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**Influences of External Assessment on Teaching and  
Learning in Junior High School in Ghana**

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**Submitted to the University of Sussex  
for the Degree of Doctor of Education**

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**I hereby declare that this thesis has not been and will not be submitted in whole or in part to another University for the award of any other degree.**

**Signature:**

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**UNIVERSITY OF SUSSEX****Akunu Agbeti****Doctor of Education****Influences of External Assessment on Teaching and Learning in Junior High School in Ghana****SUMMARY**

Assessment is integral to teaching and learning and external assessment is a logical sequel to the interaction between teachers and their students because it represents an account of this interaction to the public. External assessments, especially those that have high stakes, such as the end-of-cycle examinations, are known to have an influence on teaching and learning in the years that precede them.

The effect of external assessments on teaching and learning has been extensively researched. The test items which transmit the influence have also been thoroughly analysed in terms of the kind of thinking that they demand from students. However, the aspect of external assessment that has not received much attention is the test developers who originate the test items and are therefore ultimately responsible for the type of effect the items have on teaching and learning.

External assessment in sub-Saharan African countries especially, demand mainly recall of facts with very little demand on the thinking and problem solving abilities of students. This type of question tends to induce teaching and learning mainly for recall. This research aims to throw light on the intentions of test developers for Basic Education Certificate Examination (BECE) in Ghana when they write items for this end-of-cycle examination.

A broadly qualitative approach was adopted for this research but quantitative data was used in addition. Seven test developers were interviewed extensively on how they perform their test development activities. In order to have a fuller understanding of the external examination, the teachers and students who experience its influence were included in the study. Forty teachers and 120 students completed questionnaires

relating to their beliefs about the BECE and eight each of the participating teachers and students were subsequently interviewed.

The findings suggest that the test developers were aware that the level of thinking in their questions was low and would prefer questions that demand higher levels of thinking. They were also aware that past questions influence teaching and learning and were of the opinion that the standard of education is low. However, the test developers did not have the intention to change teaching and learning with their tests because they could not see a relation between their test items and the quality of teaching and learning. It was also found that their personal interpretations and concerns about the social impact of the examination are more influential in determining the type of items they write. This is significant because item writing is presumed to be a neutral and objective activity devoid of subjective considerations.

The findings further suggest that the examination influences what teachers teach and how they teach it and the teachers' self-worth, prestige and public esteem depend on the performance of their students in the examination. The students believed the BECE prevents them from learning other things and from developing their talents and they saw the examination as the fairest means of competing for selection to senior high school because it is less partial when compared with their teachers' continuous assessment marks. It was also found that past questions serve as an alternative curriculum because they determine the standard of the examination questions and also influence teaching and learning. Through the medium of past questions, the examination is able to influence policy by circumventing it or diverting attention away from it.

It was concluded that the influence of social considerations in item writing has created a vicious cycle of low level questions that induce teaching and learning aimed at recall which does not equip students to use knowledge acquired to solve the problems that attract the sympathy of the item writers. It will require awareness creation among stakeholders about the central role of the external assessment in determining the quality of teaching and learning to break the cycle by improving the quality of the test items.

## **LIST OF ABBREVIATIONS AND ACRONYMS**

BECE	Basic Education Certificate Examination
BPES	Beliefs about Primary Education Scale
CA	Continuous Assessment
CRDD	Curriculum Research and Development Division
EFA	Education for All
FCUBE	Free Compulsory Universal Basic Education
GES	Ghana Education Service
GNAT	Ghana National Association of Teachers
JHS	Junior High School
JSS	Junior Secondary School
MDI	Measurement-Driven Instruction
SBA	School Based Assessment
SHS	Senior High School
SSS	Senior Secondary School
WAEC	The West African Examinations Council

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iii
SUMMARY	iv
LIST OF ABBREVIATIONS AND ACRONYMS	vi
 CHAPTER 1 INTRODUCTION	 10
1.1 Overview	10
1.2 Rationale for the Study	11
1.3 Structure of the Thesis	13
1.4 Context of the Study	14
1.4.1 National Context	14
1.4.2 Professional Context	16
 CHAPTER 2 LITERATURE REVIEW AND THEORETICAL FRAMEWORK	 18
2.1 Assessment Paradigms	18
2.1.1 Dominant Paradigm of Learning and Assessment	18
2.1.2 Emerging Paradigm of Learning and Assessment	20
2.1.3 Generations of Cognitive Learning Theories	20
2.2 Theoretical Literature	21
2.2.1 Assessment and Quality of Education	21
2.2.2 Criticisms of Assessment as a Tool for Reform	24
2.2.3 Significance of Assessment as a Tool for Reforms	27
2.2.4 Summary	29
2.3 Empirical Literature	31
2.3.1 Effect of External Assessment on Teachers	32
2.3.2 Washback Effect of External Assessment	32
2.3.3 Effect of External Assessment on Content	33
2.3.4 Effect of External Assessment on Pedagogy	35
2.3.5 Teachers' Views about External Assessments	37
2.3.6 Teaching to the Test	38
2.3.7 Effects of External Assessment on Students	39
2.3.8 Examination and Stress	40
2.3.9 Quality of Examination Questions	42
2.3.10 Need for Further Research	47
2.4 Research Questions	49
2.5 Conceptual Framework	49

CHAPTER 3 METHODOLOGY AND METHODS	51
3.1 Introduction	51
3.2 Research Traditions	51
3.3 Researcher Identity	53
3.4 Ethical Issues	55
3.5 Description of Research Site	56
3.6 Participants	57
3.7 Sampling	58
3.8 Data Collection	59
3.8.1 Quantitative Data	60
3.8.2 Qualitative Data	61
3.9 Methods of Data Analysis	62
CHAPTER 4 UNDERSTANDING THE BELIEFS OF TEACHERS AND STUDENTS ABOUT BECE	64
4.1 Comparison of Mean Scores	64
4.2 Factor Analysis	67
4.3 Teachers' Opinion	69
4.3.1 Purpose of BECE	69
4.3.2 The Constraining Effect of BECE	69
4.3.3 BECE and Classroom Assessment	70
4.3.4 BECE and the Content of Teacher Assessment	70
4.3.5 BECE and Relationship with Teaching	71
4.4 Students' Opinion	72
4.4.1 Source of Knowledge Acquisition	72
4.4.2 Preparation for BECE	73
4.4.3 Grading of BECE	74
4.4.4 BECE as Constraint to Learning	75
4.4.5 Purpose of JHS Education	75
4.5 Conclusion	76
CHAPTER 5 UNDERSTANDING THE PURPOSE AND EFFECT OF TEST ITEMS: PERSPECTIVES AND EXPERIENCES OF TEST DEVELOPERS, TEACHERS AND STUDENTS	77
5.1 Introduction	77
5.2 Test Developers' Perspectives	77
5.2.1 Test Developers' Beliefs about Education	78
5.2.2 The Influence of Examination Syllabus	79

5.2.3 A Tradition of Past Questions	83
5.2.4 Standard Of Education – A Journey Into The Past	86
5.2.5 The Sympathy Syndrome	90
5.2.6 The Influence of BECE on Teaching and Learning	94
5.2.7 Emerging Views	96
5.3 Classroom Perspectives	97
5.3.1 The Dilemma of Teachers	97
5.3.2 Preponderance of Past Questions	99
5.3.3 A Preference for the External Examination	104
5.3.4 The Effect of BECE on Pedagogy	107
5.3.5 Teacher Self-worth and BECE Results	108
5.3.6 The Importance of BECE in Selection	110
5.3.7 The Impact of BECE on Students' Learning	111
 CHAPTER 6 DISCUSSION OF FINDINGS	 113
6.1 Social Influences on Item Writers	113
6.2 Item Writers' Awareness of Influence	115
6.3 The Influence of Past Questions	116
6.4 The BECE Defies Policy	117
6.5 The BECE is Compelling	118
6.6 The BECE and Student Learning	119
6.7 A Preference for External Assessment	120
6.8 Conclusion	121
 CHAPTER 7 CONCLUSIONS AND RECOMMENDATIONS	 123
7.1 Introduction	123
7.2 Contribution of the Thesis	126
7.3 Implications for Policy and Practice	127
7.4 Conclusion	129
7.5 Further Research	132
 REFERENCES	 133
 APPENDICES	 141

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Overview**

A sixteenth century Protestant German teacher, Philip Melancthon, once made the following observation: “No academical exercise can be more useful than that of examination. It whets the desire for learning, it enhances the solicitude of study while it animates the attention to whatever is taught” (cited in Madaus & O’Dwyer, 1999, p. 689). This observation reveals what has been known since that time about the power of assessment to influence students’ learning. However, this is only a partial view of the effects of assessment on education. It is now known that assessment does not influence only learning but also teaching, textbooks and indeed the entire educational system (Havnes, 2004). It is also clear from the observation that assessment has been a part of education for centuries, and it is difficult now to imagine an educational system without it. Assessment permeates virtually all learning activities in schools today and it mediates the interaction between teachers and students in the classroom.

Educational assessment ranges from informal activities such as teacher observations and questions during lessons through class tests to formal external examinations (Gipps, 1994). Assessment of learners has conveniently been categorised as formative or summative depending on how the results are used (Dunn & Mulvenon, 2009). Formative assessment provides feedback to the teacher in the course of teaching to enable him or her judge the effectiveness of a lesson, to make instructional decisions, to determine an appropriate remedial action where necessary and to motivate students (Black & Wiliam, 1998). This type of assessment is a tool in the hands of the teacher and is embedded in the teaching and learning process. For this reason, it is now appropriately referred to as assessment *for* learning (Stiggins, 2002).

Summative assessment takes place at the end of a course, term or programme with a view to ascertaining the level of the students’ achievement or how well a programme has performed (Gipps, 1994). It often takes the form of external examinations or tests

and is thus appropriately referred to as assessment *of* learning. Between the two categories of assessment, it is perhaps assessment for summative use that has generated more controversy regarding its role in education. Over time, its role has been expanded from being a mere measure of students' learning to an instrument for promoting curriculum change. Proponents of the extended use of external assessment believe that it can be used to change teaching in desirable ways if it is used to pressurise teachers to improve students' learning (Popham, 1987; Resnick & Resnick, 1992). Critics on their part point to the deleterious effects external assessment tends to have on learning which they claim outweigh any benefits. They claim the negative effects are not limited to the cognitive domain but extend to sociological issues relating to power, social class and race relations and equal opportunities in a subtle manner (Amrein & Berliner, 2002; Broadfoot & Pollard, 2000; Gipps, 1994; Sadler, 1994).

In a number of countries, pre-university cycles of education (i.e. primary or basic and secondary levels) end with assessments that are originated and moderated by agencies outside the classroom. Often such assessments take the form of high-stakes examinations which carry consequences for the students, their teachers or schools. It is the high-stakes external assessment, the type that is used for grading, selection, certification and for accountability that is of interest in this research (Chapman & Snyder, 2000; Shepard, 2000).

## **1.2 Rationale for the Study**

The literature on the discourse on assessment point to the fact that both critics and proponents agree that external assessment of high-stakes nature has a controlling influence on teaching and learning and thus has the potential to change the way teachers teach (Chapman & Snyder, 2000; Firestone et al., 1998). The point of contention is the effect of the unintended consequences of this type of assessment on teaching and learning. The critics underscore the unintended and often undesirable consequences of external assessment on teaching and learning. On their part, the proponents argue that the important issue to grapple with is how to minimise the deleterious effects on teaching and learning. Their concern is how to align the divergent curriculum goals and actual teaching and learning that go on in school under the influence of external assessment (Wright, 2002). They argue that 'a better test will produce better results in

learning' (Cheng, 1999, p. 254). But better tests can only be set if those who develop the tests understand what constitutes better tests and are able and willing to develop such tests. Calls for a review of external assessments to meet curriculum expectations in many sub-Saharan African countries, including Ghana, are motivated by the quest for better tests (Bude & Lewin, 1997; Kellaghan & Greaney, 1992).

It appears that the calls for review stem from the realisation that external assessment, which in practice directs teaching and learning, produces outcomes that diverge from the curriculum goals. This diversion can only happen during test development in situations where an examination syllabus exists or where one is derived from the school curriculum and used to prepare the examination questions as pertains in Ghana. However, very little is known in the literature about how and why this transformation occurs, perhaps as a result of the confidentiality surrounding test development activities (Murphy & Torrance 1988). This constitutes a missing link in understanding how to realign curriculum goals and external assessment demands towards the better tests agenda. The aim of my research is, therefore, to explore how Basic Education Certificate Examination (BECE) test developers in Ghana understand the effect of external assessment on teaching and learning and their intentions when they set questions for the examination. It is also to investigate teachers' and students' expectations of the examination.

Two factors account for my interest in external assessment. The first one is the quest for quality education in my country. Since Ghana gained independence in 1957, successive governments have taken various steps aimed at providing quality education for the increasing numbers of children who gain access to education and remain in school. One such intervention is the institution of a programme in 1995 to provide Free Compulsory Universal Basic Education (FCUBE) in line with a constitutional provision to that effect (MOE, 2004). The FCUBE programme is intended to expand access to basic education and to improve the quality of education delivered at this level and also strengthen the management of schools. The quality of education has become an issue of global significance following the declaration of Education for All (EFA) at the World Education Forum held in Jomtien in 1990 which was reaffirmed in Dakar in 2000. This might be due to the realisation that it is only quality education that can yield the expected dividends of socio-economic development for developing countries. For this

reason, UNESCO is committed to keeping it on the world agenda for education in order that the Millennium Development Goal (MDG) 2 on the achievement of universal primary education for all by 2015 would become meaningful if it is attained (UNESCO, 2005).

Secondly, my interest in external assessment as a tool for improving the quality of education may have been kindled by my professional insight. As an officer of The West African Examinations Council (WAEC), the awarding body for the BECE, I have come to understand the power of the external assessment to influence teaching and learning.

It has been recognised that education has a major role to play in a country's quest to improve the quality of life of the citizenry more rapidly (Lewin, 2008; UNESCO, 2005). But education itself is largely controlled by external assessment as a result of the ways in which the results of this type of assessment are used. Since external assessment is not likely to be stopped in the near future, I am of the view that its controlling power over education can, and should be tapped to help achieve the goals of the national curriculum in order to quicken the pace of development in Ghana.

### **1.3 Structure of the Thesis**

The thesis is organised into seven chapters. The introductory chapter is a general overview of the phenomenon of interest which is external assessment and its influence on education. The rationale for the study is also set out in this chapter together with the context which provides the background for situating and understanding the issues at stake in the study. The second chapter is a review of carefully selected literature that is relevant to the problem investigated. This provides the necessary theoretical framework within which to understand the phenomenon as it is studied and analysed. Also, the main arguments in the debate on the influence of external assessment on teaching and learning are reviewed to provide a broad understanding of the issues in the discourse. The third chapter discusses the methodology adopted and the methods used in the research with an explanation of their usefulness for that purpose. In chapter four and chapter five the analyses of the data gathered are presented. The quantitative data is analysed first to provide a broad view of the relevant issues followed by the analysis of the qualitative data to deepen the understanding of the issues. The sixth chapter

discusses the findings in the light of the literature and in the seventh chapter conclusions are drawn from the analysis to deepen the understanding of the phenomenon.

## **1.4 Context of the Study**

### **1.4.1 National Context**

The educational landscape of Ghana is dotted with several attempts at reforming the colonial system of education inherited at independence and at addressing the perceived falling standard or quality. In 1987, a wide-ranging reform was implemented that encompassed the structure, the content and the management of education. One of the aims of this reform was to improve the quality of basic education, which covered six years of primary and three years of junior secondary school (JSS), renamed as junior high school (JHS). Assessment was considered a major factor affecting quality and the various one-shot external examinations existing at the time were believed to be inhibiting quality educational delivery. This led to the adoption of continuous assessment (CA) as an alternative into junior and senior secondary schools. To emphasise its importance, CA was made to contribute 30 percent (originally 40 percent) of the marks required to grade students on the end-of-cycle BECE which is conducted by WAEC for students who complete JSS. Apparently one premise for introducing CA was to reduce the attention given to the external assessment in order to abate its influence on teaching and learning.

After the reforms, BECE has become the first public examination in the education system in Ghana. It is a high-stakes examination for students because the results constitute the basis for selection to senior secondary school (SSS), now senior high school (SHS), which is the aspiration of many a parent. This is evident from the anxiety that the SHS selection process induces each year among parents concerning the admission of their wards. This is because it is the popular belief in Ghana that the educational level attained determines the occupation and earnings of individuals, making higher levels of education a tool for social equity and for poverty reduction (Dore, 1976; Lewin, 2008). The BECE also serves as a terminal examination for many students whose formal education terminates at junior high school. The BECE certificate is thus the credential with which they enter the world of work or engage in other endeavours.

Secondary school heads were not spared the anxiety associated with the admissions either as they came under intense pressure from parents. So high was the tension and frustration of parents and secondary school heads about the admissions that in 2005 the Ministry of Education (MOE) introduced a computerised selection system. This system uses the total raw scores of students, obtained from CA and the external examination, instead of the grades obtained in the BECE, to place them in senior secondary schools.

The notion of merit inherent in this new system of selection is meant to control the allocation of the few places available in secondary schools in a manner that is acceptable to the public considering that there are enough places for only about 50 percent of each cohort (MOE, 2009). This implies that the formal education of about half of the students terminates at basic education and therefore the knowledge and skills they acquire at this level is what most of them are likely to rely on throughout their lives. This being the case, the question is whether the JHS students are trained to think and solve problems and thus become more useful to themselves and society or they are only taught to pass the examination.

Since the implementation of the 1987 reforms, concern has been expressed about the perceived declining standard or quality of education. The results of the first BECE in 1990 sparked a public debate that is still on-going about the quality of basic education in the public school system. It is against this background that in 2007, another round of educational reform was implemented. One cardinal aim of the 2007 reform is to train students to acquire thinking skills that will enable them to apply knowledge and solve problems (MOE, 2004). This is to reverse the trend of students acquiring factual knowledge without paying attention to the application of that knowledge, a situation which is blamed by some stakeholders on the external assessment regime (GNAT, 2006).

There have been calls on WAEC to ensure that the external assessment does not detract attention from the real goals of the reform. For example, in June 2008 the Chief Director (Permanent Secretary) of the Ministry of Education, Youth and Sports circulated a memo (Appendix 1A) expressing concern about the reviewed curriculum and the existing assessment regime. The memo called on WAEC to develop new forms

of examinations to meet the aspirations of the reforms. His expectation was that the external examinations should require practical application of knowledge and demand critical analysis, inference and deductions, which are the aspirations of the current education reform. It is becoming clear that what is expected in the external examination now is that the “questions set for candidates should elicit from them responses that reflect the national goals and objectives [of education]” (GNAT, 2006, p. iv).

The calls for new forms of examinations and their alignment with the goals of the national curriculum seem to emanate from the understanding that assessment plays an important role in teaching and learning (Ecclestone & Pryor, 2003). This brings to the fore the relevance of Resnick and Resnick’s (1992) principle for test developers to *build assessments toward what educators should teach*. Lewin (1997) makes a similar call with the observation that,

Assessment plays a central role in teaching strategies...its nature almost certainly influences patterns of learning... It is thus important that those who use assessments, *as well as those who design them*, have a clear idea of their purposes (p. 36, emphasis added).

It is only when stakeholders, especially test developers and assessment decision makers understand the influential role of external assessment in the classroom that steps can be taken to make it more supportive of the national educational aspirations as embodied in the curriculum. For WAEC to respond positively to the calls for new forms of external assessments, the process will have to start with the test developers. This is because they are the people who generate the questions for the external examination. The test developers thus perform the intermediary role of translating the curriculum goals into the expected demonstrable knowledge and skills in the form of external examination questions. The way they understand the effect of the external examination on classroom activities thus becomes important because that is likely to influence their test development activities which will in turn determine the effect of the questions in the classroom.

#### **1.4.2 Professional Context**

The professional context of this study is essentially that of confidentiality. Virtually everything the test developers do has implications for the confidentiality of the external examination. Their activities are, therefore, shielded from the public as a way of

maintaining the integrity of the examination. Knowledgeable individuals, including teachers, are first invited to develop an examination syllabus and accompanying sample questions for the BECE any time the curriculum is reviewed. The content of the examination syllabus is kept confidential while general information on the structure of the question paper and sample questions are circulated to schools. This is the case because at the onset of the education reform in 1987, the Ghana Education Service (GES) prevailed on the WAEC not to publish any examination syllabus for BECE. Apparently, this is to avoid a situation where teachers will devote more time and attention to the content of the examination syllabus at the expense of the teaching syllabus.

This also demonstrates the awareness of the educational authorities of the role external assessment plays in the school system and the determination of the GES not to let it distort the goals of the reform. The examination syllabus is used by subject officers of WAEC to commission item writers to set questions under strict conditions and undertakings of secrecy and confidentiality. In addition to the syllabus, table of specifications and past question papers (where they are available) are provided to the item writers as guides. These documents provide the framework for the test items and are meant to ensure objectivity in item writing.

What the test developers do in practice, how they do it and their understandings of what they do are important because they have repercussions in the classroom. Their perspectives therefore need to be understood vis-à-vis what classroom participants expect and do in relation to the external examination. This is what this research is designed to achieve.

