGHEST
INTEGRATED SCIENCE	2	HIGHER
INFO. & COMM. TECH.	1	HIGHEST
FRENCH	5	AVERAGE
FANTE	1	HIGHEST
B.D./PRE-TECH	2	HIGHER

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Placement Information

http://mybeceresults.org/Results/myplacementinfo



MINISTRY OF EDUCATION / GHANA EDUCATION SERVICE
COMPUTERISED SCHOOL SELECTION AND PLACEMENT SYSTEM (CSSPS)
2012 - BECE CANDIDATE PLACEMENT SLIP

CANDIDATE INFORMATION

Name Of Candidate:	MENSAH RICHARD NANA K	Raw Score:	394
Index Number:	090110	Centre Placed:	9050109 - Academy of Christ the King
JHS Attended:	FLOWERS GYM JHS	Programme:	501 - General Arts
District:	Cape Coast	District:	Cape Coast
Region:	CENTRAL	Region:	CENTRAL

CORE SUBJECTS

ENGLISH

MATHEMATICS

INTEGRATED SCIENCE

SOCIAL STUDIES

TWO BEST ELECTIVES

ICT

REL & MORAL EDUC

*Total Score = 394

*Total Score = Four Core Subjects plus two Best Scoring Subject

CANDIDATE CHOICES

Choice Number	School Name	Programme
1	0030102 - Adisadel College	501 - General Science
2	0030106 - Ghana National College	502 - General Science
3	0040107 - St. John's Senior High	502 - General Science
4	0030109 - Academy of Christ the King	501 - General Arts
5	0030110 - Ethical Senior High Tech	501 - General Arts
6	0030105 - Kwame Agyei Senior High	501 - General Arts

PLACEMENT BASED ON MAJORS POLICY ADJUSTMENT

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APPENDIX C

INTERVIEW GUIDE

1. What is your understanding of the stanine grading system as used in the BECE?
2. Under what circumstances is it most advisable to use the stanine?
3. Do you know of any instance when the stanine grading has been used?
4. How different is the stanine from the WASSCE grading system?
5. What grading system was used during the period of the experimental JSS in the seventies?
6. Is the stanine grading system discriminatory?
7. If you were to have recommended a grading system for the BECE at its inception, what system would you have recommended and why?
8. Your final comment on grading systems generally.

APPENDIX D
RETURN OF TRANSCRIPTS

Return of Transcripts

Mfantsipim School
P. O. Box 101
Cape Coast

Dear Sir/Madam,

Please find enclosed the transcript of the interview I conducted with you. The text is saved on a microcassette and is accessible only to me. The transcript is verbatim, except for the removal of fillers (Umms, ohhs, ahhs) and unprofound repetitions. Because it is raw data it does not have the refinements of written language so may seem disjointed in some places. The raw data will be used as short excerpts to highlight key ideas and themes, and it may be rewritten slightly so that it is fluent within an academic text. You will not be identified as the author of the quote.

I would appreciate you reading the transcript and adding, deleting or altering any parts you wish so that it accurately reflects your views. Make comments on the transcript itself and during the next two weeks you are free to withdraw from the research. If you would like to do this please indicate on the release of transcript form. If you would like to discuss the transcript before returning it, please feel free to contact me.

* Yours sincerely,

EKOW ADDADZI-KOM
(024-4928714/020-9938767)

APPENDIX E

RELEASE OF TRANSCRIPT FOR USE

Release of transcript for use

Name of participant:

I have received the transcript of the interview and have read it. The following ticked situation applies.

_____ The transcript is acceptable as raw data provided that the conditions agreed to on the original consent form are met. I have made no alterations.

_____ I have corrected the text of the transcript. Once these alterations are made the text is acceptable as raw data provided that the conditions agreed to on the original consent form are met.

_____ I want to withdraw from the project. Please destroy any data you have collected from me.

Signed _____ Date _____

APPENDIX F

LETTER OF INTRODUCTION (1)



UNIVERSITY OF CAPE COAST
FACULTY OF EDUCATION
INSTITUTE FOR EDUCATIONAL PLANNING AND ADMINISTRATION

Tel. No. : 03321-30571
Fax No. : 03321-30588
E-mail : ucciepa@yahoo.co.uk

University Post Office
Cape Coast
Ghana

Our Ref: EP/144/V.3/21

December 7, 2011

The Director of Administration

.....
.....

The bearer of this letter **Ekow Addadzi-Koom** is a graduate student of the Institute for Educational Planning and Administration of the University of Cape Coast. He requires some information from your outfit for the purpose of writing Thesis on the topic "**The Stanine Grading System Used in the Basic Education Certificate Examination in Ghana: A Critical Assessment**" as a requirement of M. Phil. degree programme.

We should be grateful if you would kindly assist him to interview test experts in your outfit. Kindly give him the necessary assistance that Mr. Ekow Addadzi-Koom requires to gather the information he requires.

While anticipating your co-operation, we thank you for any help that you may be able to give.


Prosper Nyatuame (Mr.)
Assistant Registrar
For: **DIRECTOR**

FACULTY OF EDUCATION
INSTITUTE FOR EDUCATION
PLANNING & ADMINISTRATION
UNIVERSITY OF CAPE COAST
CAPE COAST

RA*

APPENDIX G

LETTER OF INTRODUCTION (2)



**UNIVERSITY OF CAPE COAST
FACULTY OF EDUCATION
INSTITUTE FOR EDUCATIONAL PLANNING AND ADMINISTRATION**

Tel. No. : 03321-30571
Fax No. : 03321-30588
E-mail : iepa@ucc.edu.gh

University Post Office
Cape Coast
Ghana

Our Ref: EP/144/V.3/18

October 18, 2011

.....
.....
.....
.....

LETTER OF INTRODUCTION

The bearer of this letter **Ekow Addadzi-Koom** a graduate student of the Institute for Educational Planning and Administration of the University of Cape Coast. He requires some information from your outfit for the purpose of writing Thesis as a requirement of M.Phil. degree programme.

We should be grateful if you would kindly assist him to gather the information from your outfit.

Kindly give the necessary assistance that Mr. Addadzi-Koom requires to gather the information he requires.

While anticipating your co-operation, we thank you for any help that you may be able to give him.


Mr. Prosper Nyatuame (Mr.)
Assistant Registrar
For: **DIRECTOR**

**FACULTY OF EDUCATION
INSTITUTE FOR EDUCATIONAL
PLANNING & ADMINISTRATION
UNIVERSITY OF CAPE COAST
CAPE COAST**

APPENDIX H
STANDARDS IN SUBJECTS

STANDARDS IN SUBJECTS

Attainment in a subject is indicated by a grade, Grade 1 being the highest and Grade 9 the lowest. Only Grades 1-8 are shown on this certificate. The interpretation of the grades is as follows :

Grade	School Certificate Result	G.C.E. Ordinary Level Equivalent	Former G.C.E. Ordinary Level Equivalent
Grade 1	Excellent	Excellent	Pass
Grade 2	Very Good	Very Good	Pass
Grade 3	Good	Good	Pass
Grade 4	Credit	Credit	Pass
Grade 5	Credit	Credit	Pass
Grade 6	Credit	Credit	Pass
Grade 7	Pass	Pass	Fail
Grade 8	Pass	Pass	Fail
Grade 9	Fail	Fail	Fail

Grade 6 is the minimum standard needed to satisfy university entrance requirements.

On a genuine certificate the colouring between the ornamental borders consists of the words "West African Examinations Council" micro printed in colour.

APPENDIX I

INFORMANT A

INTERVIEW DATE: 06/01/2012

STATUS: SENIOR LECTURER, UNIVERSITY OF CAPE COAST

VENUE: INFORMANT'S OFFICIAL OFFICE

Q. What is your understanding of the Stanine grading system?

A. The scores are graded into nine divisions based on the normal distribution and the percentage who have a particular score. Stanine actually means standard nine, so it starts from the lowest to the highest so each of the intervals has a particular range.

Q. This system has it ever been used in Ghana?

A. It is only exams council who uses it in Ghana

Q. Do you know any other country that uses this system of grading?

A. The US used it sometime ago but they are no more using it.

Q. How different is the Stanine grading from the WASSCE grading system?

A. I don't know much about the WASSCE grading system

Q. I understand the BECE is norm referenced and the WASSCE is criterion referenced, so in effect what is the difference between the norm reference and criterion reference?

A. With the criterion referenced you grade the students according to a criterion you have set but for the norm referenced you grade the students according to the performance of the whole group.

Q. Any advantage of the Norm referenced over the criterion referenced?

- A. It depends on the purpose. They are two different things. Criterion referenced has a different purpose and norm referenced has a different purpose.
- Q. So can you say in your own opinion whether the norm referenced Stanine as we are using is the best for our basic schools especially since it came to replace both the common entrance and the middle school leaving certificate examinations.
- A. Well, I can't say whether it is the best or not. Again, it depends on the purpose for which we are using it. If we look at the raw scores it depends on what the Ministry of Education wants to do with the raw scores. The Stanine puts them into nine groups. If we have the raw scores also they can decide that from may be 70 to this will be an A or from 80 to this will be an A, so basically whether the raw scores or the Stanine, it will still put them into groups. The advantage the Stanine has is that it will be more standardized. So for this one it is particular percentage that should give a particular grade so the raw scores they can vary.
- Q. So the Stanine does it compare within a particular subject area if two people had say grade 1, can you say that they are comparable like proficiency the two since they all been given grade I you can actually compare them that they are of the same merits the Stanine as you are saying since they are using percentage?
- A. It is very difficult to tell. You can only do that if you standardize. If you use the Z or P that will be the best way to compare. This way you compare performance within the group, you are not comparing performance by the raw

scores. You can see that there is a particular group where the raw scores are from 10 to 50, that is the range of the raw scores so those who are getting 48, 49 and 50 with the raw scores they can get the top 4%. Then you have another group where the raw score will be 80 – 90, so they are in the top 4% so we can give them an A. so in one group 80 – 90 will be an A and 40 – 50 will be an A. so if we go in another group by the raw scores like that then the 80 – 90 group cannot be the same as the 40 – 50 group, that is how the Stanines are made.

Q. If in year X a students' score all ones and in year Y another score all ones in all subjects, can you compare the two and say they are equally good?

A. No, if you use Stanine you cannot do that. You have to equate. We have something we call equating before you can compare. It depends on the raw scores they get.

Q. Looking at the educational reforms, one of the goals is to provide quality can we compared the new system to the old system?

A. I have a problem with that. What do we mean by quality? We cannot compare performance now with a previous one. The previous one used a different syllabus. Right now we are using a different syllabus so it is difficult to compare what is happening now and what happened before. Let me give an example. I asked my class a history question. They did not know the answer and I said that was not their fault because the syllabus has changed now. So talking about the quality going down cannot be generalized. We did not know anything about ICT, so you can only compare if they use the same syllabus and

the same commitment to teaching. If you want to look at another variable like teachers' commitment, then I will say that the older teachers were more committed to teaching than these young ones. In terms of commitment, teachers at that time teachers and students were more committed to teaching and learning. In that case standards have fallen. In our time there were no sandwich programmes and the distance programmes were different what is happening now, hence teacher leave the classroom, our time teachers never left the classroom you use your own time to do your studies so if you look at it the variable teachers then will say they did better than now. So if we look at quality of education in terms of teachers then those days are better than what is now.

Q. We hear standards are falling, what do you say to that?

A. What standards are falling, what standard is it that is failing. If say standards in terms of writing then I will say that our ability of writing is falling. Sentence construction the type of English written in those is better than now. Right now students use text messaging to write essays which was there in those days. In those days if somebody write an essay you can that the person has attained this level of education right now English writing, composition has gone down.

INFORMANT B

INTERVIEW DATE: 16/01/2012

STATUS: SENIOR STAFF, WAEC

VENUE: INFORMANT OFFICIAL OFFICE

Q. What is your understanding of Stanine grading system as used in the BECE?

A. Stanine system is an international acclaimed system for grading. Its norm reference and also has a normal curve as its basis. What it does is that it puts the students, in our circumstance into nine blocks, depending on their performance. Unlike other systems what the Stanine does it that it has prefixed cut-off points in terms of the number of candidates that can be put into a particular block. For instance, the top 4% are given grade 1 no matter the performance and the next 7% are given grade 2 and it goes on like that. Infact it has history and statistical basis. I must say, the statistical basis is that if you have a normal group of human beings randomly put together and you measure their innate traits, their behaviour follows a normal curve. It has good statistical background and history.

Q. Please sir, you are saying if you put a normal group of people together, their behaviour will follow a normal curve. Then why do you pre-determine it by putting top 4% grade 1, bottom 4% grade 9 and so on. Why don't you allow the natural course to determine the normal curve.

A. No, we do not pre-determine the normal curve. The behaviour of the candidates naturally follow the normal curve because academic performance is innate and the number of the candidates in the BECE is large. What we

have done is the determination of the “blocks” to put the candidates into the again this follows the interpretation of the normal curve. The top 40% are those who in a normal distribution are regarded as “exceptionally good” in the characteristic measured i.e. exceptional performers.

Similarly, the bottom 4% are those regarded as “exceptionally bad” (so to speak) in that same characteristic. We expect the bulk of the respondents to be in the middle block i.e. Grades 4-6 in our case. Thus those blocks contain about 56% of the candidates. And again, all these have statistical basis.

Q. Under what circumstances is this system of grading most advisable?

A. The candidates must behave normal. The distribution must follow the normal curve secondary the number must be large. There must be a large number of candidates. Thirdly it is mainly for selection purposes.

Q. Do you know of any instance the Stanine grading system has been used?

A. It has been used, even the standard result you get from most examining board is the Stanine unless it has been moved to criterion reference, it is Stanine.

Q. Can you give specific example?

A. No, am unable to do so now. But it has been used. It wasn't invented by WAEC or the Ministry of Education for that matter but it is a system that has been used.

Q. How different is the Stanine grading system from the WASSCE grading system?

A. The major difference is that in the WASSCE grading system the cut off points are not predetermined. In the BECE grading system the cut of point is

the percentage of candidates but in the WASSCE the cut off point is a percentage mark. Both of them are norm reference. A modified form of norm reference in the sense that we compare performance over the years with the current performance so that it is easily comparable.

Q. So how different is the BECE grading from the WASSCE grading system?

A. They are different in the sense that in the Stanine grading system, the percentage of candidates who get various grades are fixed. In WASSCE they are not fixed.