## **CHAPTER 2**

### **LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

In this chapter, the literature on external assessment and its influence on teaching and learning are critically examined. It starts with the learning theories that underpin assessment followed by the substantive theoretical literature and the findings of relevant empirical studies.

#### **2.1 Assessment Paradigms**

Assessment is about learning. It is what has been learnt that assessment is traditionally intended to find out and report on (Shepard, 2000). To understand assessment, therefore, requires an understanding of the conceptualisations of how learning takes place. This section discusses the existing and dominant theory of learning as well as the emerging ones.

##### **2.1.1 Dominant Paradigm of Learning and Assessment**

Learning theories are rooted in two main philosophical traditions, empiricism which postulates that knowledge is acquired primarily through experience with the senses and rationalism which holds that knowledge is acquired through reasoning only (Ertmer & Newby, 1993). In the early 1900, psychologists in the empiricist tradition developed the theories of learning that associated learning with environmental stimulus, creating the triad of stimulus-response-association. This tradition values observable behaviour as evidence of learning and has been known as behaviourism.

Two fundamental assumptions underlie the behaviourist learning paradigm. These are decomposability and decontextualisation (Gipps, 1994). Decomposability assumes that complex skills are acquired by developing a series of stimulus-response bonds. This means each stimulus and its associated response must be learnt and mastered separately, one at a time. This is referred to as the “building-block” model of learning, which assumes that individual bonds are acquired first and combined later into a complex whole. This forms the basis for teaching and testing the mastery of separate skills

parallel to the manner a bricklayer lays one brick after another to form a wall. Inherent in this conceptualisation of learning is the linear and hierarchical structure of knowledge. Lower level knowledge lays the foundation for the higher level and the foundation must be laid first. What this means in practice is that a student must master one level of knowledge before being allowed to move on to a higher one and attainment of mastery at a level can only be revealed through assessment. A practical application of this concept is the retention/repetition of students or remedial action that will ensure mastery at one level before going on to the next (Ertmer & Newby, 1993; Gipps, 1994; Shepard, 2000).

Decontextualisation is a sequel to decomposability. The separate stimulus-response associations which constitute skills are conceived of as being learnable in any context. But a skill learned in one context may not be applicable in another. What this means for assessment is that a skill learnt in one context can best be assessed in that context and therefore assessing students by asking them to apply the knowledge acquired in one situation to another is invalid. The implication is that assessment that requires the application of knowledge to new situations is not acceptable. The principles and assumptions of behaviourism underlie the operation of large scale external assessments, especially the “objective” test which is a direct offshoot of this tradition (Shepard, 2000). Ironically, education reforms are seeking to develop in students the capacity to transfer what is learned into problem solving in new and authentic situations and the tool being used is high-stakes external assessments whose assumptions do not support the reform efforts (Black & Wiliam, 1998; Hargreaves, 2005; Resnick & Resnick, 1992). This contradiction may be playing a significant role in the lack of success in education reforms in many countries as noted by Fullan (2009).

Another aspect of the conceptualisation of learning under the behaviourist tradition is the external nature of motivation in learning. It is believed that motivation is based on positive reinforcement of the individual stimulus-response bonds (Shepard, 2000). This assumption removes motivation to learn from the learner and places it in the assessment. It is how the learner performs in the assessment tasks that motivate him/her to learn more or otherwise. According to Stiggins (1999) the current assessment policy is to use assessment to “intimidate” learners and threaten them with failure and public disgrace.

He believes this is a counterproductive policy which tends to alienate a large majority of learners who feel incapable of performing well on assessments.

### **2.1.2 Emerging Paradigm of Learning and Assessment**

While behaviourism dominated the discourse on learning, psychologists of the rationalist tradition kept up their work. The rivalry between behaviourism and the competing theories of the mind intensified through the decades until the 1960s when the rivalry came to an end. This is the result of insight from cognitive psychology which addresses students' learning processes and what they know rather than their behaviour. It became obvious that the stimulus-response-association model is not enough to explain the complexities of learning such as the learning of language and Pavlov himself (who championed behaviourism with his famous dog experiments) came to have second thoughts about his initial position when he realised the insufficiency of his theory (Bruner, 2004). The cognitive revolution that followed emphasises the role of the mind in learning. The cognitive theories of learning "stress the acquisition of knowledge and internal mental structures; they focus on the conceptualisation of students' learning processes and address the issues of how information is received, organized, stored, and retrieved by the mind" (Ertmer & Newby, 1993, p. 58).

The boundaries of cognitive theories of learning continue to expand and attention is now being given to how individuals construct meaning from their experiences, which is known as constructivism. Constructivists believe that learning occurs when the learner creates meaning from his experience. To the constructivists, "what we know of the world stems from our own interpretations of our experiences. Humans *create* meaning as opposed to *acquiring* it." (Ertmer & Newby, 1993, p.62, emphasis in original).

### **2.1.3 Generations of Cognitive Learning Theories**

The cognitive-constructivist theories of learning have been divided into two 'generations' in line with the central themes in their conceptualisations of learning. According to Pryor and Crossouard (2008), Piaget's 'socio-interactional' constructivist perspective embodies one generation. This generation focuses on the individual learner and the part he/she plays in the learning process. Learner-centred pedagogical approaches are derived from this generation of learning theories. In this context,

external assessment is expected to be different from the one correct answer type of questions associated with objective tests. It will involve open-ended and authentic items that will require learners “to construct cognitively more complex understandings” (Pryor & Crossouard, 2008, p. 2). Teaching to such tests is likely to produce beneficial educational effects on students’ learning. But the subjectivity in scoring associated with such tests is a common source of concern to many including teachers (Shepard, 2000).

The second and emerging generation of cognitive-constructivist learning theories labelled “social constructivism” is based on the constellation of the works of Brown et al., 1989, Engeström, 2001; Lave and Wenger, 1991 and Vygotsky, 1978 (Bruner, 2004; Pryor & Crossouard, 2008; Shepard, 2000). In this generation, the notion of mediation and the situatedness of learning in a socio-cultural milieu are the issues of concern and attention (Pryor & Crossouard, 2008). The task confronting this emergent generation is the development of consistent curricular frameworks and associated teaching practices to make learning more meaningful and also how to fashion out appropriate instruments that will make the assessment acceptable.

## **2.2 Theoretical Literature**

### **2.2.1 Assessment and Quality of Education**

Since the 1960s there has been a renewed interest in the use of assessment as a tool for improving teaching and learning in many countries. External assessment has become the preferred government response to the perceived low quality of education in an increasing number of countries worldwide (Phelps, 2000). The rationale for instituting the external assessment programmes is to pressurise teachers to improve their practice and consequently students’ learning outcomes in the form of improved test scores or performance (Amrein & Berliner, 2002; Black & Wiliam, 1998; Broadfoot & Pollard, 2000; Gipps, 1994; Madaus, 1988). Assessment has become established as a tool for implementing education reforms because of its influence on teaching and learning. Madaus (1988) believes that assessment affects “what is taught, what is learned and how it is learned” (p. 29). This relation with classroom activities and its ability to produce quantifiable results appear to have combined to generate interest in assessment as a tool for improving the quality of education.

The complex relations among the numerous factors that determine the quality of education make any precise definition of quality a difficult task. Philosophical, contextual and personal factors contribute to the conceptualisation of educational quality (UNESCO, 2005). Of all the factors that constitute quality, it would appear as if it is the cognitive aspect of education that arouses public interest the most. This is so because educational outcomes “are most easily expressed in terms of academic achievement (sometimes as test grades but most usually and popularly in terms of examination performance)” (UNESCO, 2005, p.37). The quest for indicators of quality coupled with the complex interplay of factors has created a situation where most parents and policy makers have come to accept that cognitive skills development in school, even though incomplete, provides evidence of the quality of education. It is for this reason that assessment and quality of education have become wedged together establishing a direct relationship between the two. The discourse on quality of education therefore invariably implies assessment outcomes.

This linkage is evident in the literature on large scale education reforms which are intended to improve quality. It can be argued that if quality improvement is the reason for education reforms and assessment is being used as the tool for the reforms, then it is logical to assume that assessment can influence the quality of education. Writing on education reforms in the USA, Fullan (2009) comments that large scale educational reforms which started before the 1950s and are still ongoing are intended to bring about changes in teachers’ pedagogy to achieve the desired improvements in the quality of education. However, the practice of teaching has not changed and the cognitive processes that are geared towards thinking and problem solving failed to take root. One factor identified as limiting the success of the reforms is the narrow and low level tests used to assess the cognitive skills of students. According to Fullan (2009) the quality of education that the world is looking for is that which engages higher order skills and capacities of both students and their teachers. He believes that to achieve this quality requires changes that will involve “deep instructional practice and corresponding assessment of student learning” (p. 10).

Similarly, Supovitz (2009) stresses that the nature of assessment is implicated in concerns about the quality of education in the USA in the early 1990s and refers to research findings that have identified the ubiquitous standardized multiple-choice tests

as narrowing the curriculum and instruction. The emphasis of the tests on recall of isolated bits of knowledge and the social and ethnic biases they carry are also issues of concern. To improve quality, therefore, required improvement in assessment and this led to the introduction of alternative forms of assessment such as portfolios, performance assessment and open-ended tasks. According to Supovitz (2009), studies on the impact of the alternative forms of assessment show that they influence the behaviour of teachers and administrators. The influence is visible in teachers' choice of content and curricular activities and also in their assessment practices.

In their discussion of the British national curriculum, Harlen et al., (1992) also recognise a relationship between assessment and quality when they suggest that "assessment for any purpose should serve the purpose of improving learning... It must, therefore, reflect the full range of curriculum goals, including the more sophisticated skills and abilities now being taught" (p. 219). Recognising the importance of assessment to achieving quality education in Africa, Bude and Lewin (1997) observe that "If we are interested in influencing the teaching-learning process in the classroom positively [for quality] we may have to start with improvements in the way pupils are assessed" (p. 8).

The argument is that the nature of important assessments determines the quality of education leading to them because teachers and students will align teaching and learning to their form and content (Lewin, 1997; Madaus, 1988; Resnick & Resnick, 1992). Murphy (1997) underscores the importance of this relationship when he states that

Educational assessment can at best be a major contributor to good quality educational provision and school and pupil improvement; at worst it can set inappropriate goals, demotivate unsuccessful individuals, and give quite misleading information to the public at large about the state of a nation's education system (p. 32).

According to Chapman and Snyder (2000) educational reformers in both industrialised and developing countries often claim that "improving national (or state) testing systems is an important, perhaps a key, strategy for improving educational quality" (p. 457). Clearly, assessment has a direct relationship with the quality of education. This relationship might explain the increasing use of assessment worldwide as a tool in reforms to address the problem of low quality education.

### **2.2.2 Criticisms of Assessment as a Tool for Reform**

The usefulness of assessment in bringing about educational change is by no means a settled matter as the debate rages on. Yet, it has received strong public support and policymakers are encouraged by this support to carry through their testing policies. Amrein and Berliner (2002) believe that “this is an era of strong support for public policies that use high-stakes tests to change the behaviour of teachers and students in desirable ways. But the use of high-stakes tests is not new and their effects are not always desirable” (p.1). It is the undesirable effects of assessment on teaching and learning that constitute the bastion of the arguments against the use of assessment, especially high-stakes testing, as a tool for reforming education.

One issue of concern to the critics is the narrowing effect of external assessment on the curriculum (Smith, 1991). It is pointed out that using assessment to drive education reforms results in a curriculum that is limited to content that can easily be tested. This happens because teachers tend to devote a lot of time to content that is expected to be on the examination at the expense of those that are not expected (Firestone et al., 2004). This tendency grows stronger as the classes move closer to the examination (Haney, 2000; Wideen et al., 1997). It is argued that narrowing down the curriculum defeats the purpose of education itself, reducing it to the acquisition of bits of knowledge that can be exhibited on examinations only. An associated effect is the perceived value of subjects that are examined as against those that are not. Subjects that are examined tend to acquire more importance and prestige than those that are not examined because of the different levels of attention they receive from teachers. For example in Ghana, physical education is not examined in the BECE and, therefore, it is of less importance to students in junior high schools when compared to other subjects such as Mathematics and Science.

It is also argued that using assessment to drive reforms tends to have a greater negative effect on children from less privileged backgrounds and on minorities. This is because assessment does not take cognizance of the cultural capital available to students such as parents' socioeconomic status and interest in the child's progress and the students' level of proficiency in the language of the test which place some children at a disadvantage in the educational race. Sadler (1994) argues that children are not responsible for the

families they are born into, their ethnicity and race, the socioeconomic status of their parents, which might militate against their education and that if such disadvantaged children are given the opportunity they could perform well in higher education. Therefore, using assessment results to select for higher education is unfair to such children as it gives preference to certain social classes to participate in higher levels of education. In the USA for example, it is believed that children from ethnic minorities drop out of school at a higher rate because they are less prepared to cope with the demands of high-stakes tests. According to Haney (2000) the state mandated external assessment “is hurting more than helping teaching and learning in Texas schools particularly with at-risk students, and contributes to retention in grade and dropping out” (p.1). This assertion supports Broadfoot’s (1979) argument that assessment has become a new tool for “social reproduction” as it excludes certain social classes from higher levels of education which provide passage into the important occupations and social status in the meritocratic society.

A third criticism of using assessment for education reforms points to the phenomenon of teaching to the test. It is pointed out that when faced with high-stakes tests, teachers will be compelled to adopt teaching strategies that specifically prepare students for the test. The content of the test then becomes the focus of teaching with the aim of improving students’ performance. It is contended that the improvements in test scores in the first few years of introducing a testing programme are realised not because teachers have changed their pedagogy in ways that promote “deeper improvements in instructional practice” (Supovitz, 2009, p. 212). Rather, they are the result of *teaching the test* where teachers teach students how to answer specific questions if they appear on the test or *teaching to the test* whereby similar content as that expected on the test is taught (Linn, 2001). It is argued further that teaching to the test pollutes test scores by creating a false impression of improved student achievement when, in fact, they cannot transfer what is learnt to new contexts and situations, which is considered as true learning (Gipps, 1994).

Fourth, similar to test score pollution, it is pointed out that the effect of Heisenberg’s uncertainty principle might be at play in using assessment to drive education reforms (Madaus, 1988). This principle states that the more any quantitative social indicator is used for social decision making, the more likely it is to corrupt the social process it is

intended to monitor. What it means is that one cannot measure an attribute without influencing that attribute (Gipps, 1994). This implies that as tests are used to measure learning they will eventually corrupt it and reported learning will not be the actual learning of students. In the process of driving teaching and learning, assessment causes teachers to respond in a way that “distorts the test’s ability to validly portray the skill level of students” (Madaus, 1988, p.37). This might account for the situation where students leave school and are certified as having passed the required examination but have not acquired the knowledge and skills intended for the course (UNESCO, 2005). By the operation of this principle, the inferences drawn from test results are invalid as they are a distortion of the reality concerning students’ learning.

The effect on teachers’ pedagogy also attracts a critical viewpoint. It is believed that by making teachers respond to the demands of assessment, they are being constrained in the demonstration of their professional expertise. Arguably, such “deskilling” of teachers would not allow them to reflect on and improve their practice. Deskilled teachers thus become technicians who only apply strategies that satisfy the demands of mandatory assessments. Mintrop and Sunderman (2009) point out that the sanctions attached to high-stakes tests “may inflict loss of benefits, prestige, or status on individuals or collectives and trigger attendant feelings of displeasure, shame or fear” (p. 355). It is reasonable to say that when teachers are placed in such an emotional state their confidence will be undermined and their performance can be anything but have a salutary effect on students’ learning.

Another critique of assessment relates to students’ motivation to learn. It has been argued that there is a relationship between students’ experiences of assessment and their motivation to learn (Harlen & Crick, 2003; Stiggins, 1999). When students experience failure on high-stakes assessments their confidence in their own ability to succeed is dented. It is only when the student feels confident and capable of succeeding that she/he persists and makes progress (Stiggins, 1999). When students experience failure, they tend to lose that confidence and motivation to learn resulting in retention and dropout. The pressure of external assessment can thus damage learners’ intrinsic desires to persist in learning, the critics argue.

A fifth criticism of high-stakes assessment is directed at its influence on society. It is believed that society will become influenced by assessment results such that it begins to perceive the results as the goal of education. When this happens teachers would be pressurised to adopt strategies that make learning respond to public expectations about results and education loses focus and becomes examination-oriented (Gipps 1994).

Sixth, assessment performs an informational role. It serves as a communication device between the school and the outside world as it tells what has been achieved by the school through students' performance (Broadfoot & Black, 2004). Critics point out that the kind of information typically communicated by high-stakes external assessments is summative in nature and more suitable for measuring performance of schools and the education system than for improving teaching and learning. Again the timing of such assessments at the end of a programme or year or once in a year, it is argued, makes them play a limited role in identifying problem areas in students' learning. Nor do they point to possible remedial actions by teachers because they do "not provide much insight into student thinking or misconceptions" (Supovitz, 2009, p.212). These adverse effects of assessment on teaching and learning are considered by the critics to be serious enough to stop it from being used as the principal tool for changing teaching and learning.

### **2.2.3 Significance of Assessment as a Tool for Reforms**

Proponents of the use of assessment as a tool for educational reform point out that since the middle of the nineteenth century when public funds came to be used to provide education, the public has been demanding results from schools for the use of such funds and it is assessment that provides the answer. Since that time, whenever there is public disenchantment with the quality of public education it is assessment that is used by decision makers to remedy the situation because assessment is perceived as a catalyst for improving instruction (Broadfoot, 1996; Popham et al., 1985; Resnick & Resnick, 1992). It is also argued that assessment cannot be removed from the school and society relationship because there is no better way of communicating to the public how well the school is performing its duty of providing the required education. It is the data generated from assessment that is used as a publicly accepted code for quality (Black & Wiliam, 1998; UNESCO, 2005). It is further argued that assessment has become

embedded in education and it is difficult to imagine education involving public funds or indeed any form of education without assessment. The relationship between the two is so strong that any attempt to separate assessment from education could lead to the collapse of the education system (Broadfoot, 1979; Resnick & Resnick, 1992; Yeh, 2006).

The proponents maintain that assessment is inevitable in education and where the stakes attached to the assessment are high, they will influence teachers to teach to the test in spite of any official policy to the contrary. The reasoning is that external assessment is the aspect of education that will be very difficult to eliminate, and that being the case, what needs to be done is to find ways of making the assessments have beneficial effects on education. According to Yeh (2006), “High stakes testing will remain a central feature of public education for years to come. Therefore a key issue is to understand how undesired narrowing of the curriculum can be minimized” (p. 92).

Gipps (1994) makes an even stronger case by pointing out that the influence of assessment on all aspects of education “should leave us in no doubt as to the power of testing, particularly high-stakes testing, to affect teaching and learning. How then can we harness this powerful tool so that assessment...can help to develop the kind of learning and the higher order skills and processes...?” (p.57). Stobart (2008) also argues from a practical point of view when he asserts that “there will inevitably be *teaching-to-the-test* if the test is perceived as being important. The task is to make the test good enough to encourage effective teaching and learning” (p.103, emphasis in original). The concept of measurement-driven instruction (MDI) which seeks to use assessment purposefully to reform education finds support in this viewpoint.

Advocates of MDI believe that, as a result of the consequences attached, high-stakes tests tend to divert teachers’ attention in a way that makes the tests behave like a “curricular magnet”. Popham (1987) makes a case for MDI by pointing out that there are various ways of improving teaching and learning such as the provision of adequate materials and training or retraining of teachers. However these will require the deployment of large amounts of financial resources and will take a long time to yield the desired results. But the urgency of reforms and the limited availability of resources, in most cases, make this strategy unattractive. He asserts that MDI circumvents these

bottlenecks and provides the quickest and most cost-effective means of achieving the goal of education reforms because teachers' reaction to a high-stakes test is immediate. Resnick and Resnick (1992) explain further that the "power of tests and assessments to influence educators' behaviour is precisely what makes them potent tools for educational reform" (p. 56), and consider MDI as the most sensible way to proceed with reforms since the power of assessment cannot easily be set aside in education. They propose three principles to guide the development of high-stakes assessments so that the tests can have beneficial effects on teaching and learning. The principles are: *You get what you assess; You do not get what you do not assess; Build assessments toward what you want educators to teach*. The assumption behind these principles is that assessments will be consciously crafted to reflect what is important for students to learn. This is clear from the following:

Assessments must be designed so that when teachers do the natural thing – that is, prepare their students to perform well – they will exercise the kinds of abilities and develop the kinds of skills and knowledge that are the real goals of educational reform. (Resnick & Resnick, 1992, p. 59).

The argument is that teaching to the test can have positive effects on learning. It is, therefore, important to ensure that the constructs that are the goals of the curriculum or programme, or the intended knowledge and skills are what the tests direct students to practise as they prepare to take the tests. In that case, teaching to the test will be producing the desired effect on students' learning.

The sociological dimension of assessment has also been cited in support. It is argued that meritocracy which values the capabilities of individuals rather than birthright and social class is anchored on assessment. Proponents point out that when individuals have to be compared and selected for occupational and social roles it is assessment that provides the fairest and, therefore, the most acceptable means of doing so (Broadfoot, 1996; Chapman & Snyder, 2000).