Q. What grading system was used during the experimental JSS period. Was it the same or it was that of the WASSCE?

A. It was the same as in the WASSCE.

Q. So how come the change?

A. It will be difficult for me to tell you why it was changed.

Q. Does the mean that its not WAEC in control anymore, hence the change?

A. WAEC does the exams. Unlike the WASSCE where WAEC is totally in control. For t he BECE, WAEC is basically an agent for the Ministry of Education. But was try to build consensus.

Q. With the experimental JSS, WAEC was in control?

A. No, it was the same arrangement.

Q. Is the Stanine system discriminatory? I mean if two students obtain grade 1 in say, mathematics in the same year, can one say that they have both attained a certain bench mark or criterion in mathematics?

A. As far that it is a problem with the grading systems. Once candidates are put in blocks, it is difficult to say which of them in the same block did better. However, for purposes of classification you can say that both candidates in your example are exceptional.

In fact, your question is far fetched. If a student is “supernatural” and scored 90% and the other obtained, say 75%, both may obtain Grade 1 but it will not be possible to know who did better unless we are given their marks. This problem shows up in all grading systems that do not indicate actual scores the candidates obtain and is not a deficiency of the Stanine system alone.

Q. If two students obtained all ones or same aggregate in the same subjects in different years, can one say that both students have attained a certain benchmark or criterion in the subjects in question or are equally good or matched?

A. I know where you want to go to. You can't compare their performance because they got their grades from different cohorts. But based on their results you can say they are equally competent.

Q. If you were approached at the inception of the implementation of the BECE to choose a grading system and what you said was final, would you have recommended the Stanine?

A. We choose systems based on what we want to do and from that background I have no problem with the Stanine. For me now as the BECE serve only as an entrance examination to enter into S.H.S. Apart from that nobody needs the BECE for employment. The Stanine is actually designed for selection. Apart

from selection to SHS what else do we use the results for? Of course the military say they use it for recruitment.

Q. Your final comment on grading systems generally.

A. I think its high time we move forward to the criterion referenced system. For comparability purposes, candidates will have to meet certain criterion in their performance in certain tasks before they are graded. It seems the whole world is moving in that direction and we must move with the current trend.

INFORMANT C

INTERVIEW DATE: 16/01/2012

STATUS: SENIOR STAFF, WAEC

VENUE: INFORMANT'S OFFICIAL OFFICE

Q. What is your understanding of the Stanine grading system as used in the BECE?

A. That is the grading system whereby candidates are awarded grades between one and nine depending on their performance. It is norm referenced, with that we grade within the normal curve. The grades are predetermined, that is the top 4% are given grade 1 and the bottom 4% are given grade 9 and so on. That's my understanding and that's the way we operate.

Q. Under what circumstances is this system most appropriate?

A. I think it depends on the population size. In my view, the population size that determines the appropriateness of the Stanine system. The main purpose of the examination is for placement even though it is used for certification, so that those who wouldn't like to continue their education could use the certificate to seek employment.

Q. Do you know of any instance when the Stanine grading system has been used?

A. No, not in my working life here. If I should cast my mind back, you know in the 'O' and 'A' level we were awarding grades based on performance and not percentages.

Q. How different is the BECE grading system from the WASSCE grading system?

A. In the WASSCE we award grades based on performance unlike the BECE where once a student falls in a category he/she gets a particular grade. The WASSCE is also norm in a way with some subjectivity. So we can say it is criterion referenced while the BECE is strictly norm referenced.

Q. What was the grading system during the experimental JSS in the seventies?

A. Am not very familiar with what the system was. And I don't think I can answer the question.

Q. Is the Stanine grading discriminatory?

I mean if two students obtain grade 1 in say, mathematics in the same year, can one say that they have both attained a certain bench mark or criterion in mathematics?

A. That is where the subjective element comes in. But technically you can say that they are equally good students. We are not into that so I cannot say.

Q. If two students obtained all ones or same aggregate in the same subjects in different years, can one say that both students have attained a certain bench mark or criterion in the subjects in question or are equally good or matched?

A. I think with the Stanine it is based on the year so you can't compare the results between years. The results in a year is peculiar to that year.

Q. If at the inception of the JSS you were asked to recommend a grading system, would you have recommended the Stanine?

A. The Stanine has got its own short comings. It's a policy issue for the Ministry of Education and GES. But if I were to decide I would use the criterion reference.

INFORMANT D

INTERVIEW DATE: 16/01/2012

STATUS: SENIOR STAFF WAEC

VENUE: INFORMANT'S OFFICIAL OFFICE

Q. What is your understanding of the Stanine grading system as used in the BECE?

A. The Stanine grading system also known as standard nine has a statistical way of grading students. It is a norm-referenced grading system, in that a candidate's grade depends on his/her position as compared to other candidates in the same subject. All the candidates or students for a particular subject are ranked from highest to the lowest. The assumption is that when you rank them they fall into a normal distribution when it is a large population. After the ranking, the first 4% are given grade 1, the next 7% take grade 2, the next 12% get grade 3, and the next 17% grade 3. The middle block of 20% take grade 5, that is the highest point of the normal curve. Then it goes down to 17% grade 6, 12% grade 7, 7% grade 8 and the last 4% take grade 9. That is how the Stanine grading system works.

Q. Under what circumstance is it most advisable to use the Stanine?

A. The Stanine grading system was introduced during the inception of the BECE. Actually we were asked to use the Stanine system by the Ghana Education Service. Basically the BECE is an examination that we administer for the GES. So when it comes the BECE most of the decisions are taken by the GES and forwarded to us for implementation. The use of the Stanine grading

system has come with some advantages because it encourages the students. Every year 4% get grade 1 so if this year the highest is 20 over 100, its still ranked and the 20% gets grade 1. When you look at the Stanine grading system, they say that its good for candidates at the level of education because they don't want to discourage them. Unlike the WASSCE in which we use grade boundaries so there are years that nobody gets grade A1 because nobody made the mark, for BECE, despite the performance of candidates the first 40% of the candidature would always have grade 1. Two important assumptions are made during the use of the Stanine grading system. They are as follows:

1. That the performance of candidates is normally distributed.
2. That the examination or test is an aptitude test for selection.

Q. Do you know of any instance when the Stanine has been used?

A. It is used internationally, however, I will not be able to tell you it is by this examination body or that examination body. The Stanine grading system is an accepted statistical grading system used by some examining bodies. Am sure the GES would be able to give you exact data on when and where it has been used abroad.

Q. How different is the Stanine from the WASSCE grading system?

A. With the WASSCE grading system we have grade boundaries. These grade boundaries are derived or they come about when the chief examiners meet and decide. Chief examiners create these grade boundaries using a guide. So whether in a particular year they are going up by adding 1 or 2 marks or go

down 1 or 2. They look at the question paper, they look at performance etc and make sure that the question paper is of standard. Sometimes when the question paper is very difficult they reduce the grade boundaries by one or two, so we have flexibility in the grade boundaries. If they want to make say from 80% to 100% to get an A1, then when you speak of A1 candidates, immediately you know that this is a good candidate. Its clear because the grade boundaries are set. Now when you come to the Stanine grading system as I have said already, you rank the candidates. In the Stanine grading system the candidates are ranked and graded based on the performance of other candidates. When it comes to the WASSCE it doesn't matter if everybody, like last year for example, 11% of the students in social studies had grade A1. They all got it because they made the grade. If the whole cohort gets grade A 1, they will get it.

Q. The Stanine is not discriminatory but the WASSCE is?

A. Yeah, the WASSCE is discriminatory but the Stanine is not. In the BECE sometimes, for the first 4% you get marks ranging from 56% - 98% and they all get grade 1. So if you talk of grade 1, unless you go to the raw score you don't even know what you are talking about. But with the WASSCE, when you say A1, you know A1 ranges between this small boundary and that is where when it comes to placement in the BECE, they go back to use the raw score.

Q. What grading system was used during the period of the experimental JSS in the seventies?

A. I don't have any idea.

Q. If you were to decide for the GES on the choice of a grading system for the BECE, which one will you choose?

A. First I think the criterion referenced grading makes it easy to compare performances from year to year. Its actually easy for you to state whether standards are going down or going up. If in a particular year you don't get A1 or B 2 you can confidently say that this year the candidates did not do well and that something has gone wrong with say the teaching and learning of the said subject, so lets look at it. But when you come to the Stanine, every year no matter what marks the candidates get, we still get our ones and still get our twos. So it is difficult to compare this year's results with next year's results because this year once you know the number of candidates for every subject you can tell the number of candidates who will get 1. Just taking 4% of the population will tell you the number of candidates who will get grade 1. You will always have the ones and twos so you cannot say whether standards are falling or they are getting better. Educational psychologist will tell you that those children are very young, so don't discourage them. They say that you don't need to have an issue like in a particular year nobody had 1, 2 or 3 in say English language. Personally, I will rather we have the common entrance type of system, or a criterion-referenced grading system.

Thank you.

INFORMANT E

INTERVIEW DATE: 17/01/2012

STATUS: DEPUTY DIRECTOR, GHANA EDUCATION SERVICE

VENUE: INFORMANT'S OFFICIAL OFFICE

Q. What is your understanding of the Stanine grading system as used in the BECE?

A. I know that it follows the norm reference system of grading students. That is, for any examination taken, those students whose scores fall within the top 4% are given grade 1, 7% will get grade 2, 12% will get grade 3 and so on. That is, there are fixed percentages for giving grades to the candidates.

Q. Under what circumstance is it most advisable to use the Stanine?

A. Normally it is not based on the real performance of the students. Its only based on the cohort or the population of students who took the examination.

Q. So if you have a large population then it is advisable to use the Stanine system?

A. I wouldn't say so because from its origin, it was not something that was used for examination in grading candidates in examinations. It was used in industry for selecting people. Am not too sure of the reasons for its use in our system. But then it was introduced when the BECE was introduced.

Q. Am reliably informed by WAEC that during the experimental JSS in the 1970s, the grading system was that of the criterion reference and not the norm reference. It was in 1987 when the government decided to fully implement the

JSS that the grading system was changed. Why the change from the criterion reference to the norm reference?

A. I think the BECE in its early implementation stage beset with a lot of problems – lack of teachers, lack of facilities etc. I believe that it was the absence of these resources that might have informed the choice of the system so as not to unduly put the children at a disadvantage. Also considering the large numbers involved it was prudent not to do anything that will put the entire system in jeopardy and erode the confidence of stakeholders in education. Besides, the aftermath of many students failing a high stake examination such as the BECE will be politically distasteful for any Government.

Q. Madam, so if the system improves, if we have the teachers who are committed, we have the facilities and all that. Will you still recommend the use of the norm reference or you will ask that we go back to the criterion reference?

A. Oh! no, because it does not really tell the true performance of the children. A child gets 100% another child gets 60% and because they both fall within the top 4% of the population, they all get grade 1. It doesn't really tell the real performance of the child who has got grade 1. It doesn't tell the ability, it doesn't describe the performance in terms of the syllabus in terms of achievement of the curriculum objectives. If it was credible, BECE selection would not use the raw scores.

Q. So in effect we cannot compare two students from different years who all had grade one in all their subjects?

A. No, you cannot compare. The BECE is not criterion referenced. The basis for comparison is weak. You cannot say that they performed equally, neither can you also use this to make any favourable decision in terms of whether students grades are improving or not improving.

Q. If you were asked to decide for the nation the grading system to be used for the BECE, what would you recommend?

A. I will go for the criterion reference. With that one, you would be able to pick a child who got grade 1 and describe his/her competences, state the knowledge that child would be able to demonstrate. That will inform stakeholders whether we are achieving quality or we are not achieving quality. For now we are not able to do that effectively.

Q. Madam, some experts are saying that at that stage it is not the best to tell a child that he/she has failed, that is why they are using the norm reference. What do you say to this?

A. Whether norm reference or criterion reference it is not psychologically advisable to tell a child that he/she has failed. The child can be told that, this is where we want to go in the learning process but this is where you are. We are talking about constructive feedback. Some educators describe it as WWW. This is where we are, this is where we are heading towards in the learning process and this is where you are. This is what you need to do to be able to get there. This is what you tell the child. Failure affects the child psychologically because in every situation you don't create the impression that the person has totally failed. Negative feedback has got far reaching consequences because

through research it has come to be accepted that telling children they have failed does not give the right feedback. It does not really move the child's learning forward.

Q. Madam, what is your comment on grading systems generally?

A. Okay, each of them has got its own good side and bad side. Talking about the criterion reference, it is good and will tell, both the teacher and child where the child is in terms of the learning process and what the child needs to improve in terms of the standard that we have set. Now it is not cheap but the norm reference is relatively cheaper. You need to train teachers, first you need to come out with a grading which/and description can easily be understood by the child and the teacher and even the examiner. Training and resourcing people, building stakeholders capacity to understand the process is necessary. It doesn't just happen that the people will understand and use the grading system. Invariably, being a, it is likely to produced with a lot of challenges. You need to orient peoples mind, there will be opposition and you need to work and reach a certain level of acceptance.

Q. What are the reasons for choosing the stanine system was against the criterion reference system?

A. Okay, you are a mathematician, it follows the normal curve and I said before it is easy and it follows a mechanical way of grading the candidates and it also removes the human error of subjectivity. With the abolition of the common entrance, BECE is for both certification and selection. It is a 9 point scale and can easily be explained to students and parents that a child falls in the top 4%

is given grade 1, he/she falls in the next 7% is given grade 2 etc. It is easy to predict absolute numbers that will qualify for SHS, so these are some of the reasons. I think it is for convenience.

INFORMANT F

INTERVIEW DATE: 17/01/2012

STATUS: DEPUTY DIRECTOR, GHANA EDUCATION SERVICE

VENUE: INFORMANT'S OFFICIAL OFFICE

Q. What is your understanding of the stanine grading system as used in the BECE?

A. It is only used for selection purposes. Its use is to facilitate the selection process into the various secondary schools. That is, the grading affords WAEC or the selection board to get those that must be placed in the secondary school.

Q. How is it done?

A. They use percentages. With the stanine system, even before the results are out, they know the number that will score grade 1, grade 2 and so on. All the grades have been apportioned already, that is the other side of it).

Q. When is it convenient or advisable to use the stanine grading system?

A. I would say it is to be used for employment purposes. That is to say, may be you do not need to look seriously at the grades, you only need those who have passed. So you can just wholesale take any bulk, for instance GES needs 20000 people to work in their various offices, not to teach anyway, but to be employed. So a test is organized and then use it to cut off the 20000, that is all.

Q. During the seventies when we had the experimental JSS, /am reliably informed that the grading was criterion-reference. Why the change?