#### **2.2.4 Summary**

It has been established that assessment has been used by policymakers since the middle of the nineteenth century to demand better performance from schools whenever concern has been raised about the quality of education. The use of assessment as a tool for reforming teaching and learning has remained popular with reformers in many

countries. Perhaps this is the case because education is a complex process whose end product is not easily observable except through the results of assessment. It might also be because assessment provides a convenient and subtle means for the powerful in society to exercise control over education for social and economic reasons, and legitimating this through the appeal of meritocracy associated with assessments.

Critics of this use of assessment point to the negative effects of external, especially high-stakes assessments on the curriculum, teachers, students, the school system and society and argue that more damage is being done to learners, especially the disadvantaged in society and vulnerable groups (Sadler, 1994). Proponents on their part point to the pervasiveness of assessment in education and the seeming impossibility of stopping its use as a tool for reform. They refer to the power of assessment to influence teaching and learning and advocate for ways of using this power to help students' learning (Popham, 1987; Resnick & Resnick, 1992). For this reason, it would be beneficial to seek to understand better the relationship between assessment and education in its various dimensions so that its negative influence can be averted. This would lead to providing each child with the kind of education that teaches thinking, reasoning and problem solving and lifelong learning to enable them cope with the fast changing world of work (Paige, 2006).

The paradox about assessment is that society expects a high level of education from schools and this can best be communicated back through assessment results. However by its nature, assessment has "an unavoidable backwash on the curriculum from the content and procedures ... [and] the higher the stakes of the assessment, the greater this will be" (Harlen et al., 1992, p. 218). The assessment procedures and techniques that address the full range of learning domains that will better express quality are not easily amenable to statistical manipulations and are less reliable. It is rather those procedures that limit learning domains such as multiple-choice tests that provide the statistically reliable results that can be presented to the public and, therefore, are preferred even though their backwash is undesirable.

Judging from the viewpoints of both critics and protagonists of using assessment as a tool for reform, it would appear as if the issue at stake is the control of education. Traditionally, educators have been in charge but the perceived low quality has generated

suspicion about the willingness of education professionals to bring about qualitative change and now policy makers want to take over and control education. Paige (2006) depicts this struggle in his account of the build-up to the passage of the No Child Left Behind (NCLB) Act in the USA in 2002. Referring to a meeting of business leaders to address the concerns about quality, he notes that there was consensus that “substantive and systematic reform of... [the] education system would come about only through outside influences, rather than from within the education community” (p. 4). It would appear as if the position of the advocates of assessment has been taken over by policy makers without recognising that the success of the policy of using assessment to reform education is uncertain as it is mediated by various factors (Chapman & Snyder, 2000).

### **2.3 Empirical Literature**

The evidence gleaned from the empirical literature suggests that external assessment has effect on teachers, students, administrators, the education system and society in general. These stakeholders of assessment do not exist separately and this categorisation is only meant to isolate them for analytical purposes. In practice, assessment events are products of the interaction between the teacher and students in the classroom in institutions which are managed by administrators as part of an educational system in line with society’s expectations of the school. The school and the assessment events that happen within it are thus social creations which respond to societal demands (Broadfoot, 1979; Stobart, 2008).

Two main educational contexts have been identified within which assessments, especially those with high stakes, operate. One is the British model where a national curriculum is available and all schools are expected to cover the same content. In such a context the external assessment is based on the curriculum. In some situations, there are external assessments such as SATs in the UK which may have high stakes for the teachers and schools but not so much for the students. Generally, however, there is a certificate examination at the end of each cycle which has high stakes for the students. In this system past examination papers are normally available and have come to assume a great deal of importance. The other system is where curriculum is locally determined at district or school level as in the USA. In this context, external testing often takes the form of standardized tests. The stakes attached to the tests may be high or low

depending on the local political situation. Here, the stakes are generally higher for teachers and schools than for students and the tests exist independently of the curriculum. In this context, the pull of the tests on the curriculum is more evident (Fullan, 2009; Popham, 1987; Supovitz, 2009).

### **2.3.1 Effect of External Assessment on Teachers**

A large number of studies deal wholly or partially with the effect of external assessment on teachers. This might be the case because of the important role that teachers play in bringing about learning, which is the target of assessment. It is believed that “The quality of an educational system is only as good as the quality of the teaching force” (Thomas, 1997 cited in Pryor & Lubisi, 2002, p. 62). For this reason, various aspects of the effect of external assessment on the teacher’s work have been studied, and the relevant ones are discussed in this section. The effect on teachers can be classified into observable and non-visible categories. In the visible category are the content and pedagogy while the psychological effects constitute the non-visible.

### **2.3.2 Washback Effect of External Assessment**

Studies have shown that teachers are influenced by external assessment in how they do their work. The influence is especially strong when the external assessment they prepare their students for carries high stakes (Firestone & Mayrowetz, 2000; Kellaghan & Greaney, 1992; Popham, 1987; Smith, 1991). The influence manifests in the actions of teachers in response to the high-stakes external assessments. One form of the manifestation is what is referred to as “washback” (or backwash) in language studies or consequences in general education studies. Cheng (1999) investigated the operation of the washback phenomenon on secondary school teaching in Hong Kong and found that the external high-stakes examination had a direct washback on teaching in the examination class as the teachers realigned their teaching with the requirements of the new structure of the examination. The activities they engaged in during lessons were directly related to what the students were expected to meet in the examination. Similar findings were made by Wright (2002) in his study of the impact of a high-stakes state-mandated test on teachers in an elementary school in California. Through observation and interviews with teachers in Grade 2 where the mandatory testing starts and in kindergarten for comparison, he found that the external test was driving teachers’ goals.

In the case of Cheng (1999), the awarding body intended the new structure of the examination to have a washback on teaching that will produce positive effects by changing the English language competence of the students in a particular direction. The results of the examination determined in part progression to the tertiary level of education. And in Wright's (2002) study the state instituted the mandatory tests to compel teachers to improve the scores of the students, who were mainly English language learners, on the standardized test and attached monetary rewards to their performance. What these studies have in common is that they confirm that once there are serious consequences attached to the results either for students or their teachers, external assessment will influence teachers' classroom behaviour and activities.

### **2.3.3 Effect of External Assessment on Content**

One of the observable effects is the influence on the content of what is taught. There appears not to be much controversy about the claim that when faced with high-stakes external assessments, teachers tend to teach only content that is expected on the tests. Content that in the estimation of the teacher or students will not be on the test is ignored even if it is in the curriculum. Similarly, subjects that are not tested receive little or no attention (Firestone & Mayrowetz, 2000).

Wideen et al. (1997) studied the influence of a high-stakes examination in British Columbia, Canada to identify the way teachers taught science in grade 12 which was the examination class and compared it with teaching in grades 8 and 10. Their findings lend support to the view that the examination has an effect on what teachers do. In the classes preceding the examination class, teachers were found to be more willing to deviate from the curriculum and they ventured into trying different approaches to the teaching of science while the classes were at a more leisurely pace. However, in the examination classes, the ambience was different as the researchers "sensed a strong need to process a great deal of material very quickly. The single-mindedness of the enterprise was underscored by the impatience students demonstrated when the teacher withheld answers or ventured into territory that would not appear on the examinations" (p. 437).

The high-stakes nature of the examination means that teachers must not waste time on irrelevant things as far as the examination is concerned. In a situation where students are old enough to understand what is at stake in the examination, they contribute in no small measure to the type of content that teachers teach as illustrated in Wideen et al.'s (1997) study. At the threshold of entering tertiary education, the students in this study might have been more aware of the importance of the examination to their future life trajectories and, therefore, more involved in the direction of the teaching and learning process. The stakes are high for them as the result is used to select students for university education.

One practice that confirms the influence of assessment on teachers is their reliance on past questions in contexts where they are available. Firestone and Mayrowetz (2000) in their comparative study of the effect of the stakes of assessment on teaching and learning in USA and Britain, found that teachers relied heavily on past questions in Britain. The culture of past questions is built on the expectation that similar content will be in the examination each year with only minimal variations. Past questions thus become the guide that clarifies the extent of coverage required by the curriculum. They also set the standard and point to the level of performance required in the examination (Firestone & Mayrowetz, 2000; Harlen & Crick, 2003; Preece & Skinner, 1999). In the context of standardized tests as pertains in the USA, the findings of Firestone and Mayrowetz (2000) suggest that the tests drive the curriculum and cause changes in the curriculum at the local level. Similarly, Wright (2002) found in his study that the district had to review its curriculum to include all the content of the standardized test, and teachers were told by district supervisors not to teach things that were not required on the test. Furthermore, he found that, as a result of preparing for the test, subjects like Physical Education, Music, Art, Social Studies and Science which teachers felt were equally important as Reading and Mathematics were considered secondary as there was no time left to teach them.

These findings appear to confirm the theoretical position that the tests have become ends in themselves. Teachers, students and administrators seem to agree that assessment is what matters in education as they act in ways that conform to its demands (Gipps, 1994).

It is not always the case that high-stakes tests have deleterious effects on the curriculum. Yeh's (2006) study found that the high-stakes testing programme in Texas was having a positive effect on the curriculum. This was attributed to the effect of a programme of rapid testing in that state. There was no narrowing of the state curriculum as the rapid testing programme, even though external, provided formative information to teachers which they fed back into their lessons. This finding suggests that the theoretical position of a negative effect on curriculum may not be applicable in all high-stakes situations as mediating factors account for the effect high-stakes assessments have on teaching and learning (Firestone & Mayrowetz, 2000). Nevertheless it is noteworthy that the high performance of students in Texas on the state-mandated test which has been labelled the 'Texas Miracle' has come under a lot of scrutiny. Other researchers have found evidence that suggests the presence of negative effects of the tests in Texas. For example, the school dropout rate among poor and minority students is said to be high and in some schools low performing students are prevented from taking the tests in order not to lower the school's performance (Haney, 2000; Wright, 2002). The fact remains, however, that there is no consensus on the effect of assessment on content.

#### **2.3.4 Effect of External Assessment on Pedagogy**

Most of the studies concerning pedagogy were designed to observe teachers deliver lessons and to interview them on the reasons for their classroom practices. Unlike the practice regarding content, teachers' pedagogy does not appear to be influenced by the pressure of the external tests. Cheng's (1999) study suggests that out of concern for their students to perform well on the external examination, teachers do change their classroom activities in ways that they think will enable the students do well. Comparing teaching under an old and a new English language examination syllabus, the study found that teacher talk increased during lessons under the new syllabus when it was expected to decrease because students were to engage in more oral activity in the examination. The teachers explained that they needed to explain more to ensure that the students would understand the requirements of the new examination since there were no past questions to guide them. It was also found that in the examination classes for both syllabuses, teachers used only commercially prepared test materials without any textbooks even though textbooks were used in the preceding year in both cases. Similarly, Wideen et al. (1997) found changes in teachers' pedagogy as the classes got

closer to the high-stakes examination. Science teaching in lower classes was found to be more student-oriented with more time for exploration and digression, and trying different approaches to teaching the subject but in the examination class this changed to direct teaching devoid of enquiry and student involvement.

The pattern that emerges suggests that even though teachers may change their classroom activities, they tend to do so not out of conviction but by reason of necessity. The studies of Preece and Skinner (1999) and Hall et al. (2004) in the UK reveal that even as teachers respond to the demands of external assessments with different activities, they feel their teaching is becoming more didactic, thereby placing the teacher at the centre of learning instead of the students. This is the same traditional transmission model of teaching and learning that Akyeampong et al. (2006) note as dominating the African classroom. Cheng (1999) seems to sum up this viewpoint with the observation that in spite of the visible effect of the external examination on classroom activities “it had not changed ... [teachers] in their fundamental beliefs and attitudes about teaching and learning, the roles of teachers and students, and how teaching and learning should be carried out” (p. 268). This pattern is by no means the only view of the effect on pedagogy. Some researchers have found evidence to suggest that teachers use the results of external assessments to improve their teaching. For example, in his study, Yeh (2006) reports of teachers using pedagogical approaches that are consistent with best teaching practices.

One factor that seems to contribute to the ambivalence in the effect of assessment on pedagogy is the level of the consequences attached to the test results. It appears the higher the stakes the more didactic the teaching style adopted by teachers. The study of Firestone et al. (2004) provides insight into the importance of the stakes which are products of the particular social and political context of assessment. Their study was done in New Jersey which reportedly had a weak accountability system. Even though the results of the tests were published in the newspapers, they “had no bearing on student promotion. There was little if any relationship to remuneration for teachers or administrators” (p. 69). The absence of the pressure of high stakes provides a scenario to assess how the level of stakes mediates the influence of external assessment on teaching. The researchers found that some teachers used the didactic while others used enquiry-oriented methods in teaching mathematics in 4<sup>th</sup> grade.

The findings discussed above highlight the ambivalence in the results that characterise the use of assessment as a policy tool for curriculum reforms. Chapman and Snyder (2000) provide evidence from some developing countries to demonstrate the uncertainty in using assessment to change pedagogy. They point out that in Trinidad and Tobago the result of the introduction of an external assessment was positive because teachers adjusted their teaching to the examination and after some time “instructional practices changed in the desired ways” (p. 461). On the other hand, the experience of Uganda was that changing the examination “did not result in the desired changes in teachers’ instructional practices” (p. 462), thus confirming the fact that the use of assessment as a tool to change pedagogy has equal chances of success and failure.

It appears the stakes inherent in the assessment in terms of the consequences attached to students’ performance plays an important role in how teachers respond to the influence of the external assessment. Where the pressure of accountability is low, teachers can teach in a constructivist style but they are likely to adopt the decontextualised traditional style where the pressure is high. The paradox is that adopting test based accountability as a tool in attempts to improve teaching and learning may render the goal of students’ acquisition of thinking and problem solving skills elusive by reason of the method of teaching adopted by teachers in response.

### **2.3.5 Teachers’ Views about External Assessments**

The views of teachers about external assessments have been investigated by some researchers. Teachers generally feel the pressure they are subjected to through external tests is unfair and debilitating. The findings of Firestone and Mayrowetz (2000) suggest that teachers feel the pressure most under high-stakes testing programmes and in some cases they actually resent the external pressure. Such teachers feel they have been deskilled as professionals and compelled to follow the dictates of the tests. The demands of accountability have thus turned teachers into technicians who only apply what the tests demand of students. Smith (1991), therefore, concludes that teachers have lost control over the curriculum and their professional lives. Teachers have also been found to have strong feelings about the validity of the external assessments. In general, they feel that the tests do not measure what students really know. They, therefore, consider the tests as invalid and thus not a good measure of achievement (Smith, 1991; Wright,

2002). This view is however more prevalent among teachers in the USA, probably as a result of the separate existence of standardized tests apart from the curriculum. Some teachers also feel that the tests do not lead to improved teaching and learning as expected by policy makers but they rather disrupt the processes of teaching and learning by substituting them with test preparation (Wright, 2002). It has also been found that teachers see the external assessments as being of higher status than their own assessments (Preece & Skinner, 1999; Scott, 2007) and, therefore, tend to prefer formal examinations and tests to their own assessments (Shepard, 2000). This view underscores the importance teachers feel they have to attach to the external assessments, and hence, the influence it wields over their activities.

The findings on teachers' views about tests appear to confirm the theoretical literature on the narrowness of the scope of external assessments. Teachers' suspicion of the validity of external tests as instruments for judging what students know seems to explain why some students can pass examinations when they have not learnt the skills and knowledge expected on the course (UNESCO, 2005).

### **2.3.6 Teaching to the Test**

One outstanding practice associated with high-stakes tests is the phenomenon of teaching to the test. This is the practice of teachers identifying the content and format of the external assessment and teaching similar content in the same format. The intention is to prepare students in such a way that when they meet similar items on the test they will have little difficulty in getting the right answers. Teaching to the test is inevitable in high-stakes testing contexts where teachers are concerned about their students doing well. Smith (1991) confirms that, when pressure for accountability is transmitted through school administrators to teachers, the tendency is for teachers to respond by teaching to the test. This is done to avoid the sanctions associated with poor performance of students. Firestone and Mayrowetz (2000) identify teaching to the test under high-stakes tests in the USA to involve teachers paying attention to the content of the standardized tests while in Britain it takes the form of revisions and paying attention to past examination questions. The findings of Preece and Skinner (1999) also confirm that in a high-stakes context, teaching to the test is prevalent and is even encouraged by school administrators through symbolic gestures such as exhortations and admonitions

to teachers. This is done with the aim of ensuring the survival of their schools in a competitive climate where school quality is seen, to some extent, to be dependent on the “league table”. It is apparent that teaching to the test is the mechanism through which external assessment narrows down the curriculum and it occurs as teachers pay attention to the test content at the expense of other syllabus content.

### **2.3.7 Effects of External Assessment on Students**

External assessment affects students in various ways. Most of the findings on the effect on students relate to the social and psychological domains as revealed by the review of research carried out by Harlen and Crick (2003). The effect of external assessment on the identities of learners has been one of the areas of interest to researchers. There appears to be a general concurrence that students’ identities and their identification as learners are determined to a large extent by their performance on external assessments (Ecclestone & Pryor, 2003). As students experience success or the lack of it in external assessments, they gradually come to form an identity of themselves as learners. This is because assessment regimes have the power and do encourage “a subtle, self-regulating acceptance of its purposes, practices and effects by teachers and students alike” (Ecclestone & Pryor, 2003, p. 479). The findings of Hall et al. (2004) provide insight into how children’s identities as learners and as people are constructed through external assessment. In their interviews with students, low performing children were said to be referring to the high achieving ones as “good people”, an indication that the low performers do not consider themselves as such. Not only do children form identities of themselves and their peers, but they also put value on themselves. Again, low performing children were found to be keenly aware of which children were most valuable to the teacher. The findings suggest that it is the high performing children who are considered as most valuable by their peers as a result of the measurement discourse that categorises and compares them on external assessments. Similarly, teachers assign their own identities to students depending on their performance on tests. According to Hall et al. (2004), teachers position children according to how willing they are to accept the teacher’s interpretations of the demands of the external assessment. To the teachers, the ideal child is the one who is performing well on the tests and who is also supported by parents who support the school’s effort toward success on the external assessment.

### 2.3.8 Examination and Stress

Research has shown that students come under a great deal of stress as a result of external assessment (Harlen & Crick, 2003). The level of stress is particularly high when it comes to high-stakes assessments whose consequences are known to the students. This is what the study of Denscombe (2000) reveals about the stress associated with the General Certificate of Secondary Education (GCSE) in UK. Even though students at this level would have been used to external testing in the form of SATs, they felt particularly stressed by the GCSE as a result of the instrumental role it plays in post modern society. The following observation by Denscombe (2000) on the factors underlying the stress generated by the examination is revealing:

...the stress arose because success or failure at GCSEs was perceived [by students] as having a major impact on their prospects of doing well in life and on their feelings of self-worth. GCSEs were regarded as a highly significant juncture in life where, for the first time, their achievements and their potential were measured and made publicly available as a label tagged on their self-identity (p. 360).

It is apparent that it is the meaning attached to the role that examinations play in the lives of the students that creates the stress. One result of assessment related stress is that it may become unbearable for some students and cause them to lose confidence in themselves as learners. It may even drive some of them to the point of attempting suicide (Denscombe, 2000; James, 2000). It has been found that it is the low performing children who need to be encouraged and helped to perform well who are negatively affected by the examination stress. For example, Hall et al. (2004) found that the low achieving children in their study were often gripped with anxiety and were constantly under the fear of failing the external tests. Smith (1991) also made a similar finding and notes that external tests tend to have negative emotional effects on children. The emotional instability thus created by the tests often results in some children becoming apathetic and losing interest in learning (Stiggins, 1999; Wright 2002). Even though a large number of teachers acknowledge this emotional effect and reportedly seek ways to shield students, especially the young ones from it, Scott (2007) found that, like many other aspects of the effect of external assessments, there are contradictory views on the emotional effect on students. Some teachers and especially education officials have been found not to believe that the tests have any negative emotional effects on children (Smith, 1991). In the case of education officials in some states in the USA who are

under the pressure of public accountability, denying the emotional effect is probably the only way to justify the pressure they exert on teachers to improve test scores which are used to assess the success or otherwise of their own policies.

As an extension of Denscombe's (2000) study, Putwain (2009) also studied examination stress in students in relation to GCSE in Britain and confirms a link between assessment and stress. The assessment events comprising both the external examination and the related coursework have been found to be sources of stress to students. The stress was found to reside in the students themselves, their teachers and parents. It is noteworthy that at the level of GCSE, students are fully aware of the consequences of the results of the assessments for their future life trajectories. Their educational and occupational aspirations have thus been found to play a major role in determining the level of stress experienced by individual students. Also, students tend to experience more stress if they feel they might disappoint themselves or significant others such as parents if they do not perform to their expectation. Significantly, it is anxiety or fear of failure that lies behind the stress experienced by students. Putwain (2009) also found that the stress associated with assessment is heightened by pressure from teachers and parents and this comes through the "dominant discourse of achieving esteem through academic achievement" (p. 9). There appears to be two main ways in which students deal with examination stress. One is to give up and stop making any effort to learn. This may eventually end in the student dropping out of school (Stiggins, 1999). The other way of handling the stress is through examination preparation with the conviction that greater effort will lead to higher achievement. Putwain (2009) found that "an important form of preparation for examinations identified by students was the use of past examination questions by teachers in lesson time as part of a structured, teacher-led process of revision" (p. 11). This importance of past questions appears to validate Resnick and Resnick's (1992) principle that test developers should envisage the classroom and construct tests that, when they are used as the findings suggest, will result in students actually acquiring the knowledge and skills that are the true goals of the course.