- A.** That was as you said the pilot JSS and using the criterion referenced the failure rate was a little high. So questions began to be put as to whether the system was good for the country, when we have our JSS graduates failing, so why don't we change it in order to avoid provoking political sentiments. In fact, when we are talking about politics we are looking at the economy and education. So if we continue to use the criterion reference the failure rate will be so high and the Government would be made to answer too many questions so why don't we get a system that will ensure high pass rates to put Government in a good light.
- Q.** From what you are saying it means that the stanine grading system is not discriminatory? That is if two students obtained grade 1 in say, mathematics in the same year, can one say that they have both attained a certain benchmark or criterion in mathematics.
- A.** No, no you cannot compare because the way it works means that two students cannot be compared. What is happening is that the criterion reference describes what the child can do with this grade. It means that if the system wants people who are able to think on their feet, it will mean that the test to be conducted should be able to discriminate and give them such people. But the way the stanine is, you realise that the grade changes as and when the highest score changes.
- Q.** If at the inception of the BECE you were asked to recommend a grading system, what system would you have recommended and why?

A. You would have to look at the exigencies of the time. What does the country need at any given time? Especially at that time when you could be picked up and beheaded or they can plant anybody on you to harass you, you would have to think twice. But if I were given the freedom to think and think properly, I will surely go in for the criterion-referenced.

Q. Finally, what would you say about grading generally?

A. Well if you ask me, I will say yes the grading should happen, we should use the grading to place people in their true light. Without the grading, it's like the following are also passed. You've been through the system you've passed, but what is your true potential? Your ability? So you realise that with the grades you are able to say Mr. K is capable of prosecuting this agenda. But that is not what is happening with the BECE grading system. Even when you see the result slip you are unable to tell what the candidate is able to do. That is what the human resource people are telling us. Let me be specific, Kofi Amoabeng of UT Bank, he told me he had MBAs who cannot write two sentences correctly. You see, what is the education system doing about it, so many people are getting disappointed though. We are even wondering assuming there were no grades attached to their results. What would be the situation in their various fields of work. This is the problem we have, so in reality the grading system is the ideal for me. If your child had grade 2, you are able to say, you belong to this category of academicians. You can confidently say you are capable of being a teacher, you are capable of being this or that.

INFORMANT G

INTERVIEW DATE: 17/01/2012

STATUS: SENIOR STAFF WAEC

VENUE: INFORMANT'S OFFICIAL OFFICE

Q. What is your understanding of the stanine grading system as used in the BECE?

A. It's a system used to rank test outcome say, the performance of the candidates on a test performance from the best performance to the lowest. As it is, it is not like what is used in the WASSCE system which is a sort of criterion in nature which has fixed grade points. In the stanine, the respondents/candidates are ranked as it were. There are fixed percentages for the various grades. For example, the top 4% are given grade 1, the next 7% grade 2 and so on.

Q. Under what circumstance is the stanine most advisable to use?

A. The stanine is most suitable for selection of candidates into S.H.S. It is suitable for selection purposes than may be final examination and certification.

Q. Do you know of any instance when the stanine has been used?

A. I think quite recently in Great Britain they used it and just recently some publications suggested they would/should go back to the stanine system. And in Australia some institutions used it before, but directly I don't think a can pin point those institutions.

Q. How different is the stanine from the WASSCE grading system?

A. Basically the stanine system is a norm referenced system and the WASSCE leans more towards the criterion reference system. So with the WASSCE it could happen that no one obtains say grade A1 or obtains any of the grades provided no body falls into that grade bracket. With the stanine system some will fall into the highest and others will fall into the lowest and the other grades. Basically there is no fail, everybody who has taken the exams obtains a certain position in the system.

Q. What grading was used during the period of the experimental JSS in the seventies?

A. I think that one was like the WASSCE system.

Q. So why the change?

A. The thing is that, that one was experimental but this one was completely a new thing. Some explanation was the age of the students and it wasn't too good and fair to say they've gone through school and they have failed. I think that will be demoralizing to them. They have done some mathematics, science and so on and so forth. It also depended on what purpose the BECE itself is supposed to serve. So you have to look at the purpose of the grading system. BECE is supposed to be a stepping stone to either grammar school or technical school.

Q. Is the stanine grading discrimination?

I mean if two students obtain grade 1 in say, mathematics in the same year, can one say that they have both attained a certain bench mark or criterion in mathematics.

- A. You definitely cannot do that. For you to be able to do that you have to set a standard. The syllabus itself must set a standard and you see whether you can rank or compare their performance against the standards. That's one of the weaknesses in the stanine system.
- Q. If two students obtained all ones or some aggregate in the same subjects in different years, can one say that both students have attained a certain benchmark or criterion in the subjects in question or are equally good or matched?
- A. You cannot compare them. Lets say in year 1 for example, a student who obtained 70% is at the top. Now somebody might score 65% or even 69% and he is also top in another year. Somebody can say that this is better than this one, but they are tops. This is some of the problems of the system. The stanine system is defended on the group's performance not an external criterion.
- Q. If you were to have recommended a grading system for the BECE at its inception, what system would you have recommended and why?
- A. Looking at what is useful, my very personal opinion is that, with this requirement of using the raw score we should have gone ahead and just graded them using a descriptive system. So we can have the middle school grading system; Distinction and so on and so forth which can accommodate this particular grading system. That is what I would advise so that at least we can accommodate the issue of people going through the system and we not telling them that they have failed. We will say, based on this and that we have awarded you a pass or even a certificate of attendance. Because it is being used for two purposes; terminal or certification and then selection, we'll use

the raw score to select and those who have done well based on the raw score we give them distinction, pass and whatever grades we want to give them.

Q. Finally, your comments generally on grading systems.

A. Grading systems have their strengths and weaknesses. We cannot exactly place the performance of the candidate or capture it exactly, so we use a system to describe as closely as possible that performance. So what we have, we have to make best use of it as we refine and change it to become a better system. But what we have now they are okay, they are serving their purposes.

INFORMANT H

INTERVIEW DATE: 10/02/2012

STATUS: SENIOR LECTURER, UNIVERSITY OF CAPE COAST

VENUE: INFORMANT'S OFFICIAL OFFICE

Q. What is your understanding of the stanine grading system as used in the BECE?

A. Well, the stanine grading system is a 9 point scale where the performance of all the students are put on a 9 point scale so that the top 4% of the students get stanine 1, the next 7% get stanine 2. It will continue and the bottom 4% get stanine 9, so you put all of them in this way so that you begin to classify them to see the performance. So it is just a 9 point scale for classifying the students to know the topmost and so on. The middle 20%, they get grade 5 so that is a 9 point scale so that you want to classify the students who is the topmost, average, who is at the bottom of the group.

Q. Under what circumstance is the stanine system most advisable to use?

A. Well, the stanine system becomes very important for classifying students performance. When in the curriculum you don't have bench marks, you do not have any performance standards fixed, so you want the performance of the students itself to determine the grade then you use the stanine. In the BECE for example those days, the curriculum did not specify that if you take English, somebody getting this percentage or so should be given 1 or so so and so. That is why the stanine became very important and handy to be used.

Q. Do you know of any instance when the stanine grading has been used?

A. No, I don't know of any instance.

Q. How different is the stanine from the WASSCE grading system?

A. The WASSCE also has the 9 point scale but that one is not determined by a certain percentage. The examiners themselves when they meet at the award meeting, they decide which one will get grade 1 and which one will get what. Sometimes you can get a situation where a few people will be getting grade 1, may not be 4% of the total number of candidates. It may even be less. That is the difference, that one it is not fixed by percentages and so on, the examiners themselves decide. So you may find that those who will be getting 9, the failures, they may constitute even more than 5% of the total group which the stanine disagrees with.