Using socio-cultural activity theory as the framework for analysis, Havnes (2004) carried out an ethnographic study to investigate the impact of a high-stakes pre-university examination on students' learning. A major finding of this study is that as the examination drew nearer, students showed more enthusiasm for their studies indicating

that they were motivated to work harder than before. The findings also identified practice with past questions as a significant activity, and the researcher notes that, even though their use was intended to be an aid to learning, the past questions “became the object of learning and assumed the character of a goal for the individual” (p. 173). In this study it is not the individual actions of students as learners that are the focus but the entire education system which provides the socio-historical context for learning. The impact of assessment in this context is lucidly presented by Havnes (2004):

The study clearly shows that assessment and examination procedures can have a ‘backwash’ effect. The examination questions and the structure of the final assessment exercised an influence on the basis for the students’ learning. The assessment arrangements had an effect on the literature, as well as the teaching and the problems students worked on. They also supplied the premise for what the students interpreted as central to their studies (p. 173).

In effect what students learn and how they learn it, what and how teachers teach, textbooks, learning materials and how the participants understand education are all mediated by assessment. Robinson and Timperley (2000) might have been thinking about the systemic impact of assessment when they assert that for assessment to take on a new role in education, “advocacy of alternatives is mere rhetoric if one does not understand and address the forces that sustain the status quo” (p. 83).

### **2.3.9 Quality of Examination Questions**

Considering the wide ranging effect of assessment on classroom participants and the entire education system, it is important to take a closer look at the nature of the instruments that are at the centre of this influence. This is more so when it is the quality of the items that determines the quality of education since the items are the embodiment of the expected standard and become the focus of teaching to the test.

Lewin and Dunne (2000) studied the possible impact of globalisation on primary school science examinations in Anglophone sub-Saharan Africa. They hypothesise that since examination systems in these countries were instituted by the colonial master, current developments and trends in examinations in Britain are likely to influence these systems through the forces of globalisation. This means that there would be “convergence” between the assessment systems of African countries and that of Britain in terms of the content and the usefulness of what is assessed, especially in science which had been the

target of many curriculum development projects, some with international support. The aim of their study, therefore, was to find out whether primary science curriculum and its associated assessment resembled the innovations in England and secondly, if the resemblance could be attributed to globalisation.

Their analysis of the 1997 primary school leaving examination papers in science in nine African countries shows that six of the examinations were multiple-choice only and two were a combination of multiple choice and short answer questions. Only one country did not use multiple choice items. Using Bloom's taxonomy to classify the cognitive demand of the items into application, comprehension and knowledge, it was found that a large proportion of the questions (70%) was made up of knowledge-type items that required recall. About a fifth of the items involved comprehension and only 4% appeared to be at the level of application of knowledge. Analysis of the context of the items showed that more than half were theory-based. About a quarter related to experiments and about a fifth (19%) were contextualised in everyday settings. Also, the presentation of the items was found to be predominantly text material (70%) with a fifth presented in the form of diagrams. Questions in the form of graphs, flowcharts and tables featured in a small proportion of the items (3% respectively).

Comparing 1997 with 1991 examinations, no significant difference was found between them. The item type remained predominantly multiple-choice. However, the content was found to have changed. Biology-related questions were more common in 1997 followed by physics, integrated science, agriculture, health science and chemistry. There was an increase in agriculture related and integrated items in all the countries while there was a corresponding decline in other content. Also, the balance of items across the countries was similar. The change in context was about only 5% in favour of everyday situations with a similar decline in theory items. There was no significant change in the text-based nature of items. The findings suggest that the new thinking and practices in assessment that are currently taking place in England have not reflected in the examinations. Setting attainment targets, using assessment for learning, authentic assessment and the use of standardized national assessment tasks which are currently being used in England are thus absent from the African assessment systems. The initiatives aimed at making assessment to have a positive backwash on teaching and

learning through the quality, content and nature of assessment in order to address the problems of rote learning seem not to have been successful in the countries studied.

However, in Anglophone West Africa, the picture is slightly different. Since the mid 1980s, there have been innovations in assessment in member countries of The West African Examinations Council. Notable among the changes is the introduction of continuous assessment (CA) which is intended to make assessment a part of the teaching and learning process. In Ghana for example, even though it is not being practised effectively (Akyeampong et al., 2006; Pryor & Akwesi, 1998), CA contributes 30 percent of the marks used to determine a candidate's grade on the Basic Education Certificate Examination (BECE). This may represent an important point of convergence, the introduction of CA in Ghana having been facilitated by a consultant from Britain.

Ghartey-Ampiah (2006) also studied the knowledge levels embodied in the teaching syllabus for science and its implications for teaching, learning and assessment of science literacy at basic education level in Ghana. His concern was to match the intentions of the curriculum developers in terms of the profile dimensions of knowledge with the content of the teaching syllabus. In his view, the approach to scientific literacy at basic education level which is meant to make the individual acquire scientific knowledge, be able to communicate scientific ideas and develop scientific attitude and process skills is appropriate. This is because "scientific literacy is not only about subject content knowledge but also about *critical thinking*, cognitive and metacognitive abilities, and communication to share understandings to persuade others" (p.3 emphasis added).

The JSS (now JHS) science curriculum is intended to emphasise application of knowledge and for that reason weightings for profile dimensions are specified to guide teaching, learning and assessment. These are expected to be 'application of knowledge' 40%, 'knowledge' 30% and 'process skills' 30%. However, his content analysis of the behavioural objectives in the teaching syllabus found that 69.9% related to knowledge, 20.5% to process skills and only 9.6% related to application. The curriculum developers envisage that the emphasis in teaching will form the basis of assessment and the external examination syllabus is designed along the lines of the teaching syllabus.

Consequently, the distortion in the weighting of the content of the teaching syllabus will be reflected in the examination syllabus. The implication of this twist is that “since the emphasis of the specific objectives does not reflect the expected percentage weights of different profile dimensions, it is also likely that teaching and assessment will not follow the expected relative percentage weights if teachers [and test developers] go strictly by the specific objectives of each topic” (Ghartey-Ampiah, 2006, p.6).

In another study, the Curriculum Research and Development Division (CRDD) of GES compared the 2005 BECE questions in five subjects with the requirements of the teaching syllabuses. The subjects studied are Agriculture, English Language, Integrated Science, Mathematics and Technical Skills. Each syllabus has a suggested framework for assessment and the study was to find out the relationship between the framework and the BECE questions. The findings show that content validity of the items in all the papers was high; all the items were derived from the syllabuses. However, there was divergence between the syllabus frameworks and the BECE questions when it came to the profile dimensions. It was found that “the profile dimensions compositions suggested by the syllabuses in all the subjects do not agree with the results [BECE]. The papers, therefore, were more of recall and understanding than the critical and analytical thinking skills intended for learners” (GNAT, 2006, p.21). It is clear that there is the need to take a closer look at the external examination in order to align it with the cognitive demands envisaged in the teaching syllabus.

On his part, Bekoe (2007) investigated the nature of examination questions from another perspective. His study focussed on the extent to which external assessment in the Ghanaian school system reflects the goals of the curriculum with a focus on social studies at the Senior Secondary School Certificate Examination (SSSCE). The conception of the study was on “the basis that it is external assessment that defines what worthwhile learning is, for both teachers and learners” (p. 135). According to the researcher, it is believed that while the social studies curriculum for Ghanaian senior secondary school now emphasises the affective domain, the external assessment has traditionally been focused on the cognitive domain of learning only. As a result, external assessment uses narrow items that assess knowledge but not higher order intellectual skills, personal and social competencies and attitudes. The researcher believes that an appropriate or a valid item is one that requires learners to perform the

tasks or exhibit the behaviours that are the goals of the curriculum. The study analysed 100 multiple-choice items and 30 essay questions selected at random from ten past papers of SSSCE social studies between 1999 and 2004 using a modified version of Mager's item analysis model. This included analysis of learning domain and criteria such as positive consequences of item, fairness to all learners, meaningfulness of the task, level of complexity and real-world application.

For both multiple choice and essay questions, Bekoe (2007) found that 57% had very little or no relationship with the curriculum goals and were therefore inappropriate for the assessment. Twenty-three percent of the items were found to be fairly related to the curriculum goals but needed modifications to make them fully valid. It was only 20% of the items that was found to be valid and thus appropriate for the examination.

The findings suggest that the transition in the goal of the curriculum from a mainly lower level cognitive domain to a much higher level had not been reflected in the types of questions set for the examinations. This could mean that the external assessment had not been transformed from the low level recall questions to the thinking and reasoning level envisaged in the curriculum. The practical application of what has been learnt also appears to be missing from the external assessment.

Luxia (2007) went a step further to study the effect of the intended washback of test constructors on teaching and learning. The study was meant to throw more light on how the intentional use of tests to influence curriculum works in practice. The high-stakes National Matriculation English Test (NMET) in China was the focus of the study with particular interest in the writing task. The writing task was introduced specifically to change the teaching and learning of English. Test constructors, teachers and students participated in the study and data were collected through interviews, questionnaires and observation of teaching. Past examination questions were analysed to support interview data. Luxia (2007) found that test constructors had a clear aim, and that was to bring about a change in the way English was taught and learnt in secondary schools in China. The aim was to change from acquiring linguistic knowledge to practical use of English. This was to reverse the neglect of the practical use which had characterised the teaching and learning of English in the early 1980s. This appears to be an example of the application of the principle expounded by Resnick and Resnick (1992) that test

developers should deliberately construct tests that will encourage teachers to teach the knowledge and skills that students are expected to acquire. The second finding was that the intention of the test constructors was reflected in the items they wrote for the examination and followed the guidelines detailing the characteristics of the writing tests. The assumption underlying the test construction was that “if writing were tested in the NMET it would be taught in the schools” (p. 58). The effect of the tests was that more than 90% of the participating teachers said they taught writing throughout the whole year, and the writing tasks were similar to the examination questions. This finding appears to confirm the principle behind MDI that teachers will teach to the test in high-stakes situations. However, Luxia (2007) found that the similarity of the writing tasks to the examination questions was only superficial as three out of the five characteristics of the examination questions were not reflected in the teachers’ writing tasks. This was the case because teachers’ and students’ understandings of writing were at variance with the demands of the examination questions. This finding agrees with Chapman and Snyder’s (2000) proposition that assessment by itself may not bring about the desirable changes in curriculum without the support of mediating factors such as the understanding and beliefs of teachers. Even though test constructors meant to redirect teaching and learning towards a communicative context, the divergent views of teachers and students rooted in the old practice of writing still held sway and prevented the achievement of the intended aim of the test constructors.

### **2.3.10 Need for Further Research**

From the findings of the empirical studies reviewed there appears to be a general agreement on the effect of external assessment on teaching and learning. There is evidence to suggest that assessment affects the content as well as the pedagogy used by teachers in their delivery (Cheng 1999; Luxia 2007). In addition, teachers are often subjected to psychological pressure and their professionalism is under threat by reason of the demands of external assessment (Preece & Skinner, 1999; Wright, 2002). Research has also shown that students are perhaps the most affected. The kind of knowledge and skills demanded in the assessments is what students spend a relatively large part of their time in school practising and therefore acquiring (Wideen et al., 1997). It is, therefore, important to pay attention to the demands of such tests (UNESCO, 2005). Importantly, students’ identities as learners are dependent on their

performance on the external assessments (Denscombe, 2000; Ecclestone & Pryor 2003). Societal perception of schools is another aspect where assessment impacts on education. The quality of a school tends to be judged by the public on the school's relative performance on external assessments; the better the performance of students the better the quality associated with a school (Delandshere, 2001; Smith, 1991). Assessment has also been found to affect the entire education system (Havnes, 2004). These findings confirm the theoretical position that external assessment tends to have a controlling, and often negative effect, on education.

In practice, however, the nature of the items or questions of external assessments have been found to be such that they would influence students to acquire the kind of knowledge and skills that are not the true goals of education reforms, especially in the case of African countries (Bekoe, 2007; Lewin & Dunne, 2000). Students are expected to learn the skills that will make them critical thinkers and problem solvers. There is, therefore, a gap between the desired goals of education and the actual learning that takes place in school through the influence of high-stakes external assessment. The theoretical position is that this gap can be closed if the nature of external assessments is such that it will direct teaching and learning in ways that will be beneficial to learning. The divergence between the actual effects of assessment and the intended goals of the curriculum can best be controlled and assessment, teaching and learning brought into better alignment and indeed blended into a single purpose if the nature of the gap is understood. This can be achieved if the implicit assumptions, personal philosophies, beliefs and understandings of key players involved in the assessment process about the role of external assessment in the classroom are revealed and understood through research (Shepard, 2000). One group of stakeholders who play an important role in external assessment is test developers. This is because they are the ones who fashion out the instruments that embody the influence on teaching and learning. To understand the nature of the gap therefore, it is necessary to understand the way they understand their role.

In spite of the importance of the role played by test developers, literature on their perspectives in the discourse on the effect of external assessment on education is scanty. Luxia's (2007) study investigated an aspect by focusing on the intended and actual effects of assessment on teaching and learning. Bekoe (2007), even though concerned

about the intentions of item writers, could not go beyond an analysis of the past questions similar to Lewin and Dunne (2000). My study is intended to go a step further to investigate the understandings and beliefs of test developers about the role of external assessment and compare these with the expectations and understandings of teachers and students who are directly impacted by the tests.

## **2.4 Research Questions**

The study was guided by the following specific research questions:

1. To what extent do test developers contribute to the influence of external assessment on teaching and learning through test development activities?
  - 1.1 What do test developers believe is the goal of the junior high school programme?
  - 1.2 What do test developers believe is the relationship between external assessment and curriculum goals?
  - 1.3 How do test developers understand the relationship between external assessment and teaching and learning?
  - 1.4 To what extent do test developers aim to influence teaching and learning when they perform test development activities?
2. What are the beliefs and opinions of teachers about the external assessment?
3. What are the beliefs and opinions of students about the external assessment?

## **2.5 Conceptual Framework**

It is believed that even though the purposes of educational assessment have changed over time in response to changing socio-economic demands, its processes have remained largely unchanged (Delandshere, 2001). Similarly, even though the understanding of learning and assessment has changed from behaviourist to constructivist views, external assessment which wields so much influence over learning has remained in its behaviourist tradition, thus producing effects that are contrary to what is desired in education today. Education that is valuable today is the type that cultivates the habits of the mind to think, reason and solve problems (Fullan, 2009; Resnick & Resnick, 1992; Shepard, 2000). In the new paradigm, the thinking processes rather than the products of learning are the focus of teaching and assessment (Ertmer & Newby, 1993). This conception of education seems to tie in with the global recognition

that education for all (EFA) is a necessity, especially in developing countries, for alleviating poverty and improving the quality of life because EFA can only become meaningful with quality education. Besides, there are also the prevailing socio-economic and political considerations that come into play when policy makers make decisions on education and assessment, for example, by focusing on accountability through assessment (Sadler, 1994).

In addition, the purposes of external assessment in developing countries seem to remain mainly those of certification and accreditation for the purpose of selection, in furtherance of the ideals of meritocracy (Broadfoot, 1979; Kellaghan, & Greaney, 1992). These issues filter into the relationships among the agents involved in curriculum development, teaching, learning and assessment and are likely to play a role in determining how the agents conceive of their roles. For example, it is expected that curriculum developers would be influenced by socio-economic considerations in determining the constructs, the knowledge and skills and the quality to aspire to in the curriculum while keeping in view the needs of all learners in the school system. Item writers, on their part, are expected to distil from the curriculum the important issues and translate them into items or questions for the external assessment while keeping in mind the issues of fairness and validity. The external assessment in turn becomes the instrument for clarifying the curriculum and its backwash effect is felt in what and how teachers teach and what and how students learn. These issues provide a framework within which the investigation of how the key agents in the assessment process understand the role of external assessment was carried out.

## **CHAPTER 3**

### **METHODOLOGY AND METHODS**

#### **3.1 Introduction**

In this chapter, the worldview adopted for this research is discussed. The methods used to gather the data and the justification for their use, the participants and how they were involved in the study are also discussed. It concludes with the methods used to analyse the data.

#### **3.2 Research Traditions**

There are various ways of doing social research, depending on the worldview adopted by the researcher (Cresswell & Plano Clark, 2007). Social research, and for that matter educational research, follows one of two main research traditions. These are positivism and anti-positivism (Cohen et al., 2007) or positivism and interpretivism and its variants (Bryman, 2008). These traditions embody the assumptions about the nature of social phenomena (ontology) and how to obtain knowledge about them (epistemology).

The positivist view of the social world assumes that social reality exists on its own, independent of the individual actors and, therefore, knowledge of this reality can be obtained in an objective manner by a detached researcher using similar methods as the natural science researcher. Research in this tradition is presumed to be value-free and the researcher has no influence on the results. Quantitative methods are more often used to collect and analyse data in this tradition. Test development for external assessments appears to be founded on the positivist assumptions of objectivity and neutrality. This is because item writers are expected to set their questions based on the pre-planned content and structure without any subjective considerations. The test development processes and procedures used by WAEC are thus meant to ensure that item writing is objective and not influenced by any considerations other than the syllabus and table of specifications.

The foundation of positivism appears to have encouraged researchers on assessment to carry out mainly quantitative studies. This is clear from the position of Murphy and Torrance (1988) who argue that

... there is an urgent need for further research in this area of educational change, and the greatest need is for more researchers to leave behind the, perhaps, safer areas of technical psychometric study and embark upon studies which can reveal evidence concerning the wide-ranging implications of current changes in educational assessment (p.5).

It is several years now since this admonition yet very little is still known about the motivation of test developers (Luxia, 2007). This research was thus designed to address, in part, this concern by targeting those who develop the tests for BECE in Ghana. Qualitative approach was used in order to access the experiences of the test developers. However part of the research was intended to find out the beliefs of a number of teachers and students about the external examination and the quantitative approach was used to achieve this purpose.

The second research tradition is the anti-positivist tradition which comes under the umbrella of interpretivism. Interpretivism assumes that human beings act on their understanding of the world around them and the job of the social researcher is to try to understand the meaning attached to human actions. The interpretivist acknowledges the effect of the researcher in the knowledge creation process since the presence of the researcher at a research site invariably generates interpersonal dynamics which could have an effect on the results. This tradition also values the context within which human actions occur and is therefore interested in a detailed description of the context and the actions that take place in it. Qualitative data is often used in this tradition. One purpose of this research is to find out how the assumptions of objectivity and neutrality operate in real life situations of item writing. This can best be achieved through listening to the item writing experiences of the test developers.

A third research tradition has emerged that has pragmatism as its foundation (Cresswell & Plano Clark, 2007). In this tradition, emphasis is laid on the research question(s) and the methods traditionally identified with quantitative and qualitative traditions are combined to collect and analyse data to answer the questions. Here the focus is on what works in practice. This is the mixed methods research tradition.

Some scholars contend that combining research methods is not possible and indeed not advisable (Tashakkori & Teddlie, 2003). However, other scholars are of the view that it is possible to combine methods identified with quantitative and qualitative traditions in a research (Cresswell & Plano Clark, 2007). It is posited that combining methods provides the opportunity to learn more and to better understand a research problem than any one of the research traditions on its own can reveal. More so, combining qualitative and quantitative research draws on the strengths of both traditions and at the same time it overcomes their weaknesses (Bryman, 2008; Cresswell & Plano Clark, 2007; Punch, 2009; Tashakkori & Teddlie, 2003). This research is designed to take advantage of the methods that will yield a deeper understanding of lingering issues such as the low quality of questions that has become the hallmark of external examinations, especially in sub-Saharan Africa. The mixed methods framework is, therefore, adopted for this research.

Different methods were used to collect data from the two categories of non-classroom and classroom participants. For the test developers, one-on-one interviews were used because it offered the best opportunity to engage in conversation with members of this population that is difficult to access by virtue of the confidential nature of their job. This approach provided the opportunity to gain access to the reasoning behind the items they write. In the case of classroom participants, a mixed methods approach was used. Questionnaires were administered to teachers and students prior to interviewing some of them. This approach was meant to explore the field with the quantitative data and to obtain a wider view on the issues of concern to set the stage for the interviews.

### **3.3 Researcher Identity**

My identity as an employee of WAEC, the awarding body for the BECE is expected to have an effect on the participants and consequently on the study. This is because of the leverage that the awarding body has in educational circles as a result of the power that ‘resides in those who conduct the tests’ (Stobart, 2008, p. 19). For example, during the field work the school heads received me as an official of WAEC and not as a student researcher, as the following experience shows.

After the necessary introductions on arrival in one of the schools, the headmaster took me to the JHS3 classroom, had a word with the teacher and enthusiastically introduced me to the students as the man who had come from WAEC to see how they were preparing for the BECE (apparently using my presence to spur them on in their studies) and concluded that “he will tell you what he has for you” after which he went back to his office leaving me with the teacher in front of the class. I, instantly, turned the situation into a sensitisation opportunity to reassure the students that they could easily pass the BECE if they took their studies seriously and also drew their attention to the dangers of examination malpractices. After the pep talk, the tense atmosphere generated by my presence became relaxed and I introduced the real purpose of my visit. When the students got to know that I was also a student seeking information from them, they became excited and the teacher had a difficult time selecting the ten students needed to complete the questionnaires as many more were eager to do so. Apparently, they became curious about the kind of information I was looking for about the examination, knowing where I was coming from.

My position as a senior officer of WAEC also places me in an insider position vis-à-vis the test developers. This has the potential of presenting me as someone engaged in an inquiry into how they perform their roles. During the interviews, I had to assure them that it was for academic purposes only and had nothing official about it. Furthermore, I reckon that my own attitude to the confidentiality of examination information might have played a part in the kind of questions I asked and the answers I expected from the test developers. For example, knowing very well that the item writers are required by WAEC to keep their roles confidential, I could not ask for specific examples of items they wrote recently since doing that would have amounted to a breach of the code for setting questions for the examination.

Nevertheless, my insider position has a positive side to it. One such advantage is the test developers’ knowledge that I understand the condition of confidentiality under which they write items. This created a context of common understanding during the interviews making them to believe that, even if they gave out confidential information concerning their items, I could be trusted to keep them confidential. The sound-proof recording studio in WAEC which was used for the interviews reinforced my concern for confidentiality and encouraged the test developers to talk without looking over their

shoulders. My insider knowledge also gave me the advantage of engaging with them in the technical language associated with test development activities. This enabled me to understand what they said even in incomplete sentences, which I have come to realise is a feature of conversation.

### **3.4 Ethical Issues**

For this study, some of the ethical issues considered relate to negotiating access and obtaining the informed consent of participants. In the case of test developers, written permission was obtained from the authorities of WAEC to carry out the research with them (Appendix 1). The permission was granted in the hope that the findings of my research would inform policy on how to improve the quality of the test items. Public complaints, especially from teachers' associations, about the mainly recall questions in the examinations and their effects on teaching and learning have been of great concern to the management of WAEC for some time now. From my experience, there are divergent opinions in the organisation about the factors that account for the nature of the questions. In the opinion of some, the curriculum is to be blamed because the examination syllabus and the items are built on the objectives in the teaching syllabus. Others are of the view that it is the test developers who should be blamed for not writing more challenging items. My research is thus expected to bring up evidence to clarify the issue and I promised to share my findings with the authorities. For example, a copy of my thesis will be presented to the organisation to be kept in its library and I will make presentations at the monthly seminars organised by the Research Department of WAEC.

Access to teachers was negotiated through the District Director of Education who, after granting permission, circulated a memo to all the public school heads in the District giving them prior notice of my visit to their schools for the research (Appendix 2). Access to the students was negotiated through the heads of the schools who acted 'in loco parentis' for the students.

The official channels used to gain access to participants posed one major challenge. It made the interactions initially look like an official assignment. I tried to go round this difficulty by being open and reassuring the participants that I was not on an official

assignment from WAEC but rather a student coming to learn from them. In fact I adopted the following solution proffered by Cohen et al., (2007):

The key to the successful resolution of such questions [ethical issues] lies in establishing good relations. This will involve the development of a sense of rapport between researchers and their subjects that will lead to feelings of trust and confidence (p.69).

This strategy paid off during the interviews when participants opened up and made critical comments and also expressed their opinions freely about WAEC and the BECE.

All the test developers who were interviewed were given an information sheet concerning the research (Appendix 3) to read after which they signed the consent form prior to the start of the interviews (Appendix 4). Similarly, the teacher participants and the heads of school who selected the students were given the same information and they also signed the consent form prior to the data collection.

### **3.5 Description of Research Site**

The classroom part of the research was conducted in Ga District<sup>1</sup> in the Greater Accra region of Ghana. The District has 12 public schools which presented candidates for the BECE in April 2010. It is inhabited by lower and middle class inhabitants ranging from white-collar workers to artisans and squatters. There are more private basic schools than public schools in the District. Seven of the 12 schools are ‘mission’ schools, 5 established by Christian and 2 by Muslim organisations and they are run as public schools. The schools are divided into two Circuits, each with a Circuit Supervisor who represents the District Education Office on the ground.

This District was selected because the schools are typical of public schools in the region in terms of buildings and staffing. All of them are easily accessible and their number is relatively small making it possible to cover all of them conveniently. More so, it is ideal in terms of proximity to the researcher.

The non-classroom part of the research was done in the offices of WAEC which was established by the colonial masters and has remained the only awarding body responsible for external end-of-cycle examinations at the pre-tertiary level in Ghana. It

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<sup>1</sup> Ga District is a pseudonym for the District selected.

has well defined procedures and practices which are meant to ensure objectivity and neutrality in its examinations. All test development activities are centred within the organisational framework of WAEC and it is considered the most appropriate location in terms of confidentiality.

### 3.6 Participants

The study involves participants at two levels. These are the test development level, which is external to the classroom, and the classroom level. At the test development level, three syllabus developers (2 women and 1 man) and four item writers (3 men and 1 woman) in two core subjects<sup>2</sup> are the participants. Two of the syllabus developers are senior officers of the GES (Krebi is a Circuit Supervisor and Ato works at the Head Office). Mansa is a teacher in a senior high school in Accra and has written items for the past six years; she participated in the syllabus development in 2007. Two item writers are retired tutors. Okunini taught for several years at senior high school level and retired three years earlier. He has been writing items for eleven years. Madison is a retired tutor of a tertiary institution. He said he took part in the development of the teaching as well as the examination syllabuses during the 1987 reform and has been an item writer since that time. Assoman is a senior tutor and administrator in a senior high school in Ashanti region and has been writing items for the past four years. Norvisi works in a public service organisation and has been writing items for the past 5 years.

Each subject has between five and eight item writers and a panel of five syllabus developers. Examination syllabuses are developed when changes occur in the school curriculum as is often the case when reforms are carried out. All the item writers are members of moderating panels and have benefited from, at least, one training programme in item writing organised by WAEC within the past two years. They hold a minimum of first degree and have taught for a minimum of five years at different levels. Each item writer has written test items for a minimum of four years. This is relevant because they are better placed to be able to identify and reflect on any changes in their items under the old syllabus and the new one which began in 2007. They were reached through their subject officers and they travelled to WAEC on days and times that suited them.

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<sup>2</sup> The names of the subjects are withheld for reasons of anonymity.

The inclusion of syllabus developers and item writers in the study is intended to throw light on the intentions of both the planners and implementers of the BECE. Those who develop the examination syllabuses are the planners because they determine the content and format of the examination. The item writers on their part translate the intentions of the planners into the examination questions. The two aspects of test development are complementary and are included because it is the combined actions of the two groups that transmit a certain view of teaching and learning into the classroom.

Test developers perform similar functions. They are given the same materials and instructions when they are commissioned by WAEC to perform test development activities. Those selected to participate in this research are thus experts who possess the kind of information that is of interest to the researcher.

At the classroom level, participants are made up of 120 JHS3<sup>3</sup> (61 boys and 59 girls) and 40 JHS teachers (21 males and 19 females). Almost all the teachers (95.0%) are trained teachers. Their level of education is reasonably high. Majority of them (75.0%) hold either a first degree (45.0%) or Diploma certificate (30.0%) and have been teaching for a relatively long period; 57.5% have nine or more years experience, 35.0% have between 5 and 8 years teaching experience. Majority of them (71.1%) teach the examination class while 63.2% teach both the examination and a lower class.

It was expected that teachers who teach the examination class and a lower class would be in a better position to identify and reflect on any differences in their own teaching in both classes. Selecting teachers from six schools for the interviews is also meant to obviate any contextual peculiarities from particular schools.

### **3.7 Sampling**

Participants in this research were selected purposively. Item writers constitute an expert group and the research is about their views. Those of them who were easy to reach and willing to participate were those invited. Similarly, only teachers of the two core subjects of interest completed the questionnaires. Obtaining pass grades in four core

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<sup>3</sup> JHS3 is the last year of basic education in Ghana, the year in which the BECE is taken.

subjects in BECE is a mandatory requirement for selection into senior high school. For this reason, teachers and students are likely to pay particular attention to these subjects. This is considered an appropriate context within which to examine how the examination influences teaching and learning. The student participants were selected by their school heads or teachers assigned by the heads to do so.

### **3.8 Data Collection**

This research was designed to be mainly qualitative but quantitative data is required from teachers and students to provide a wider coverage of their views about the BECE. The quantitative data provided an exploratory assessment of the views of the classroom participants. This became the background for the qualitative interviews. This was the case with teachers whose interviews were conducted between two and four days after completing the questionnaires because they were conducting and marking their terminal examinations.

In eight of the schools, the questionnaires were administered in person and they were completed and returned immediately. No specific time was given for completing the questionnaires and both teachers and students handed them in, as and when, they finished answering all the questions. In four other schools, the questionnaires were distributed to the heads with the assistance of the Circuit Supervisor. The school heads returned the completed questionnaires at a later date. Prior to the distribution, I held a meeting with the Circuit Supervisor in his office and briefed him on how to administer the questionnaires. When the questionnaires from the four schools were received I initially adopted a sceptical attitude to them because I thought the students could have been helped to answer the questions. I, therefore, checked for discernible patterns in the answers from each school. Of particular interest were the items relating to the teachers' tests and the way they taught. Such questions were more likely to be influenced by others since they demanded students' opinions about their teachers. The other questions dealt with the individual's thoughts about the external examination. However, the variety of answers to the questions did not suggest that the students were assisted and no patterns were found in the answers.

The questionnaires were administered first after which the interviews were arranged. In the case of the students the interviews were conducted soon after completing the questionnaires for practical reasons. All the schools were conducting terminal examinations at the time of the field work and my presence appeared to be a distraction to the students who were preparing for the examinations. For example, in two of the schools it took between twenty and thirty minutes for the teachers to bring together the ten students needed to complete the questionnaires. It was desirable to interview those students who completed the questionnaires to be able to compare the two types of data. The second interview for students was conducted one week after the first one and some of the issues from the first one fed into it. Both the quantitative and qualitative data were collected in one wave of data collection at the end of the first term.

### **3.8.1 Quantitative Data**

Quantitative data were required to determine the beliefs of teachers and students about the external examination. Two sets of questionnaires built on Likert scale were used to collect the data from the classroom participants. The substantive issues in the questionnaires for both teachers (Appendix 5) and students (Appendix 6) were similar but the questionnaire for students was simplified and reduced to their level of understanding. Additional items on teacher characteristics were included in the questionnaire for teachers. The questionnaires were piloted with 14 teachers and 30 students in a public junior high school in an adjoining District to test the clarity and reliability of the items. Feedback from the teachers led to a slight modification of one item replacing 'years' with 'forms' in item 24. Reliability coefficients of 0.78 for teachers and 0.77 for students were obtained with the split-half technique.

The questionnaires were intended to find out the beliefs of the teachers and their students about the BECE. They were developed along the lines of the Beliefs about Primary Education Scale (BPES) developed by Herman et al. (2008). The BPES and the insight gained from the literature informed the choice of the issues dealt with in the questionnaires. These are the extent to which students' learning experiences and the value they place on them are influenced by external assessment and the extent to which teachers' views on classroom assessment and their teaching practices are influenced by external assessment. The issues were divided into the following subsets: the effect of the

examination on teaching and learning, the type of knowledge acquired in JHS, teachers' assessment practices and the purpose of junior high school education. Between one and four items dealt with each subset depending on the scope of the subset. The items were reviewed by colleague students and advisors and were arranged in the questionnaire in no particular order.

All the questionnaires that were distributed were returned, achieving a 100% return rate. This high return rate might have been achieved through the influence of the District Director of Education whose introductory letter made the research look like an official assignment. This is not likely to have any influence on the results as all the items are related to the examination and not personalities.

### **3.8.2 Qualitative Data**

A total of seven test developers (3 examination syllabus developers and 4 item writers), eight teachers (4 men and 4 women) and eight students (4 boys and 4 girls) were interviewed using interview guides (Appendices 7, 8, 9 and 10). All the interviews were recorded with a voice recorder. Prior to the interviews, the participants were told the conversation would be recorded for transcription and they were shown the digital voice recorder which was about the same size as my mobile phone. In order not to let the thought of recording distract participants' attention I always placed the recorder and my mobile phone together on the table. And I told the participants when I was about to switch on the recorder. After assuring each participant of anonymity, I informed them that they could ask to see the transcript of their interviews if they wanted it. However, none of them opted for that.

One challenge in using the voice recorder was the background noise that was on many of the school compounds. For example, during the second interview with students a match was being played on the school's football field which was curiously located in the middle of the compound. That generated a lot of background noise and also distracted attention at certain times. I was, however, able to transcribe the interview from a computer. A memorable incident occurred during the interview with the first group of students. Midway through the interview, and unknown to me, the battery ran down and the recorder stopped. However, immediately after the session, I wrote in my

field diary details of what transpired during that interview. Six schools were selected and two teachers each from two schools and one teacher each from 4 other schools were interviewed. Two of the 6 schools were selected for the group interviews with students.

The group interviews with the students saved time as the students were writing terminal examinations and school rooms were used (school library in School A and a classroom in School B). The group interviews were meant to overcome any inhibitions that the position of the researcher might have generated in the students in a one-on-one interview situation. This approach was found to be useful because the students were not hindered, in any way, in expressing their views during the interviews. The group interviews lasted between 40 and 45 minutes in each case.

The interviews with test developers and teachers lasted between 40 minutes and one hour. With the exception of one item writer whose interview was conducted in his home because of proximity, all the interviews were held in the recording studio at WAEC. The recording studio was not a familiar place to the test developers but it provided the best environment in terms of confidentiality, which was crucial in any discussion about item writing. Interviews with the teachers were held in their schools, either in the library, in an empty classroom or in the staff room depending on which one was available at the time.

### **3.9 Methods of Data Analysis**

The questionnaire data were fed into SPSS using a pre-coded scheme ranging from 1 to 5 to correspond with the Likert scale of Strongly Disagree, Disagree, Undecided, Agree and Strongly Agree, which was used for the responses. There were no negative items in the questionnaires. Nominal data such as sex of participant and the question requiring yes or no as answers were coded 1 and 2.

Descriptive statistics was used to explore the distribution of the data to obtain an idea of the proportions of the responses (Appendix 11). In order to compare the responses of the teachers and the students, the parallel items in the questionnaires for both groups were extracted together with their mean scores and a comparison of means was carried out using the t-test statistic. After this operation, a second level of analysis was

performed using factor analysis to determine the underlying factors that could explain the pattern of responses of the two groups.

The qualitative data analysis started with the transcription of the interviews. Each interview was immediately transcribed personally after the session. As the transcription proceeded issues of interest were noted. Some of those issues became the subject for further inquiry in subsequent interviews. The analysis proper started after all the interviews had been fully transcribed. The first step was the identification of codes. Every response of each participant was checked and given a code. This process generated several codes for each interview transcript. These initial codes were listed on separate sheets of paper after which they were compared, sorted and grouped. The groups of codes were then summarised into general themes for the analysis. For example, the themes Standard of Education, Sympathy Syndrome and Influence of BECE on Teaching and Learning were drawn out of the following excerpts of initial coding:

Norvisi	Okunini	Mansa
Philosophy of education is practical use.	Past questions as model.	Standard evokes nostalgia.
Past questions set standard for exam.	Standard not falling.	Standard seen in social sphere.
Past questions are tools for teaching & learning.	Questions must be within exam syllabus.	Former exams induced more thinking.
Past questions as syllabus.	BECE affects teaching & learning.	Children & thinking qns.
BECE standard is too low.	No intent to guide teaching.	Students are children.
	Awareness of influence on teaching.	No intention to influence teaching & learning.

## **CHAPTER 4**

### **UNDERSTANDING THE BELIEFS OF TEACHERS AND STUDENTS ABOUT BECE**

In this chapter, the quantitative data are analysed to identify and compare the beliefs of teachers and students about the BECE. The differences in perception between teachers and students about the influence of the BECE on teaching and learning and the underlying structures of their beliefs are the main concerns of this analysis.

#### **4.1 Comparison of Mean Scores**

The results show that the students consistently perceive the BECE as having more influence on their learning than teachers believe it influences their teaching. The mean<sup>4</sup> scores of the students are consistently higher than those of the teachers on all the 12 common questionnaire items with the exception of one, as discussed below. T-tests for independent samples using the two groups as the units of analysis are used to investigate whether the differences in the responses of teachers and students are statistically significant at  $p < .05$ , 2-tailed (Appendix 12).

The mean score of the students on the variable ‘JHS education is enough for successful living’ (2.27) is not statistically significantly higher than that of the teachers (2.20). Both the teachers and the students share the same opinion on the insufficiency of junior high school education for one to become successful in life and both groups feel strongly about this considering the low mean scores. By implication, the teachers and the students agree on the need for higher levels of education for the students. Consequently, it is imaginable that teaching and learning in junior high school (JHS) will be essentially preparation to access the next higher level of education. However, when it comes to the criterion for accessing the next higher level, there is divergence of opinion between the teachers and the students. Currently, performance in the BECE is the sole criterion used for selection into senior high school. It also determines the category of school a student

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<sup>4</sup> The mean is used because the distributions of the responses of both the teachers and the students on the common items are similar. The mean is thus an appropriate measure of the differences between the two groups.

is admitted to. The item 'BECE is the best criterion for SHS selection' was intended to solicit opinion on this variable. Even though both the teachers and students are positive about the criterion of selection, the mean score of the students (4.49) is statistically significantly higher than that of the teachers (3.18). The difference may be explained by the students' awareness of the competitive nature of the selection process which makes them believe that the fairest means available to them is the BECE. The teachers, on the other hand, may be aware that performance on a curriculum-based public examination is not the best measure of ability to benefit from higher levels of education (Murphy et al., 1996).

The beliefs of the teachers and students about how constraining the BECE is to teaching and learning are shown in the scores on the item 'I will teach differently without BECE' and 'I will learn differently without BECE' respectively. There is a statistically significant difference between the mean scores of the teachers and the students. The mean score of the students (3.61) is significantly higher than that of the teachers (2.66). The students thus feel more constrained by the BECE in what they would have wished to learn in school than the teachers feel constrained by it in their teaching.

To investigate the role that past questions play in school assessments, the teachers' and students' preferences for past BECE questions for class tests were sought with the item 'I prefer past questions for class tests'. The mean score of the students (4.04) is statistically significantly higher than that of the teachers (3.10). The students may have shown more preference for past questions so that they can become familiar with the type of questions to expect in the external examination since that is what will make them eligible for selection to senior high school.

The opinion of both groups on the content of the BECE was examined with the item 'BECE is mainly recall'. Surprisingly, the students think the content of the examination more often asks for recall of what students have learnt than the teachers do. The mean score of the students (3.87) is statistically significantly higher than the mean score of teachers (2.60). It is possible that the students may have identified the learning strategy to use to answer the past questions more precisely than the teachers who might be thinking about the academic definition of recall.

The purpose of the BECE, as a measure of knowledge acquired, attracted high mean scores from both teachers and students (4.00 and 4.56 respectively). Both groups seem to have a common understanding of the role of the external examination as a tool for showing what the students know. However, the mean score of the students is statistically significantly higher than that of the teachers. The students thus believe more strongly that it is how much they know that is being measured by the BECE and this fits into their view of its use to select for senior high school.

The item 'Use CA alone to grade BECE' was intended to find out the opinions of teachers and students about the use of an alternative assessment to the external examination. The mean score of the students on this item (2.39) is statistically significantly higher than the mean score of the teachers (1.90). The low mean scores of both groups is an indication of the low opinions they have about continuous assessment even though it currently accounts for thirty percent of the scores used to grade the BECE. There appears to be an anomaly in the answers to this variable as teachers think less favourably about their own assessment as compared to the students.

The teacher is considered as the 'fountain of knowledge' by both the teachers and the students. The item assessing this view was intended to find out the opinion of the two groups about the method of teaching prevalent in the JHS classroom. The mean score of the students (4.48) is statistically significantly higher than that of the teachers (3.82). Even though both teachers and students think positively of the teacher as the sole source of knowledge, the students appear to be more reliant on the teachers in acquiring knowledge than the teachers see themselves as the source of knowledge. Perhaps, the realisation that recall is important to performing well in the BECE has made the students dependent on the teachers to give them the facts.

The mean score of the students is higher than that of the teachers on the item measuring students' anxiety about the BECE, 'Students are anxious & attend extra classes for BECE' (4.30 and 4.10 respectively). The mean score of the students is also higher than that of the teachers on the item which measures how BECE restricts teaching and learning, 'Teaching should not be for BECE alone' (4.45 and 4.30 respectively). However, the differences are not statistically significant in both cases. There is thus a shared opinion between the students and teachers about these items, and this opinion is

positive considering the high mean scores of both groups. Thus, both the teachers and the students are of the opinion that the BECE is causing anxiety in the students. Also, their opinions converge that the BECE limits teaching and learning.

It is only for the item 'teaching and learning should focus on BECE' that the mean score of teachers (3.05) is higher than that of students (2.61). However, the difference between the means is not statistically significant, meaning both groups share the same opinion. Both teachers and students agree that teaching is focussed on the BECE.

## **4.2 Factor Analysis**

Since the questionnaire items represent beliefs about the BECE and their mediating role in teaching and learning, factor analysis was performed on the responses of both teachers and students separately in order to examine the underlying structures of their beliefs. Factor analysis assesses the association between the individual responses and their underlying factors (Punch, 2009). The strength of this association is determined by the correlation coefficients between the variables and the underlying factor which is represented as factor loadings (Cohen et al., 2007).