Q. Am reliably informed by WAEC that during the experimental JSS in the seventies, the grading system was that of the WASSCE. Why the change?

A. The decision at that time was that basic education is a birthright of every child and that everybody should be given the chance whether he/she got grade 9 in all the subjects. With the old some candidates were classified as failure and were not given certificates. Even if you got grade 8 throughout, you were not given a certificate. But in this particular case we must have a situation where people must be given certificates to indicate their level of performance as their birthright. Hence the change.

Q. Is the BECE for selection or certification or for both?

A. The BECE is a terminal examination and so it is for certification primarily and then selection.

Q. Is the stanine discriminatory? I mean if two students obtain grade 1 in say, mathematics in the same year, can one say they have both attained a certain bench mark or criterion in mathematics.

A. They both performed highly but there is a difference. Grade 1 is a bench. Someone may get grade 1 but will be at the top of the band and another will be at the bottom of the band. The 4% of the students, somebody may be at the lower end of it and another way be at the upper end. But I cannot say that there is equality.

Q. If two students obtained all ones (or same aggregate) in the same subjects in different years, can one say that both students have attained a certain bench mark or criterion in the subjects in question or are equally good or matched.

A. As far as the grading system is concerned, they are comparable but then we know very well that from year to year the papers are different. The demands of the papers are different. So you can't generalize that way with certainty. You can say that they are all equally high performers. But that equality cannot in statistical terms be traded. When you give them work, every time there will be differences all right. You cannot say that they are equal, but within that range they are tops. From year to year the error margins are different. So please you will have to put that comparison in a coffin.

Q. Your final comment on grading systems generally and the way forward in improving the quality of basic education in Ghana?

A. In our education system, the grading system we've been using is not very objective. Its been so subjective, the examiners from year to year they want to

prove that their papers are important and so difficult and so on. They are happy when more students fail. You know very well that in the system some schools do not have teachers, they don't have materials and so on. yet you keep on failing students, so it is the system which is failing the students not the students themselves who are failing. This is the problem we have in the system. We must make our grading system more scientific and more reliable. The subjectivity in our system should be removed and assessment should be more objective than we are doing. That is my general comments.

Q. You were talking about differences, for example some schools do not have teachers and all that and therefore it will not be fair using the criterion – reference that was why in the full implementation of the JSS we changed to stanine. Sir, in the event that everything is in place, we have dedicated teachers, we have good textbooks, materials, labs etc and everything is in order. Would you still recommend the stanine grading system?

A. I will still recommend it. What we were doing previously was not criterion referenced. Criterion reference means that the test the students will be taking from year to year are standardized. And the grade points are determined to get division 1, division 2. But if you keep changing the papers and the demands of the papers from year to year, you are not doing criterion reference. The decision as to who get grade 1 is total to examiners and not by the set standard. The only time we know we have used the true criterion-referenced test was during the reform programme when we were testing for mathematics

and English. The WASSCE is not a true criterion-referenced; it is examiner determined grade system.

Q. So it means that you will recommend Stanine referenced as being used anytime and any day?

A. Very really, you see the question is what are you going to use the examination for. If you are going to use the results for classification, get the subject specialist to determine who qualifies for selection. But if you are going to give certificates to people then let the performance of the students from year to year determine the grades. That is the stanine and not saying that no matter what you do, then the stanine. Let the purpose determine it.

INFORMANT I

INTERVIEW DATE: 20/02/2012

STATUS: RETIRED PROFESSOR

VENUE: INFORMANT'S RESIDENCE

Q. What is your understanding of the stanine grading system as used in the BECE?

A. Well, it is normative system a nine point system that places people according to the normal curve. A pupils score in compound to all those who took the test. Once somebody gets an impressive score that in the highest, that person is moved to the highest level, that is grade 1 through the performance may be low. So for example if you are looking at somebody does an exam and gets 45% is the highest, using the stanine system, the person may be put at Grade 1 which is in the range 40-45%, showing that, the person is good because he got grade 1, but you look a the raw score 245 and, you see that he doesn't know anything. So you can't use a grade in the stanine (standard nine) system to say that this person has mastered the subject. It therefore becomes difficult to use it to draw any useful conclusion.

Q. Under what circumstance is it most advisable to use the stanine system?

A. I think probably not for promoting people from one level to the next. Not for judging people as having mastered any subject that they are studying. But probably just to get a general view of how the performance looks like and selecting people from that. So you have a general view... of all those people who

have written the exam, i.e. how they spread out. But its not good to judge that this person has acquired a certain competency.

Q. Do you know of any instance when the stanine has been used?

A. I don't remember now, but it used to be used in some other countries for selection into industry. But with modernization, educator are all moving away from there. Now everybody is looking at performance grading and its (stanine) now becoming out dated.

Q. How different is the stanine from the WASSCE grading system?

A. It is different as I have already said. The WASSCE is performance oriented because it looks at the performance of individual students and the test items and grade related criteria. So its performance based, therefore, one can use that as a way to say, that yes this person has mastered concepts in this area but has not be enable to do well in that area and so on. So you can make real projections about the person's ability. One is norm and the other is criterion related.

Q. I am reliably informed that the grading system during the experimental J.S.S in the seventies was not the stanine. It was what is used in the WASSCE but during the full implementation of the J.S.S, it was changed to the stanine system. Do you have any idea why the change?

A. Its speculations but am sure that people always find the area with least resistance. If you are going to use the performance based system, it requires a lot of work compared to using the normative system where you don't have to worry yourself so much in grading the pupils. But am sure that our system is so politically oriented that this could be part of the decision. It's possible that

because using the performance based system one could find that a lot of people will not qualify for admission into the senior secondary level. But if you used the stanine system norm the scores and can get more pupils to obtain higher grades. So you can have a lot of people being passed to the next level. As I said these are speculation and one can't say for sure that these are the things that happened. There may be some truth in that, but that's unfortunate. May be we should have gone back to it to see really what the performance is. So when you are looking at literacy level, you will know that the pupil is at this level just as The Criterion-Referenced Tests and the National Education Assessment (NEA) were doing. Right now you may find out that even though a lot of people score grade, ones, twos and threes at BECE. But then if you look at their criterion –referenced test scores, the performance is so low in Mathematics, Science and English over the years. It has come up (improved), but it is still below 50%. And if 50% of your people are failing or not getting to the minimum competency position then you are wasting money.

Q. Is the stanine grading system discriminatory?

I mean if two students obtained grade 1 in say, mathematics in the same year, can one say that they have both attained a certain bench mark or criterion in mathematics?

A. No, you can't say that because, Yes they've got grade one but their scores may fall within range in the different years. In one year the top score may be say 49% whiles in another and yet they all get grade 1. So in a sense they are not comparable.

Q. If two students obtained all ones or the same aggregate in the same subjects in different years, can one say that both students have attained a certain bench mark or criterion in the subjects in question or are equally good or matched?

A. No, you can't compare.

Q. If you were to have recommended a grading system for the BECE at its inception, what system would you have recommended and why?