In order to identify clusters of issues that are conceptually similar, principal components analysis with varimax rotation and Kaiser Normalization were used to extract statements with Eigenvalues equal to or greater than 1.00. The process yielded five factors each for both teachers and students (Appendices 13 and 14). For the teachers, the variables were assigned to the factors using the following cut-off points for the factor loadings: factor 1 > 0.50, factor 2 > 0.40, factor 3 > 0.60, factor 4 > 0.60, factor 5 > 0.60; and for the students, factor 1 > 0.60, factor 2 > 0.50, factor 3 > 0.60, factor 4 > 0.70, factor 5 > 0.50. This was done to ensure that each statement has been allocated to a factor. However, items that do not seem to have any conceptual link with the factors on which they have high loadings have been left out of the groupings. For teachers, the five factors account for 69.77% of the total variance and for the students 60.37% (Appendices 15 and 16). The headings under which the analyses are discussed are the names assigned to the factors.

Tables 1 and 2 summarise the results of both groups with the factor loading for each statement shown in brackets.

**Table 1: Results of Factor Analysis for Teachers**

Factor 1 Purpose of BECE	Factor 2 Constraining effect of BECE	Factor 3 BECE and classroom assessment	Factor 4 BECE and the content of teacher assessment	Factor 5 BECE and relationship with teaching
JHS is enough for successful living (0.784)  BECE is best criterion for selection to SHS (0.534)	Will teach differently without BECE (0.848)  Students are anxious (about BECE) (0.417)  Use CA marks alone to grade BECE (0.770)	Purpose of BECE is to measure knowledge acquired (0.619)  I prefer past questions for all class tests (0.853)	Uses past questions in teaching (0.795)  BECE is mainly recall (-0.674)	Teaching & Learning should focus on BECE (-0.636)  Teaching should not be for BECE alone (0.844)

**Table 2: Results of Factor Analysis for Students**

Factor 1 Source of knowledge acquisition	Factor 2 Preparation for BECE	Factor 3 Grading of BECE	Factor 4 Constraint to learning	Factor 5 Purpose of JHS education
Teacher is fountain of knowledge(0.674)  Teaching should not be for BECE alone(0.742)  Purpose of BECE is to measure knowledge acquired(0.629)	Student attends extra classes (0.778)  Student tries past questions (0.547)  I prefer past questions for all class tests (0.581)	BECE is mainly recall (0.697)  Use CA marks alone to grade BECE (0.715)	Will learn differently without BECE (0.740)	JHS is enough for successful living (0.517)  Teaching & Learning should focus on BECE (0.839)

It is clear from the tables that the factor groupings of the statements are different for both teachers and students. This is further evidence that there are differences in the beliefs of both groups about the examination and that the differences are due to the underlying structures of their opinions.

### **4.3 Teachers' Opinion**

#### **4.3.1 Purpose of BECE**

The items grouped under this factor suggest that the notion of insufficiency of JHS education is prevalent among the teachers. It is imaginable that the teachers are desirous that their students become successful in the future and for that reason progression to SHS is paramount with the effect that this motivates them to teach to the test so students pass to achieve this goal. Achieving this goal has another dimension to it which is of interest to teachers. Majority of the teachers (97.5%) agree that they feel happy when their students perform well in the BECE. In the interviews, the teachers said they feel valued and derive satisfaction from the performance of their students in the examination. There is thus a kind of scaffolding of the benefits of the students' performance to the teachers which appears to be another factor that motivates the teachers to teach to the test. It can be said that if the students' performance is of some benefit to the students and the teachers then it is likely that teachers will devote much of their instructional time and effort towards the examination. As the BECE engages the attention of the teachers, it maintains its influence over what the teachers do in the classroom. Perhaps, the level of attention that the external examination receives is one of the reasons why some scholars believe that it is not likely to go away in the near future (Yeh, 2006) because, in its absence, there is not likely to be another object of attention that can motivate teaching and learning.

#### **4.3.2 The Constraining Effect of BECE**

This factor deals with the limitation that the BECE places on teaching. As a result of its use for selecting students for SHS, the BECE tends to dictate what teachers spend time on in the classroom. It is likely that because CA forms part of the grading for BECE, the test items that teachers use for their CA reflect what they expect the BECE to focus on. Where this occurs, the formative assessment function of CA is likely to be undermined as teachers are unlikely to introduce test items or practices that reflect a much more

expanded view of learning. This will place limitations on what and how teachers teach in the classroom. It is likely that the teachers will be limited in what they can do in the classroom by way of their teaching. It is probable that the emphasis on the BECE contributes to the anxiety experienced by their students in relation to the examination.

### **4.3.3 BECE and Classroom Assessment**

This factor suggests that BECE casts its shadow on classroom assessment. Past questions are used in class assessments implying that students are taught things that are in the past questions. At the same time, the BECE is seen by teachers to be measuring what their students know. There appears to be reciprocal relationship with the BECE feeding into what is taught and assessed in class. The past questions also provide the model for the class assessments and the BECE takes the form of the past questions. In effect, classroom assessment has become a rehearsal for the BECE. This raises questions about the effectiveness of the unwritten policy of the GES not to allow WAEC to publish its examination syllabus for BECE. It appears that the aim of the policy is to discourage teachers from focusing attention on the external examination so that they can pay attention to the alternative assessments being introduced. But the fact that classroom assessments have become a replication of the BECE points to the power of the external examination to influence teachers' classroom activities. What this shows is that the examination is capable of influencing the implementation of educational policy also, to the extent that it can limit the effectiveness of the policy. This underscores the need for external assessment to be aligned with the goals of education. It can, therefore, be said that to facilitate the achievement of the intended goals of the education reforms in Ghana, there is the need to reform the external assessment such as the BECE which the educational programme leads to.

### **4.3.4 BECE and the Content of Teacher Assessment**

This factor relates to the content of the knowledge assessed by teachers with their class tests. BECE is seen by the teachers to demand mainly recall of knowledge. That being the case, teachers are likely to take a cue from the examination and teach for recall to ensure success in the BECE. This also says something about the BECE in terms of the emphasis that it might be giving to recall items. If the BECE moves away from this emphasis, it is also likely that teachers would shift their emphasis, thus strengthening

the argument about the impact of assessment driven instruction. The relationship between BECE and the teachers' assessments is also likely to have effect on the relationship between the teachers and their students. As the teachers focus on the BECE, they may like to pay attention to the high performing students and ignore those who are unable to cope with the pace of lessons in preparation for the examination. This can lead to the exclusion of such students from the learning that takes place in class towards the external examination. In the end, the relationship between the external examination and class assessment can become unbalanced and the BECE may begin to "create rather than measure what goes on inside the classroom" (Buhagiar & Murphy, 2008).

In a situation where the external examination dominates assessment in the classroom, the teachers' assessment expertise is likely to become redundant. But it is the teachers' assessments that can make a difference in this situation. The dominance of the BECE in class assessments can be reversed if the teachers would use their expertise in assessment to assess different types of content that may be more valid than the external assessment. Majority of the teachers in this study say that they are competent in setting their own questions. However, it is clear that this competence is not used when they carry out their own assessments. If the teachers should assess higher levels of content knowledge in their tests, it is likely that the students will learn them in addition to the mainly recall demanded by the BECE. The fact that the teachers seem to have abandoned the use of their professional skills in favour of the BECE, underscores the potency of the external examination to determine what the teachers teach. It can be said that the examination has the power to alter teachers' practices irrespective of their training.

#### **4.3.5 BECE and Relationship with Teaching**

This factor deals with how the BECE influences teaching as an activity. Generally, the teachers believe that teaching is guided by the BECE, but also think it is not desirable because it deprives them of exercising their professional expertise. The effect is that teachers are likely to feel less in charge of how they want to teach and what they wish to cover. However, it raises the issue about improving the content and construct validity of the BECE so that if teachers use the items to direct their instructional practice, this will, at least, contribute towards improving their teaching.

Another aspect of the influence concerns the style of teaching adopted by the teachers in response to the BECE. The teachers said in the interviews that to achieve the desired results, they take the centre stage in the classroom and impart knowledge that is appropriate for the examination. In this situation, the students' role is to receive and memorise the knowledge. The type of instruction depicted here has been found to create separate worlds for both the teacher and the students in the classroom. It has been found by other researchers that, as a result of this separation of roles, teachers and their students operate "largely in isolation from each other, hardly ever interacting in a deep or meaningful manner" (Buhagiar & Murphy, 2008, p. 173). The transmission style of teaching that is said to be common in African classrooms (Akyeampong et al, 2006; Pryor & Lubisi, 2002) can be identified in this study. This raises questions about the level of attention given to the influence of external assessment in teacher training. Perhaps, more attention needs to be paid to the influence of external assessment on teachers in the real world situation and strategies developed to counter it so students can learn more content and knowledge than the BECE requires.

## **4.4 Students' Opinion**

### **4.4.1 Source of Knowledge Acquisition**

The statements grouped under this factor deal with students' view about the source of the knowledge they acquire. The students see their teachers as the source of the knowledge they need at JHS. In the same vein, they see the BECE as requiring the knowledge that they acquire from their teachers. This situation paints a picture of complete dependence of students on the teachers for knowledge. Under such expectations, students are likely to be passive learners as they look up to their teachers to supply them with knowledge solely for the purpose of passing the BECE. There has been a worldwide shift in the understanding of the role of assessment to one that emphasises assessment as a tool for shaping what students learn and how they learn (Cheng, 1999). Students are now expected to get involved in the process of acquiring knowledge while the teacher serves as a guide. This cannot be said to be the case in this study. With an attitude of dependency, the students are not likely to be interested in learning activities that will provide them with the opportunity to develop their ability to think creatively. This implies that even if a teacher wants to introduce the students to this kind of learning activities, the students are not likely to embrace it, as some teachers

revealed during the interviews. The experience of such teachers is that their attempts to take their students' minds to the usefulness of the lessons outside the classroom met with cat calls of "non-sylla" (which means, not in exam syllabus) from the students because they see such digression as a waste of time. Wideen et al., (1997) found a similar attitude among students who were faced with a high-stakes examination in Canada. This strengthens the argument for changing the focus of the external assessment in a way that will induce the desired attitude to knowledge acquisition for problem solving in the students.

#### **4.4.2 Preparation for BECE**

The items under this factor deal with how students prepare for the BECE. The students understand that they have to prepare towards the examination in order to improve their chances of success in the BECE. Supplementary tuition made available in extra classes which are often organised by their schools is one important way in which the students prepare for the BECE. The students said that they also practise by answering past questions because they believe that similar questions will be found in the examination. It is not surprising that they prefer past questions as class tests to their teachers' questions since the more they practise the better they become acquainted with the expected questions.

The BECE appears to be a fillip for the students to learn. According to them they attach more seriousness to learning in the examination class than in the lower classes. In their view, it is the BECE that pressurises them to learn. This pressure is likely to have its origin, at least partially, in the students' awareness that their chances of entering SHS depend on their performance in the BECE. Again, in the view of the students, anyone who is unable to enter SHS is a "dropout". Interestingly, the teachers expressed similar views about the students who do not enter SHS. It is apparent that there is a certain societal discourse about performance in the BECE and subsequent access to SHS which enters the classroom and drives the test preparation by students. The pressure of the examination can contribute to the anxiety experienced by the students in relation to the examination. It can be argued that, if external assessment makes students take learning seriously, then there should be more of it at different levels in the education system such as the SATs in the UK. However, this is likely to be countered by those who believe

that anxiety induces examination related stress which can be detrimental to students' learning (James, 2000; Stiggings, 1999). Nevertheless, if the anxiety can make students learn the desired knowledge and skills, then it will be useful.

#### **4.4.3 Grading of BECE**

The students are aware that their chances of entering SHS depend on the grades they obtain in the BECE. Selection to SHS is based on merit according to one's performance. It is, therefore, to be expected that the students will be interested in the nature of the examination so that they can adopt learning strategies that will earn them good grades. It appears that the acquisition of grades is what the students consider as the ultimate aim of their JHS education. Holding such a view of education has implications for the students. It can lead to a mindset of learning for grades and render what is learnt a secondary issue. Grade-focused learning may be shallow and require memorisation of facts. This type of learning can result in students obtaining grades without acquiring the knowledge and skills that are the goals of the educational programme (UNESCO, 2005). The quest for grades can thus distort the outcome of the education that the students receive.

Again, the students are aware that there are two components of the BECE grades, that is, the external examination score and CA score. It is to be expected that the students will show interest in the two components if they are to obtain the grades that will earn them a place in SHS. It is for this reason that the students expressed strong negative views about the suggestion that CA alone should be used to give grades in the BECE which indicates their awareness and interest in issues relating to CA.

The students are not alone in their view about CA as their teachers also expressed similar negative views about the suggestion. What both teachers and students appear to be saying is that a seemingly objective grade is more acceptable than a subjective one. The students' preference for the external assessment appears to strengthen the influence of the external examination on students learning. The quest for grades appears to be a potent force that any assessment scheme that is intended to bring about changes in learning will have to grapple with. It is apparent that any change in assessment aimed at

changing learning that is not linked to the acquisition of grades is not likely to achieve the desired result.

#### **4.4.4 BECE as Constraint to Learning**

The students believe that the BECE compels them to learn in a particular way. The requirements of the examination are such that the students do not have the time to explore and find out things for themselves. Rather, they are made to seek ready-made information from their teachers to satisfy the BECE. The students will want to know more things than they are being taught but the high-stakes nature of the BECE will not allow them to spend time on those things that are not directly relevant to the examination. The unsatisfied desire of the students to learn other things means that they are being guided to acquire a certain type of knowledge only. This is not likely to satisfy the inclinations of all the students and it can stifle creativity. It is possible that this kind of education will produce students who will do things that they are not interested in but have to do them because that is what they have been exposed to. Not much can be expected of such people by way of showing interest and ingenuity in what they do. This raises questions about the intrinsic value or the end result of making the external examination the tool for education reform. It also means that emphasis on the external examination may have unexpected effects and, therefore, care should be taken in using it as a reform tool. It appears that it is to mitigate this effect of the external assessment that alternative assessments have been introduced into the school curriculum. Perhaps, finding ways to make the alternative assessments play a more prominent role in the classroom may help reduce the influence of the external assessment on education.

#### **4.4.5 Purpose of JHS Education**

The students generally agree that they need to go beyond JHS in order to become successful in life. They think that JHS education is meant to prepare them for the next higher level of education. This brings into focus the type of learning that will enable them achieve this aim. It is probable that, the students will be thinking that if they are to get ready for SHS, then what they learn needs to be relevant to the BECE, which is the testimony that the purpose of their being in JHS has been achieved and they are ready to enter SHS.

Some of the teachers share the students' view about the purpose of JHS and claim that it is meant to prepare the students for SHS. This view appears to tie in with the importance attached by both teachers and students to the selection for SHS based on the BECE. The use of BECE for selection has the tendency to create competition among the students because there are enough places in SHS for only about half of the JHS students and the students seem to be aware of this. The competition that this generates can be detrimental to the education of the students. It is clear from the interviews with the teachers that, as the students compete for places in SHS, the schools are also competing for societal recognition. The teachers believe that the status of their schools depends largely on the number of their students that gets admission to SHS. Competition in this context is not likely to promote cooperation among students and among the schools. The culture of the external examination itself does not encourage cooperation because students are required to answer the questions independently in the examination room. Emphasis on individual work can have a long-term effect on attitudes. It can lead to the development of uncooperative attitudes to important issues. Such attitudes can undermine the national development that education is supposed to promote. The ripple effect of the influence of external assessment can thus extend beyond the classroom into the society. This underscores the need to understand all aspects of the influence of external assessment to inform the decisions and policies that should guide its deployment as the tool for reforming teaching and learning.

## **4.5 Conclusion**

The analyses performed on the quantitative data show that the teacher participants and their students believe that the teaching and learning they do in JHS are intended to meet the requirements of the BECE. The desire of both groups is for the students to move on to senior high school and all their efforts are directed towards achieving that goal. They see the BECE as the tool for achieving this desire and are aware of how it directs their teaching and learning. It is clear from the analyses that the external examination influences teaching, learning and assessment in the classroom. However, the students appear to feel more pressured to pass the examination than the teachers feel compelled to teach towards it, probably because it is the future of the students that is at stake in the examination.

## **CHAPTER 5**

### **UNDERSTANDING THE PURPOSE AND EFFECT OF TEST ITEMS: PERSPECTIVES AND EXPERIENCES OF TEST DEVELOPERS, TEACHERS AND STUDENTS**

#### **5.1 Introduction**

In this chapter, the qualitative data gathered from in-depth interviews with test developers are analysed in order to reveal the influences that account for the nature of their test items and their understanding of how their tests affect teaching and learning. Thereafter, the beliefs of teachers and students about the external examination are also explored in order to understand further how their interaction in the classroom is mediated by the examination.

#### **5.2 Test Developers' Perspectives**

A major theme that emerged from the analysis is the discourse of external assessment as the essence of teaching and learning. The test developers understand the external examination as the natural end-point of the efforts of teachers and students and nothing more. From the point of view of the test developers, teaching and learning at junior high school is about how to pass the external component of the end-of-cycle BECE. This is evident in the allusions made by the test developers to the importance of the external examination. The following response to the question about whether BECE has any influence on what goes on in the classroom is representative of the test developers' understanding of the importance of the external examination and its relationship with teaching and learning.

*Right now the teachers teach towards [the BECE] because the expectation of parents is that their wards will pass exams and continue, therefore the teachers are just examination-thinking, about how to make the candidates pass the exams (Assoman).*

This discourse provides the social context within which test developers perform their roles and provides an indication of the kind of issues that influence their work. This context interacts with the official requirements of test development to produce the type of questions that are set for the BECE.

### 5.2.1 Test Developers' Beliefs about Education

The discourse on the role of education appears to be an influential factor in the test development process. It is known that the beliefs of educators influence their actions (Pajares, 1992). Consequently, it is expected that the beliefs and assumptions of test developers about what is going on in the classroom and what kind of education is needed at the junior high school level will play an important mediating role in the tests they develop. It is thus necessary to identify the beliefs of the test developers as a first step.

The test developers understand education to mean the demonstration of the practical use of what the students learn in school. Their belief is that education should be useful to the students beyond the classroom and it should equip them with the skills that are needed for everyday living. Okunini, an item writer, linked education and external assessment and believed that

*The aim of every examination is not actually to make students fail but to produce students who are able to be self-reliant and intelligent and hardworking and make them think deeply about things and come out with results.*

Krebi, who participated in the examination syllabus development, was of the opinion that the goal of basic education is literacy. According to her,

*The goal right from the word go is being able to read and write. Everybody should be in a position to read and write... we have seen that when a child is able to read and write then you (sic) can go on to learn other things; they should see you through life even if you are not able to go higher, yes.*

Mansa also took part in the examination syllabus development. She narrated some of the issues discussed by the examination syllabus developers as follows:

*We also discussed that whatever is being taught in class should be practicable to our everyday life, so the questions will be in such a way that they wouldn't be too abstract, that they could relate it to whatever situation they find themselves. So it should be more practicable so that they can know that whatever we are studying in the classroom is not mainly for exams purpose but in the near future we can also move along with it.*

Madison summarised the beliefs of the test developers with his belief that JHS is for

*...general education for life, not so deep but to be able to understand what is going on around you. Secondly, to serve as a foundation for higher studies, SHS and beyond.*

What is implied in these narratives is the view that education and assessment should function in the realm of livelihoods, bringing into focus the concept of authentic assessment that seeks to relate questions to real life situations.

It is also to be expected that the requirements of the test items will be indicative of the item writers' views about what is expected to be taught and learnt and, therefore, is to be assessed. However, the data suggest that during item writing, other issues take precedence over the utilitarian view of education held by the test developers. Only one item writer alluded to it as one of the issues she considers during item writing. She explained it this way

*Generally, I think about what is going on around us and what we need to know... The last time that I was writing [items] I said [to myself] when you want to give direction it becomes a problem because... the person gets off and he is lost, so at least we should focus on how to give directions. (Mansa)*

It appears that the issues that feature in the subsequent subthemes play a more influential role in item writing than the beliefs of the item writers about the type of education the students need.

### **5.2.2 The Influence of Examination Syllabus**

One important step in the test development process of WAEC is the development of an examination syllabus. The examination syllabus is drawn from the teaching syllabus prepared by the Ghana Education Service (GES). It is intended to define the scope and set the limits of the examination and to make item writing easier. It is developed by a panel of subject experts including some item writers and teachers and it precedes item writing. The relation between the examination syllabus and the teaching syllabus is particularly important because the examination syllabus is what guides item writing. What happens during examination syllabus development, therefore, has implications for the external examination.

The examination syllabus developers have various views about the relation between the two syllabuses. According to Okunini, he consulted the teaching syllabus any time he did not understand what the examination syllabus was saying about a topic, explaining that

*I'm not trying to say that the two are at variance, no. But sometimes I think what WAEC does is an elaboration of what the GES brings... so sometimes when I'm at a loss as to what to do then I consult the [teaching] syllabus.*

Norvisi believes that the teaching syllabus is broader than the examination syllabus and the examination syllabus does not capture all that there is in the teaching syllabus. According to Krebi, at the examination syllabus development meeting (panel meeting) three years earlier, the panel devoted a lot of time to the content of the teaching syllabus. She also remembered that the qualities to be expected in the students were not given much attention and explained that *in just two or three days, we couldn't really have more of those things said, yeah because things were brought before us and we were going through making corrections here and there.*

Ato provided the clearest indication of what actually took place at the examination syllabus development in the following narrative:

*Anyway, looking at these things, ... I will only venture to say that personally, if I say personally, that is, even if people say it they say it outside the formal setting. You'll realise that because of political interference, so to speak, because we know that if the students fail two institutions suffer the brunt, that is the teachers and for that matter GES and then WAEC because either the questions were too difficult and so they failed or the teachers did not teach well, you see. So you realise that at the end of the day WAEC doesn't want to suffer that brunt because obviously teachers will jump to say, oh, we taught but for the fact that WAEC didn't set very good items or the items were too difficult. But there were even times when teachers blamed WAEC for not setting what should have been set, you see. So there is some sort of compromises somewhere. For me that is how I see it. So even during the panel discussion stage you find people talking about [not making things] too difficult, if they fail, what might happen...*

It is clear that the performance of students in the examination took the centre stage during the syllabus development and the syllabus developers were more concerned about the repercussions of students failing the examination than its educational value. Failure at BECE means the student will drop out of formal education. It also means that parents' hopes for a brighter future for their children through higher education will be dashed and teachers will be blamed for it, and teachers will in turn blame WAEC. It is apparent that this chain of discontentment and blame is what the syllabus developers seek to avoid and in doing so they set the stage for the low level of thinking demanded by the examination questions.

Mansa's experience further clarifies the syllabus development process and the importance of content.

*What we did, we took the GES syllabus and then we looked at what was expected of the teachers to teach the children under the various topics. So looking at the topics that were supposed to be treated we also came to conclusion that then when WAEC is testing them they should test them along these lines so that we don't go off whatever they are being taught in the classroom because the assumption is that WAEC sets questions which are not related to what they are doing in the classrooms. So with the help of the GES syllabus we came out with the examination syllabus.*

The picture painted of the examination syllabus development is that the content of the teaching syllabus as detailed in the specific objectives for various topics is sifted and extracted to constitute the examination syllabus. Procedural considerations appear to take precedence over any other consideration at the examination syllabus development stage and quite unexpectedly the political ramifications of the examination results lurk in the background. Clearly, there is interplay of official and social concerns in shaping the syllabus. Examination syllabus development is thus an important point of transition between the goals of the curriculum and the external examination.

From the point of view of the test developers the most significant element in item writing is the examination syllabus. This is because the item writers are more concerned about the content of the examination syllabus and how not to go outside it. For example, Norvisi recounted the issues he considered when he last wrote items as follows:

*I took into consideration the level of the students and the syllabus... Sometimes too I look at the gap that is between JHS and SHS [syllabuses]. That is where I set my questions...so when I write items I try to raise the standard [level of difficulty] in an attempt to bridge that gap.*

On his part Assoman explained that

*I first of all look at the [exam] syllabus properly to ensure that whatever item I will set will be in the scope of the syllabus, then I develop a test blueprint and use the blueprint to set the items.*

Okunini also described his item writing thus

*They give you a table of specification and you work towards that one. It specifies the various sections and the number of questions required... [I also consider]*

*the level of difficulty, the clarity of the questions themselves. You see, questions are not set with the view of failing candidates, no. So my belief is that questions must be as clear as possible so that if a candidate is not able to go through, then it is not the fault of the examining body, maybe he has not prepared enough.*

WAEC provides all item writers with the same materials and instructions in order to ensure uniformity and objectivity but it is clear that each item writer adopts a different approach to writing items depending on how he/she understands the relative importance of the processes involved. For example, it is significant that there is confusion over who prepares the test blueprint or specification, something that is fundamental to item writing. The personal beliefs and assumptions of the item writers thus become the dominant factor in their interaction with the examination syllabus to generate the items. It is possible that item writers' personal idiosyncrasies shape their items, which may not be a bad thing as it will produce multiple views of a topic but it can also lead to questions that are unrelated to the syllabus.

Even though Mansa said she considered *what was going on around us* or issues of current concern, she was also mindful of the syllabus. She said she used the teaching syllabus in addition to the examination syllabus

*...so that after setting the questions I don't go off because at times if you are not careful, by the time you finish setting the questions [you are off] because with the JHS we are supposed to be within a range, other than that you see yourself entering the SHS, going deeper than you should.*

The impression is created of the possibility of item writers setting questions on content that is higher than both the teaching and examination syllabuses. This seems to give credence to the view expressed by teachers during the interviews that sometimes BECE questions are not related to what the teaching syllabus specifies.

The following narrative by Norvisi provides further insight into how the examination syllabus is important to the item writing process:

*The teaching syllabus is what the teachers use, it is broader than what we are given to set the questions... Certain times when you are setting questions maybe you want to have some sub-questions, then you are likely to deviate a little from the teaching [syllabus]. In that case you must be sure that you are within the syllabus, you are not out of it. But basically our questions are coming from the syllabus that Exams Council gives to us... You know there are new introductions in the teaching syllabus; in fact it is an expansion of the topic at that level... [The topic] has been in the textbooks from as low as class three or so... so at*

*one time, even though it is not in the examination syllabus it has been popular... and I set a question on it just to introduce new things coming into the examination but it was rejected [by the moderators].*

Clearly, there is divergence between the beliefs about education espoused by the test developers and what they actually do when they write test items. The need to stay within the content of the examination syllabus is important to them but in reality they sometimes drift off.

### 5.2.3 A Tradition of Past Questions

One salient practice associated with item writing is the use of past examination questions. Past questions appear to be the driving force in the education system by reason of their prevalence. First, they serve as the standard which item writers seek to attain in their items. New test items are thus cast in the mould of the past questions. Norvisi affirmed this point in his explanation that

*As I said earlier, questions began before I joined [became an item writer] so I look at the [difficulty] level of [past] questions. Normally, when they assign you to write items they give you a few past questions at that level.*

Okunini shared the view that the past questions embody the standard of the examination when he said

*...if the examiners have certified that these questions are good and the candidates should be able to go through them and the candidates are not able to go through them is it fair to blame the BECE examinations officials? They have set the standard and they have brought model questions [past questions] to you to work... Those who go below the demarcation line have not prepared adequately, they have not met the standard...*

Secondly, the past questions appear to be a veritable syllabus and are understood as such by the test developers. Madison who has been writing items for the BECE since its inception in 1990 and who is familiar with both teaching and examination syllabuses provided the clearest insight into the phenomenon. He said

*...you are given a syllabus and you are writing items, you must see that the items conform to the syllabus because if you deviate, 'non-sylla'. The candidates themselves will then know this is not in the syllabus. That's why when candidates stick closely to the past questions they do very well because you can't go outside the syllabus and every question is based on the syllabus. So if you go through many past questions you are likely to come across the same material in different clothing. You are likely to cover the syllabus if you go through several past questions.*

Norvisi also alluded to the use of past questions as syllabus when he said that

*The syllabus is what students are supposed to know within the period of learning...there are some teachers who can use past questions as syllabus and re-echo that, so that they [the students] can pass.*

This tradition appears to be deeply rooted in the assessment culture as the item writers strive to maintain the standard set by past questions. It appears this standard is accepted by the moderators also. It is the moderators who collectively determine which items are suitable for the examination because their duty is to accept, modify or reject items submitted by item writers. The moderators are expected to perform their task within the framework of the examination syllabus and to ensure that the questions are of the appropriate standard. The moderators appear to have accepted the standard set by the past questions and compromised their watchdog function as a result.

This finding on past questions is significant because it points to the coexistence of an unofficial syllabus alongside the official teaching syllabus and this syllabus appears to have more influence on item writing than even the teaching syllabus. In the absence of the examination syllabus in schools, it seems the past questions effectively convey its contents to the classroom. This raises questions about the effectiveness of the policy of not publishing an examination syllabus for BECE for fear it could divert teaching and learning away from the curriculum goals. This in a way reveals that the relationship between the external examination and teaching and learning is more complex than what policy makers assume.

Closely related to this tradition is the trend that is said to be discernible in the past questions. The test developers are aware that the BECE questions follow a trend and appear to have accepted it as a normal feature of the external examination. Krebi confirmed that right at the examination syllabus development stage the panel took cognisance of the presence of a trend. She was emphatic that

*... I can say I remember very well...all topics that are to be treated in the classes right up to form three, the questions are usually set from those very topics. So if this year they have concentrated on these, then the other year it is the other way round. So they [item writers] move round and they cover almost everything.*

Assoman agreed to the presence of a trend in the past questions and offered this explanation for it

*There is some trend exactly because the topics are interrelated and normally if you are writing an item sometimes you want to think that you want to write an item which, you know, has not been answered properly during the previous year or if it was answered properly you want to change that kind of item. So if a teacher takes about five years' questions it covers generally about the whole syllabus and then from that you could realise that...there are certain topics that keep on appearing, so by that they [teachers] can somehow do some prediction as to the topic that is likely to come in the subsequent examination.*

Madison also thinks there is a trend in the BECE questions. He explained how he made use of it when writing items for the examination. He said

*Yes, but there are certain questions, not all, the questions will not be based on all the items [topics] in the syllabus, that is impossible but they will cover essential ones. Some will be left out to be asked the following year or so. So if this year a question on say [topic x] is not there perhaps next year it will be there. For instance [topic Y], when we started the test [BECE] at first almost every paper at least two questions... But sometimes one year there may be no [topic Y]. So we know the types, for instance I must be sure that at least I ask one [question on topic Y] in my objective items.*

Norvisi also agreed with the existence of a trend in the BECE questions when he answered

*Yes there could be a trend because we have topics that must appear in the tests... [If you take topic A] you'll see that the topics there are not many so that over the years if you are setting questions it's likely to be on one of the components...*

Clearly, the test developers are aware that there is a trend that can be read by teachers. However, they appear to see it as normal and indeed follow it when they set questions for the BECE.

What this shows is that test development requirements and test development practices do not converge. This is in spite of the training the item writers said they received periodically from WAEC in item writing and raises questions about the content of such training and the feedback mechanisms available for monitoring the item writers' performance. It can be deduced from the analysis that there is an institutional framework within which test development activities take place and this framework has expectations of the item writers in terms of procedures and practices. But personal and social factors appear to override the former and create tension between the two.

### 5.2.4 Standard Of Education – A Journey Into The Past

In the interviews, the test developers used the word ‘standard’ variously to refer to different things. Some used it to mean the level of difficulty of questions while others used it in connection with the content of the questions. Still others used it to mean the level of thinking involved in the questions. This ambiguity prompted the researcher to focus on the test developers’ concept of standard of education.

The general perception in Ghana is that the standard (sometimes referred to as quality) of education, especially at the basic education level is falling and there is the need to raise the standard (MOE, 2004). Often, views on the standard of education are expressed in commentaries on the BECE results. This is the case because, in the absence of a better alternative, it is the cognitive skills which examinations such as BECE focus on, which are generally used to represent quality of education. With this background, the opinion of the test developers was sought on the standard of junior high school education for which they prepare their items.

The test developers’ notion of standard is invariably a journey into the past. It is a comparison of the present with the past and this ‘notion of nostalgia’ is evident in the views of majority of the test developers. Two issues are of interest here. First, whether the standard of education is falling and second, what the standard is. The view of majority of the test developers is that the standard is falling. The following quotations explain this point:

*The falling standard, I agree but a lot goes into it (Mansa).*

*I agree that it is falling... as for the standard I know it is falling (Assoman).*

*It is true standards are falling... (Krebi).*

*Standard? Standard has fallen actually... (Norvisi).*

Nevertheless, not all test developers believe that standard is falling. For example, Madison was ambivalent about the standard. He said

*We can’t say that generally standards are falling because when you balance the good ones [students] with the bad ones... so I can’t say generally standards are falling because of the balance.*

On his part Okunini did not share the view about falling standard. According to him

*People are saying that educational standard is falling; I don't believe that, I disagree.*

The divergence of opinions about the standard of education is not surprising because of the uncertainty surrounding the test developers' understanding of what the standard is. The second issue, therefore, throws light on the reasons for their views about the standard. It is in their conceptualisation of the standard that the notion of nostalgia is made manifest. The following explanation by Madison is exemplary of this manifestation.

*We measure the standard by what has been known in the past... for instance, we did in my time standard seven certificate exam and we compare how we reacted to the exam to the JHS pupils... Perhaps we are being traditionalists in saying that in our time standards were high and so on, but judging by the type of exam they took, we can say that well, generally the standard... is not so high as it was in the past.*

Additionally, he pointed it out that an individual's performance in the social arena is a pointer to the standard of education he or she received explaining that

*... I was saying not the exam alone but by their performance in social life. In the past people who left the middle school or who had the standard seven leaving certificate, they were mature and could fit into any job and so on, but these days BECE school leavers, they don't look mature. If you see how they perform in society and how the older people perform in society you could see standards are falling.*

Norvisi agreed with the view that the standard of education is falling. The basis for his view is a comparison between the present and past syllabuses. According to him,

*Generally, it is the syllabus that will determine the standard. The syllabus now is not as much as the ones we used because if you say standard has fallen you are comparing the new to the old. The old one had its syllabus which was higher and this one is lower. The standard is lower and the teachers look at it as a lower one and they teach it as such. If the syllabus is changed and the standard is raised the students will be expected to do more.*

In the opinion of Assoman, the reasons for the falling standard are varied, and notable among them is the poor attitude towards learning generally. He gave this example to support his view, evoking the same notion of nostalgia.

*Previously in our time, I can say that your teacher will let you, even though you're in the primary school, at least call you... to come and study for a few hours before you go to bed; these days it is very lacking. Technology, TV, video shows, all those things have contributed greatly to the falling standard.*

His measure of the standard is this:

*Hitherto you could meet students in basic schools who could express themselves at least in simple English, you could converse with them. Right now it is not so... So the student, an average JHS student should be a scholar; now it isn't so... To me that is the standard which we say has fallen; hitherto it wasn't like that.*

On her part, Mansa also made reference to the notion of nostalgia when she explained that

*If we compare those days, a candidate coming out of the standard seven those days, if you compare to a candidate coming out of JHS now, you'll see that there is a vast difference... So maybe comparing we could see that those days it was better than now.*

She does not think that the falling standard has anything to do with the examinations the students take but rather agrees with the view that it is performance in the social sphere that shows the standard. She emphasised that

*The falling standard is not due to the exams, it is social, it is in the social sphere but not the academic... Let me explain, now because it is social, children sit behind television, cafés, so they really don't have time for their books, so it tends to affect the academic work. [Un]Like those days there was nothing like, technology is also contributing although they could learn from some of these things they are not interested in those aspects.*

Okunini who held a contrary view about the falling standard also referred to the past to support his belief. In his view

*Some of the questions that students solve now, I have been listening to this math and science quiz on the tele... the problems that they solve now, those are the problems that we were having in the sixth form... so what are we saying?*

He had this to say about the yardstick for measuring the standard:

*The yardstick, it's difficult to say but taking my own life as an example, I'll like to believe that what I know when I was in Form 5 the students who are now in SSS 4 they know so much, even better.*

Strikingly, Ato had a different opinion about educational standards. He does not think there are any standards; rather it is yearly examination results that are compared and labelled as the standard. This is how he explained his view.

*The first question I will want to ask is where are the standards? We do not have standards, we only compare results annually, oh this year they did well and therefore... But of course those who want to compare earlier levels... the MSLC days, you see, from standard seven then it came to MSLC and now we are*

*talking about JHS. You'll realise that those days there were certain benchmarks; you were able to write letters, you were able to speak this type of English with certain accents, you see. But for now if you talk of standards where are they? As far as I am concerned we only have one standard prepared in this country... that is Literacy Standards, which were prepared, was it 2005 or 2006, you see. And we try anyway to infuse it in our syllabuses but it has not caught up very well. So we only have literacy standards and even then we don't use them in our assessments. So seriously what we have as standards now are maybe general objectives in our syllabuses which of course are reflected in the syllabuses, but the general perception of standards is the annual comparison, oh this year so many people got 1's or A's in language, so many people had mathematics, but as to the actual thing the student is capable of doing we don't know, so where are the standards? We don't have any standards to compare with.*

The common thread that runs through the beliefs of the test developers is the reference to the past and the performance of school leavers in the social sphere. Clearly, the examination they develop is not considered as having anything to do with the standard. The impression created by the test developers is that even though many of them believe that the standard is falling they do not see themselves as having anything to do with it. With this understanding, it is unlikely that the tests they develop will be different from the past questions. However, Ato's view, even though in the minority, appears to be what happens in practice. It is common practice, for example, for school heads to announce at their open days or anniversary celebrations the increasing percentage of students who pass in end-of-cycle examinations as proof of the improving quality of education being delivered in their schools. Also, there appears to be an assumption that the specific objectives of the teaching syllabus are adequate in themselves. The competencies that the students are expected to acquire are not so much of interest as the students' performance in the examination.

It is clear from the test developers' views that their understanding of educational standard does not consider academic achievement which is the target of their test items. Rather, it is their impressions about how school leavers perform in social settings, especially their proficiency in English. This is only a partial view of standard which rests on four pillars relating to knowledge acquisition, knowledge application, interpersonal skills and self-development skills (UNESCO, 2005). Incidentally, two of the pillars deal with the knowledge acquired and how it is applied, which have direct relevance to the activity engaged in by the test developers.

It appears that the nostalgic feelings they have about standard conceal the tenets of standard, and for the test developers not to recognize their tests as being relevant to the standard, points to the inadequacy of their views about the impact of the external examination on educational standard. They do not seem to understand that it is the judgement about the results of their tests that is commonly used as the yardstick for standard. This incomplete view may not allow the test developers to conceptualise their items as carrying the standard and, therefore, they fail to understand that the falling standard they talk about has something to do with them. Their use of the word standard in relation to past questions thus appears to be within the context of the tradition of what is expected in the examination. The implication of this for the examination is that the test developers are not likely to make any conscious effort to raise the perceived falling standard by paying attention to knowledge and its application in their questions.

### 5.2.5 The Sympathy Syndrome

The level of thinking associated with the BECE was explored in order to understand the meaning test developers attach to this phenomenon in relation to the test items they develop. It was found that the opinion of the test developers is that the BECE dwells mainly on recall of facts. This is clear from Ato's point of view when he said that

*... you realise that after every exam the CRDD looks at the questions and then tries to assess as to their difficulty level and their cognitive levels, and what [they] find is that there are many lower level questions.*

Okunini agreed with this point of view when he noted that

*As a matter of fact the questions in the previous years had been all on recall as you rightly said, but now there are inference questions coming in.*

Mansa was unequivocal about the large proportion of recall questions in the BECE when she observed that

*Somehow it's true because although I am an item writer, sometimes the questions that come out, I say [to myself] ah, these questions!*

This shows her indignation at the low level or recall type of questions that often appear in the BECE and raises questions about the moderation and compilation processes. It could be that these processes have become routine and those who perform them do not understand their essence, or that a sub-culture with its own standards is in operation behind the official procedures.

Assoman expressed the same opinion when he answered that

*... to some extent I think the questions are not challenging enough as it is said because it is like invariably questions come in about the same way so the answers are the same except in few cases... So that kind of requiring the candidates to, you know, put together what has been learnt and then put them together and come out with an answer is mostly [absent].*

Madison was equally forthright in his observation when he said

*I have felt that BECE questions are often, they are not demanding enough, you see? They don't demand much of the candidate's intelligence, it's mostly based on memory work so that if they prepare well in memory they do well.*

Following from their views on the cognitive demands of the test items, the test developers are convinced that questions demanding higher levels of thinking from the candidates are preferable for the BECE. Madison expressed this view this way

*I think we have to start adjusting the questions in such a way that though they follow the syllabus they demand a little thinking too. That is a must if we want them to think. When they go to SHS, their science and mathematics and so on, they are so demanding. Why should JHS questions be so plain?*

Norvisi would also prefer a higher quality of questions than is currently the case. He said

*If I want any change in the BECE, it will be to raise the standard [level of thinking].*

Similarly, Assoman would want to change BECE questions such that

*... there are certain recall questions which definitely I will not want to set them... I'll prefer questions that test understanding and application and understanding of concepts.*

Mansa did not hesitate to opine that if she were to recommend changes in the BECE it would be that *the level should be a little bit higher, they should be able to think a little bit more*. Here lies a paradox. While the test developers would prefer higher levels of thinking in the examination, the BECE questions remain mainly at the level of recall.