A. Definitely it's the performance based grade related criteria scoring system. Unless people don't want to know the truth, then you hide behind the stanine system. If you want to hear the truth, then you go for the criterion reference to know the real performance of the pupil. You set the criteria or benchmark and this is what the pupil is able to achieve. So the performance can now be given a better description than when you use the stanine system.

Q. I spoke to someone who was around when the grading system was changed in 1987. He says that during the experimental J.S.S, the students failed. But the psychologist will tell you that at that age it is wrong to tell the student that he/ she has failed. So that is one of the reasons why they went for the stanine system so that not fail but lowest. What do you say to that?

A. it's yes and no. No, because I believe that the child should know whether he has performed or not performed. If you just want to window dress the thing, then its okey. But its not okey. If you look at what is happening in the S.H.S now, the ministry is saying that grades D7 and E8 are okey. But the universities say no, they are not okey for us. If you come here (to the university) we don't accept the D's and the E. s. So it is the same thing when you say, its okey, you haven't

failed, but you have failed. Let the person know that he has failed so that he can better address these shortcomings. The American slogan is that if you haven't failed before, you can't move from there to the next level. It's a big problem, yes for me. The psychologist may want you to moderate the thing in such a way that it doesn't affect the psychological make up of the person, but Piaget tells us that there are stages to development. From stage 1 to stage 2 to stage 3 to stage 4, if you give the individual a task to perform and at the level that you are talking about, the JHS, that person needs concrete referens to understand the concept that you are introducing. If you just talk in abstraction, you are given him/her a problem and all that he/she will do is to try to commit it into memory and produce whatever he/she has in memory for you. They would not understand whatever you taught them and so their performance will be low. So it is not a question of covering their performance by saying that well its okey. I think that they should know that this is why they have failed and they have to better themselves. Otherwise, we will be deceiving ourselves. All that I am saying is that, if the person doesn't know why he even got grade 9, then we are not helping the person to move from there. I disagree with that, I think its not helping many pupils at all.

Q. The second reason they gave for the choice of the stannine was that many of the schools especially the rural schools do not have, teachers, equipment, textbooks etc. so using the criterion referenced system will put pupils of such schools at a disadvantage, hence the stanine system. What do you say to that also?

A. It's a non - starter. Nobody should even raise this as a reason. Is it the fault of the students that they do not have those things? The government should provide the facilities since we have a national curriculum and national exam. So I won't even say that in the first place. In other places like the U.K, there is a national exam but they also have another exam which also looks at people who are not performing so much as one would expect. But I don't think that the idea of rural schools not having this or that is the reason. How can this be a reason for introducing the stanine system? So that everybody passes and then we have mediocrity in the system and they cannot precede to do anything? No, no.

Q. Your final comment on grading system generally and the way forward in improving the quality of basic education in Ghana.

A. I think exams are generally very important for measuring quality of education and we believe in exams, yes. But we need to move from there to some other level. Exams are good, they can easily, within a short space of time, measure the performance of so many people at the same time. It is good and I think that using performance based system helps a lot for the country to identify where the pitfalls are and the basic needs of our pupils. There are other measurements that we need to do in other to assess things that exams cannot assess. That is where in many places the teacher becomes a very important figure. But I think we abused some of the privileges and opportunities when the continuous assessment came in; many teachers, it was found out, were just manufacturing marks for their students. When you look at the marks they bring and you look at the students performance, the correlation is zero. So you ask yourself, is it the same person who had this and that scoring? It doesn't make project activity. It enables students to think, to be creative and they become critical thinkers and they are able to communicate if you put them in that situation. I always give the example of an eight year old boy who came to Ghana

with his father and was enrolled in one of the international schools and he started complaining after sometime. He said he wanted to go back to Canada to the mother and so on. So I asked whether there was a problem, he said that in the school you copy a lot of things. So I asked, what do you do in Canada? He said there, the teacher will give you a problem and ask you to go and read a book for example and do the summary and come and present it in class or go home look at the garbage in the house, separate them to identify different types of garbage and prepare a bar chart and come and present it in class. So from the very onset, they have been introduced to some form of research so they, are able to read and come and argue their case. Our children cannot do that because we don't give them the opportunity. Even if we are not going to exam them, lets give them the opportunity to do that. So if in every situation, you have to tell the child to do this and to do that, when they grow and they go to work, they expect to be told what to do before they do it. So, I believe that getting people to do project work even for group project work is essential because it enables them to search for information and make decision themselves. That's what I believe we need to foster in our students. We can also observe them, share experience and encourage them, share experiences and encourage them to interact with other students. All these are areas and things teachers can do to make our students perform. I believe that there are other ways that needs to be explored in the classroom, especially for the teacher.

INFORMANT J

INTERVIEW DATE: 22/02/2012

STATUS: SENIOR LECTURER, UEW

VENUE: INFORMANT'S PRIVATE OFFICE

Q. What is your understanding of the stanine grading system as used in the BECE?

A. The stanine system is a kind of norm- referenced assessment where the performance of all the candidates who took part in the exams after scoring are ranked. In the stanine system the first 4%, whatever the scores are, get grade 1, the next 7% get grade 2 and 80 on. It goes round and the last 4% get grade 9. That is what I understand about the stanine grading system. It has been used in the BECE since 1990.

Q. Under what circumstance is it most advisable to use the stanine?

A. Well, they are use in highly competitive examinations where the scores are generally high (or distribution of scores is negatively skewed) for selecting the top students. Where it is used in this sense, I think it's very helpful.

Q. Do you know of any instance when the stanine grading system has been used?

A. It was used in the American system to select the best among brilliant people into the military. However, I can't cite the literature where I read. I don't remember the source.

Q. How different is the stanine from the WASSCE grading system?

A. WASSCE uses a criterion- referenced grading system. There are several types of criterion referenced. But in all, before the examination is set the attainment levels. (i.e the criteria or learning objectives to be realized) that the students is expected to demonstrate are determined. The criteria can also be the scores to reach to indicate mastery of the various attainment levels. The latter is used for the WASSCE grading system. In criteria-referenced grading system the results of each student is compared with the expected

Levels (i.e. the criteria) and not the performance of others in the group taking the examination.

A good example of the criterion-referenced system is the driving test. To qualify as a driver, one has to score in a written test at least 23 out of the 30 test items (which is about 77%) before being granted a pass to take the practical test. That is, the criteria to qualify to go for the practical test are clearly defined and made clear to the candidate; so once a person is given a driving license, everybody knows that s/he scored above 70% in a written test and passed the practical test. In the case of the driving test, the criteria (or description of competencies) for attaining the license is clear.

In criterion referenced grading, whoever gets the Grade A in the paper is someone who can do an “A type or level” work, otherwise excellent work. It may also mean whoever scores a Grade A mark is someone who can be said to have attained the criteria or learning objectives determined for excellent performance; a Grade B mark is someone who can be said to

have attained the learning objectives determined for very good performance; etc. but unlike the fixed pre-determined scores used in the criterion- referencing for the driving test, scores used to decide the grade points (also known as cut-off scores) are not pre-determined in the WASSCE.

In the wassce grading system, the criteria for grading is set after the test had been marked by looking at the overall performance and previous performances on the examination. Observations made are used to determine the key cut-off points, i.e. for Grades 2, 6 and 8. Candidate making Grade 2 or better are those classified as good or excellent on the test; those making G grade 6 are candidates who can be said to have the minimum qualification to study at the tertiary level (this is a critical grade because it is the minimum for selection to tertiary education); and candidate making Grade 8, which is the lowest grade, are those who can be said to have passed the paper.

The Award Panel after scoring the exam meets to look at the overall performance of the paper and look at the standard of questions and the difficulty levels and so on. Based on these they are able fix the Grade B, cut-off point at a score for instance 66%; that is, any candidate obtaining a score of at least 66% can be described as very good performance by the standard of the test. The panel then decides the proportion of the very good that can be describe as excellent and fixes the cut-off score for those

who will obtain A. the panel goes on to fix the Grade 6(i.e. C6) and the rest of the grades in the same manner.

So in the WASSCE grading system, I can say that the grades are comparable from year to year. In the WASSCE, I can say that somebody getting A1 in one year will be able to do most or all the maths as somebody getting A1 the pervious year. This cannot be said of the BECE grading system; that is, result from the BECE cannot be comparable across years in the same subject.

Q. I am reliably informed that the grading system during the experimental J.S.S in the 1970s was not the stanine. It was what is used in the WASSCE but during the full implementation of the J.S.S, it was changed to the stanine system. Do you have any idea why the change?

A. I was a member of the Committee set up to look into the grading system. When we are interviewing some of the people who were involved at the Ministry at that time, they couldn't really establish why that came but we looked at all the options and it was highly political. The performance in 1990, that is the first year that candidates took the BECE, was very low and people were then criticising the reforms that they wont achieve the results that we anticipated and that the children where going to fail. The type of questions they gave them was very similar to that of the Experimental J.S.S even though the products of the former who were best Primary 6 pupils selected across schools is unban areas were not the same as those of the comprehensive J.S.S. the result was therefore disastrous,

many of them could not pass and the only way out was to use the stanine system. Because, with the stanine even if the highest mark is 41% you can still get some candidates scoring Grade 1.

Q. Is the stanine grading system discriminatory? I mean if two students obtained all ones or the same aggregate in the same subjects in different years, can one say that both students have attained equal or comparable bench-marks or criteria in the subjects in question or are equally good or matched?

A. As I said earlier, the BECE grades are not comparable across years. It is not comparable across years and it is only comparable within the same year.

Q. If you were to have recommended a grading system for the BECE at its inception, what system would you have recommended and why?

A. I would choose the criterion referenced system, so that we know the candidates who are really performing. To do this we need to examine the types of questions and papers we for the whole examination. In many countries where we have also comprehensive education system, there are differentiated papers for different ability groups during the final examination. But in Ghana, only the international schools (like the Ghana International School) and some private schools, which take international GCSE, have introduced differentiation in their assessment. In the International GCSE, the students are registered at their ability levels and in the exams candidates take differentiated papers that match their

abilities. The grades one gets depends on the papers one takes. To get the top grades, one has to take the more difficult papers. If one is not good and just needs the credit grades' one can take the lower or bottom papers where s/he can get 5,6,7 or 8. With 5 or 6 qualifying him/ her for university.

Q. I spoke to someone who was around when the grading system was changed in 1990. He said that during the experimental JSS. The student failed. But the psychologist will tell you that at that age it is wrong to tell the student that s/he has failed so that is one of the reasons why they went for the stanine system so that 9 is not fail but lowest. What do you say to that?

A. No, that is not right because the fail was the label for Grade 9. The description lowest for Grade 9 came after I presented a paper at WAEC in 2005. I brought up this issue and ask that they go and check at the Ghana International School. Their lowest grade in IGCSE is unclassified and not fail. I told them that in a comprehensive education system, nobody fails, because basic education is the child's right. I asked, if a child goes through basic education and s/he is obtains a Grade F, which was originally labeled failed, who has failed? That was the question I left with them. I asked that considering the myriad of problems that the basic education system is facing, was it fair to say it is the child who has failed to attain the basic education, or it the system (i.e. MOE) that had failed in ensuring

the child attains his/her basic education?. Two years later I realized that label “fail” for Grade 9 has been changed to the label “lowest”.

Q. the second reason they gave for the choice of the stanine was that many of the schools especially the rural schools do not have teachers, equipments, textbooks etc. so using the criterion referenced system will put pupils of such schools at a disadvantage, hence the stanine system. What do you say to that also?

A. I don't think it was the right reason at that time. The whole thing I believe was political from the beginning. Of course all these inequalities were there from the beginning, and were in both urban and rural areas, and for that matter could not be the reason for the choice of the stanine.

I believe it was highly political else we could have since changed the assessment system. The basic education assessment system needs to be change. It is not one meant for comprehensive education system. In a comprehensive education system the key or core of whatever they are supposed to learn is identified which is labeled as National Minimum Standard (NMS). We have not defined our NMS and yet we expect all have basic education,. The official curriculum is silent over the minimum that everybody must know after completing basic education. Since the NMS are not defined teachers keep teaching everything in the syllabus to all, thinking merely covering the syllabus is teaching. But not everybody can learn everything in the syllabus. If we have identified the NMS (i.e. the core), then teachers can concentrate on this to ensure ALL achieve the

core while challenging the more able ones to learn beyond the core in order to pass competitive selection examinations for further education.

In Ghana, because the NMS is not defined, teachers keep teaching, teaching, teaching and teaching. My daughter is in J.H.S 3 now; she leaves the house at 6:30 am and gets to school by 7:00 am. They do extra classes 1 hour before classes commence and 2 hours after the official closing time at 2:00pm. That is, her class stays in the school for another 3 hours of classes everybody as extra classes, all because we have not defined NMS. Today many teachers perceive teaching as an activity which happens always in the classroom or when the teacher is standing before the students. In most public schools, the students are given little opportunity to research and study independently. Teaching is not covering syllabus, it is providing opportunities for the students to learn, and making them do the learning most of the time while the teacher facilitates the learning process.

The extra classes are not done for free. You will be surprised to note that teachers collect extra classes fee from all student including those as far down as kindergarten and I am optimistic your research will go very far to point out some of these inefficiencies in our education system. That because we have not defined minimum standards.

Q. Your final comment on grading systems generally and the way forward in improving the quality of basic education in Ghana.

A. my final word is, we need to review our assessment system, because there is no match between what they are assessing and what the educational goals are and what the educational standard are. Then the BECE is assessing things that are not very core but they are just general knowledge and understanding most of which only the brilliant students can learn and score, in this light, I don't think we are achieving our educational goals as a country. We need to set standards and make the teachers teach to these standards.

The teachers must be accountable, that is, if the NMS are defined and placed in the public domain and by P6 the child is not able to attain the minimum standard then the teachers in the school should be held accountable. By the time they begin JHS, it is anticipated that over 90% of the P6 standards have been attained by all. This can be achieved if the BECE is made to focus on assessing the JHS NMS to ensure children have mastered the JHS minimum standards.

I believe that we need a national curriculum which makes the NMS clear and public as well as introduced in the final exams (i.e. BECE) papers that will test the standards in addition to what is currently tested for selection. I suggest that the BECE, paper 1 covers the NMS and should take about 60% of the marks; and the Paper 2 covers the additional content/standards required for selection to high schools. In this regard, I also suggest the Paper 2 becomes optional for only those wishing to be selected in to the higher social status (or well endowed) SHS which have better career

prospects. This is the kind of curriculum we are trying to move towards in the latest review of the basic school syllabus so that ALL can find what they do well at the BECE and pass. This innovation will lead to democratization of success for all.