Two factors may account for this anomaly. First, the test developers appear to have been constrained by the examination syllabus. This was alluded to in Madison's conditional proposition for solving the problem when he prefixed his solution with '*though they follow the syllabus...*' Okunini emphasised this when he answered

*Yes, you can't go outside the syllabus. When I was teaching, our students say this is 'non-sylla', you can't do that.*

Mansa confirmed this view when she answered the question as to whether the content of the examination syllabus is such that higher level questions and questions demanding thinking cannot be set on it. She said

*... that is also part of it because what they need to know at that level you can't move beyond that...*

Norvisi provided the clearest reference to the syllabus as a constraint when he declared

*It is the syllabus. If there is any problem the syllabus has to be blamed because if the syllabus is standard and we set the questions according to that standard then the students are likely to pass and after passing perform in the next level of their learning... The problem should be ascribed to their syllabus. Now the standard of the syllabus is low and we cannot change it drastically.*

He linked this view to the practical item writing situation this way

*... if you look at the previous paper... you also have to set your questions so that they are at that level, but if you are going to set questions slightly above that I don't think you are doing the assignment that was given you.*

Ato further clarified this point by making reference to the profile dimensions in the syllabus:

*So we have only two; knowledge and understanding and the use of knowledge... the use of knowledge is supposed to test higher levels... I think the shortcoming of the syllabus is that... we always have the use as only one objective whiles we have so many objectives for the lower level.*

This is not the only view of this phenomenon. There is a contrary opinion to that of the syllabus as the constraining factor. Assoman believes that it is possible to set the kinds of questions that will make students exercise their thinking even with the current syllabus content. He answered

*Yes, you can set a question where they [candidates] will need to use application or apply the skills and knowledge acquired from the syllabus to be able to solve such a question.*

Madison shares this belief and thinks the awarding body should take steps that would make it materialise. He was of the opinion that

*This has to be pointed out to WAEC that what they're doing is, though the questions they demand from examiners are based on the syllabus, examiners*

*should rethink a little and then mend their questions in such a way that at least, slightly, they should reflect a demand on the thinking abilities of the candidates.*

Ato also believes that it is possible to raise the level of thinking in the examination questions. He said

*In fact I know with serious people who are test and measurement specialists... there can be a way of getting very good questions out of our syllabuses... there could be a blend of lower and higher, I think so. It depends on the speciality of the item writer, how specialised he is.*

Besides the considerations of the syllabus, there is the social dimension which mediates the item writing process. The problems associated with education and the inequalities in teaching and learning conditions appear to play a role in keeping the quality of test items as they are. This can be described as the ‘sympathy syndrome’. Krebi gave a hint of this syndrome when she mentioned in connection with the low level of BECE questions that

*It is partly so because you think of how many children have been able to perform well in BECE.*

Ato shares this view but with a different slant when he said

*... if the higher level questions were set there might be very serious implications for results, there will be mass failures.*

Assoman’s opinion agrees with Ato’s concern about students failing the examination when he answered

*[It is] Sympathy. If we do that then of course we must be prepared to bear the shocks [failures].*

Mansa’s reason for the low level of the examination questions is revealing as it exposes another assumption on which the items are written.

*I think we are seeing them as children so we are trying to reason for them, that is what at times I think, that we see them as children so we need to reason for them... some think they are children so if we do [set questions involving thinking] then we are tasking them too much because at times when I talk to colleagues they say oh, it will be tasking them too much, so people are not seeing eye to eye...*

The operation of the sympathy syndrome in practical item writing is seen in the following:

*When we are setting questions, you look at the student in the rural area too... you see, the topics are there so it is left to you to look at your students, the level or standard of learning that they have passed through (Norvisi).*

Okunini's understanding of the phenomenon adds an esoteric dimension to the reasons for the low level of questions. He said

*You are paid to set questions, your mistakes can make students fail and they will cry and the cry will fall on your head. You want to be very careful not to go outside [the syllabus]; you don't have to bring questions to worry them.*

Furthermore, Krebi referred to the poor learning conditions prevailing in some public schools as not conducive for the students to be asked questions that require thinking.

Similarly, Assoman pointed to the lack of trained teachers in rural areas and wondered if students from such schools could answer questions that demand thinking and problem solving. He sounded passionate about the unfavourable learning conditions when he suggested that

*...it will be good if sometimes item writers also go to teach the candidates, especially in the villages and see how the responses are, then you'll appreciate more what I'm saying.*

And according to Krebi,

*...when you go round and see things, then you should know why standards are not what they should be. So you can't just see a few schools, well endowed schools in the city here and there and think that's all about education.*

Clearly, the sympathy syndrome is a powerful mediating factor in the test development process. It plays a significant role in determining the low level nature of the test items and appears to override the requirements of the syllabus and test specifications.

### **5.2.6 The Influence of BECE on Teaching and Learning**

Following from the recognition of the mainly recall type of questions in the BECE, the next logical question to ask is whether the test developers are aware that the past questions tend to influence the teaching and learning that goes on in junior high school. Analysis of the data suggests that the test developers are aware of the influence of the examination on teaching and learning. For example, Assoman believed that

*... if questions are set requiring them [candidates] to think about national issues, the teachers will be compelled to teach that way.*

Norvisi's explanation extends the mechanism of the influence. He believed that the external examination

*...adds to the quality of education at the JHS because it tells or guides the teacher what to teach, how he should teach... So if we set questions and practicalise them, it tells the teacher and students what we will be expecting. And one thing I want to emphasise is that ...when we practicalise our questions it actually helps the teacher.*

Madison had no doubt about the role of past questions in teaching. As to whether higher order questions will influence teachers to teach students to think, he affirmed that

*It will, because teachers teach along lines of the past questions, yes they go through the past questions with them and they drill them and so on. So if the past questions are demanding they will also see to it that the children give demanding answers. What we give them is what they give us back.*

Okunini was emphatic about the influence of past questions on teaching when he said

*It definitely does because all the teachers are struggling to get exactly what the BECE is aiming at. They prepare the students to aim at the BECE standard, the level, if you attain this level then you are likely to go through the exam and come out with flying colours. So they prepare them, in fact, they all have their mock exams modelled exactly along the BECE lines... So definitely there's an influence on teaching and learning in the classroom situation, yes, and I think that is how it should be, I like it, yes.*

Ato provided further insight into the influence when he said

*Master, you know something? Teachers and students teach and learn what they expect to see in the examination. So for me, I have always held the view that examination should dictate whatever should go on in the classroom... so all that I'm saying is that if you want anything to be learnt or taught in the classroom, examine it.*

Judging from their views, it is apparent that the test developers understand how the examination influences teaching and learning. What is puzzling, however, is their inability to consciously make the effort to influence teaching and learning positively, in the ways that they themselves would wish, through the questions they set. This is especially so when they generally agree that the standard of education is falling and there is the need to raise the low level of the BECE questions.

### 5.2.7 Emerging Views

It was found that what the test developers believe as the purpose of education is in most cases not what they test with their test items. Their beliefs about the practical use of education seem to be surpassed by social concerns and how well the students perform in the examination. This tension may have arisen as a result of how society values the outcome of education in the form of grades and certificates. There appears to be a societal discourse on performance which has filtered into the test development process. The test developers' concern about performance thus appears to override their beliefs about what education should do to the students and the diligence in applying the syllabus as required by the awarding body. The real life item writing situation thus contradicts the assumption of objectivity with which item writers are expected to generate the test items. What makes this significant is that the processes and procedures of the awarding body are assumed to lead to an objective activity devoid of subjective influences. But it is clear that item writing is more subjective than it is believed to be.

It was also found that one factor that reinforces the subjectivity in item writing is the importance attached to inequalities in the social and educational conditions of students. There appears to be the tendency, on the part of item writers, to want to create a level playing field for all students with their test items. This tendency, however, may lead to the setting of lower-order recall questions which are considered less demanding and poses a fundamental problem as to the role of external assessment. If it is to be used for social purposes as appears to be the case, the issue then is where the standard lies in the multiplicity of social and educational endowment across the country. It appears that item writers do not necessarily adhere to the requirements of objectivity and this may be the root cause of the dominance of low level items in the BECE.

Another significant finding is the assumption that junior high school students are children who cannot think and, therefore, do not have to be given questions that demand higher order thinking. It appears this reasoning is informed by the conception of JHS as a preparatory stage for SHS even though it is terminal as well. This implies that the selection function of the BECE is uppermost in the minds of the item writers. Interestingly, the item writers' conception of the students as children contradicts what the students think of themselves. From the interviews, they see themselves as capable of

reasoning and applying knowledge. Thus it can be said that it is the item writers who impose their views on the students through the low level questions and, therefore, prevent them from acquiring higher order thinking and problem solving skills at JHS.

Equally revealing is the finding on the role of past questions in the classroom. Past questions constitute a syllabus and one that is more influential in the classroom than the teaching syllabus. The dominance of the past questions as syllabus draws attention to the nature of the questions and the kind of learning they foster as they appear to have created a trough that sucks in teaching, learning and assessment. This suggests that past questions have an important role to play in raising the students' level of thinking and application of knowledge which are the quality benchmarks that the educational reforms seek to achieve.

### **5.3 Classroom Perspectives**

The common theme discernible from the interview with teachers and students relates to the dominance of the external examination because it permeates virtually all aspects of classroom activities and also creates tensions and dilemmas which push and pull them in different directions as far as teaching, learning and classroom assessment are concerned. The analysis draws on the quantitative data where appropriate. This combination facilitates the interpretation of the data and makes it easier to understand the beliefs and opinions of the teachers and their students about the external examination.

#### **5.3.1 The Dilemma of Teachers**

The external examination has created a dilemma for some teachers as to what and how to teach. Those teachers who believe that the purpose of education is to equip students to become functional in society for life (i.e. the generalists) feel torn between the kind of pedagogy that will deliver this outcome and the pedagogy that will satisfy the demands of the BECE. This is evident in the following responses from some teachers. Musavi, a male teacher, commenting on the teaching that went on in his classroom said

*We don't really relate whatever we do to our immediate environment and it is limiting us, the teachers, as well as the ideas of the kids because basically exams, exams require this or that so I have to complete my syllabus and that kind of thing. So you're more or less tied up.*

Mirabel a female teacher provided the clearest hint of this dilemma when she said

*You realise that sometimes there are certain things that teachers have to teach but because they know that these things wouldn't be coming in the exams they focus on the examination you have to pass... I take everything from the syllabus but I teach in such a way that whether there is exams or no exams you can, you should be able to do something. But still because there's going to be an exam you also have to take into consideration the format that the examination takes.*

Fafia, a male teacher, had internal struggles with this dilemma

*We have misconstrued the rules as to how to achieve maximum qualification in terms of passing our exams. I could be at BECE only but we shouldn't take teaching and learning to be the total thing that will cater for the BECE. There should be other areas which also mould the child...*

Twima, a female teacher, revealed the source of the dilemma when she lamented that

*Had it not been for the exams I would have taught them how to be able to react to certain situations, I would have taught certain things much better...*

In the view of these teachers, what junior high school (JHS) education should give to pupils is not being achieved mainly because the external examination (BECE) holds sway over what is counted as the measure of success in teaching and learning. Nevertheless, not all the teachers experience this dilemma. Those who believe that JHS is preparation for senior high school seem not to experience this dilemma. Their focus is to teach what will enable students to perform well in the BECE and move on to the next level of education. They thus teach purposely towards the examination. For such teachers preparing students to pass the BECE is the basic duty of the teacher because, as Alima put it, *when they [students] are able to climb the ladder to some extent, maybe to secondary school or beyond then they can become somebody in future*. The performance of students in BECE, therefore, constitutes the yardstick for judging how successful a teacher is.

Jerry, a male teacher, shared this view and argued that this is what ultimately counted as successful education.

*As I said, the new reform's main aim is to graduate them to SHS, to pass and go to SHS. So why 50 percent dropout? I'll use the word dropout because once you are not able to make it to SHS they see you as somebody who is unable to do it... So we teachers in the classroom, we also try to teach them straight to the target to pass and go away, we don't add any external thing such as when you finish you should be able to take care of yourself, values and ethics and all that. We go straight to the academic level, do this, do that, it will help you pass.*

In spite of the fact that only two teachers alluded to the dilemma in the interviews, the quantitative data suggest that the teachers are equally divided in their opinions about it. About half of them (52.5%) agreed that their teaching was focussed on meeting the requirements of the BECE, implying that nearly half of the teachers feel less inclined to make the BECE the goal of their instructional practice. It is thus probable that many of the teachers experience the dilemma over what kind of education to give to the students which the BECE induces.

### 5.3.2 Preponderance of Past Questions

The interview data suggest that the interaction between teachers and their students, especially in the examination class, is dominated by past questions. On the part of teachers, it was found that the effect of past questions permeates their core functions of instruction and assessment. In the domain of instruction, some of the teachers see the content of past questions as the standard in terms of what to teach and how to teach it, especially when they engage in activities that are designed to prepare the students towards the examination. Alima provides an example of how these questions define for her the standard of BECE and its influence on her classroom practice.

*I do go beyond that standard because if I don't reach that standard it means my children will not be ready for the exam but when I go beyond it then I am sure that even when the standard is raised the children will be able to answer the questions well.*

In addition to serving as a pointer to the standard, past questions serve as guides for some teachers on what content to emphasise. Mirabel's view underscores the usefulness of past questions in this regard.

*It is very, very useful because it helps you to know the format[content] of the exams, and then also you can use some of them to teach your pupils so they'll get to know the standard of questions that are set...when I teach anything and there is something related to a question I bring it up so we can solve it.*

Vinor provides further insight into this use of past questions.

*Sometimes when you take the textbooks you see certain things you may assume that they are irrelevant for you to teach the children. But when you take a past question and see something like that, then you are compelled to teach it.*

Clearly, for her, deciding what is 'relevant' in the textbook is through the lens of past examination questions. Alima sees past questions as setting the boundaries for her teaching, indicating what to focus on and with how much emphasis or what to leave out.

*I sometimes refer to the past questions of the exam when teaching. To know that you're on track you refer to the past questions, how the questions are framed and others. Then when you realise you are out of bounds you come back on the right track.*

Moreover, the teachers think that past questions are useful for checking the effectiveness of teaching because they serve as indicators of students' understanding of the material taught. Musavi's narration sums up this view.

*I taught something in class; we have done all that we needed to do. Then, assume I have not set the question but somebody else has set it for you. How best can you use the idea that you have gained in class to [answer it?] ... So after the child has done a series of them they give me, the teacher, the impression that this child might possibly not have understood the way I taught this topic ... so past questions guide me as to whether my children have really absorbed what I did and if there's need for any reorganisation I do it quickly.*

Some teachers indicated that they used past questions to predict future questions in the BECE and focus particularly on them in their teaching in terms of coverage and content. Fafia's use of past questions is representative of this tendency.

*I follow the trend of examination questions... so you look at the trend of the exam questions then you go accordingly. But what I normally tell my children is that it will be very difficult for you to teach ditto, ditto and the things will just appear like that. We teach around and teach you the skills as to what you are going to meet.*

Similar to the teachers, the students believed that past questions are potential BECE questions and for that reason they pay particular attention to them as the main material used in their private efforts to prepare for the BECE. They believed that they would be better prepared for the BECE if they practised more with past questions. SBG1, a female student, provides the rationale for the attention given to past questions.

*Some of the things that might appear in the BECE may be in the past questions. so we learn the past questions to be prepared, so when the same questions appear you don't become scared.*

This notion of a relation between past and future questions agrees with the survey data as seen in the relatively high mean scores of students (4.04) on the item that dealt with their preference of past questions for all school tests.

The second core activity of teachers that draws on past questions is their class assessments. Some teachers follow the pattern of past questions to frame their own questions and thus gain some insight into how to set questions. This was revealed by how Twima used past questions.

*For terminal exams for instance, I look at the content of the past questions and I set mine along the same lines. At times I pick from the past questions and at times I change the figures and at times the stories.*

It appears that past questions provide a model for assessment and some teachers use that model in classes other than the examination class. Vinor gave an indication of this when she said

*I have never used past questions in JHS1, and in JHS2 I don't. But what I do is that I make sure that their exam questions are based on the features of the external one.*

However, the stories told by the teachers about how they understand and use past questions differ from the quantitative data. It appears that the teachers rely more on past questions for their own tests than they have admitted in the questionnaire. The quantitative data show that 77.5 percent of the teachers disagree that they prefer past questions for all school examinations but from the interviews it came out that their assessments are akin to the past questions as can be gleaned from Owulah's reason for using past questions.

*To sit down and draw [write] a test question itself is a serious task. And to be very honest we just flip textbooks and pick questions. Those of us who probably want to use our own ways and means to restructure certain questions... the questions are now in the system, so going back to sit down and say you want to reframe the questions now is becoming difficult for the teacher. Why should I frame questions when there are [past] questions there for me to choose from?*

It is apparent that the availability of past questions makes them the first choice for school examinations for many teachers. The incongruence between the teachers' preference for past questions and their reported use appears to arise from the teachers' declared professional knowledge of assessment as shown in the quantitative data. Almost all the teachers (97.5%) agree that they are skilled in setting their own questions. The divergence between their reported knowledge and practice appears to be an image problem. The teachers may not want to belittle their professional knowledge in assessment when in reality they opt for the easier alternative of using past questions for their tests.

According to the teachers, preparation for the examination is one activity that they take seriously apparently because the students' performance has an effect on the self-image of the teacher. All the teachers interviewed said that the final year of JHS is meant for 'exam preparation'. According to the teachers, preparation for the examination takes the form of answering past questions with the students. Their reason for emphasising the past questions is to ensure that, when similar questions are set in the examination, the students will be able to answer them well. Mirabel throws light on this role when she elaborated on her teaching strategy thus

*...but for next term, I told them [students] that it will be solely on the examination. Everything will be centred on the exams, the various sections of the exam; we'll be dealing with them.*

In the view of Vinor, past questions are important for preparing Form 3 students for the BECE because

*Sometimes something similar may come. Sometimes we look at the trend... so what they are doing in the classroom, they know that is what they are going to meet over there. It's not like you the teacher imposing something on them to learn. But with that [past questions] they know that what the teacher is saying [teaching] they are going to meet the same thing at the BECE, so they have to get serious with it.*

Owulah provides further clarification on the assumptions supporting the test preparation with past questions in the following quotation:

*There is always the notion that questions from WAEC are finished, so WAEC keeps on repeating questions. So we just take a ten-year paper and just revise with the pupils. So the concept 'other authorities' [WAEC] have dumped into the idea of students is that when you get to the third year it is easy; all you need to do is to take past questions. So that is one motivating factor that is misguiding us but we keep on.*

Using past questions for test preparation appears to have some level of official support as Jerry's answer reveals.

*Even recently our [District Education] officers came to tell us that the school should buy the 'pasco' from the inception of the BECE some 20 years ago and keep in the school library so that after teaching a topic you give them the 'pasco'<sup>5</sup> on it to answer. They advised that in the final year class we should stop teaching topics but feed them with past questions and by so doing they will be familiar with the questions.*

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<sup>5</sup> 'Pasco' is the classroom jargon for past questions

What is striking about the teachers' narratives is how those teachers who said they taught general knowledge in spite of the BECE appear not to be able to withstand the pressure of the examination, apparently because no teacher can afford to ignore the preparation of his or her students for the examination. Mirabel is typical of this category. She said earlier that

*I teach in such a way that whether there is exams or no exams you can, you should be able to do something.*

In connection with past questions she said

*It is very, very useful because it helps you to know the format of the exams, and then also you can use some of them to teach your pupils so they'll get to know the standard of questions that are set.*

She then added the compelling reason for her teaching

*But still because there's going to be an exam you also have to take into consideration the format that the examination takes.*

This strengthens the suggestion that the external examination wields enormous power and controls teaching and learning such that even teachers who do not believe that the examination should be the focus of teaching end up being persuaded to teach to the test.

The possibility exists that the attention given to past questions in teaching and assessment can stifle the teachers' urge to go beyond the content and level of knowledge they carry and eventually the past questions become the standard for teaching and learning. Thus it is not what the curriculum prescribes in terms of content, coverage and assessment that matter, but what the past questions contain. Since students' performance in the BECE means a lot to both students and their teachers, the teachers are likely to spend much of instructional time, while students will spend much of their private study time on solving past questions than learning, especially in the examination class. The effect this can have is to create a situation where students will be able to pass the BECE without acquiring the expected knowledge and skills. In other words, the past questions can lead teaching and learning away from the real goals of the curriculum unnoticed because all attention is focussed on the BECE. It can also lead to the devaluation of the professional skills of the teacher who becomes a source of knowledge for a particular purpose and not the professional that moulds the students to become well-educated individuals.

### 5.3.3 A Preference for the External Examination

There were strong sentiments among the teachers and their students about the level of trust that can be conferred on the components of the BECE grades. All the teachers said that the external examination was more reliable than the continuous assessment (CA), implying that they want it to remain a part of the assessment system. The students were also aware that their grades are determined by CA and the external examination marks and said they preferred the external examination to CA, citing reasons of trust and objectivity in arriving at the marks. The students do not think CA marks are a true reflection of what they know. The following answer of SBB2, a male student sums up the views of the students.

*It [BECE] should be combined with the class test. Even sometimes some teachers may like some student so they will add marks to that student's marks. But for the BECE they don't know the students so they will just mark and give the correct mark.*

The students' suspicion of their teachers' marks casts doubts on the professionalism of the teachers as far as assessment is concerned. It is clear that the students rely on the teachers to teach them but prefer outsiders to assess them.

This preference may be attributed to the teachers' apparent lack of understanding of CA which can be gleaned from the responses of the teachers to issues concerning CA (renamed as school based assessment (SBA) in the 2007 reform). For example, while some teachers did not have a clear idea of how the CA marks were generated others said that the marks are sometimes generated arbitrarily. Their preference is, therefore, for the external examination which they consider as more trustworthy.

In spite of the fact that majority of the teachers claimed to be skilled in setting their own questions, they said in the interviews that they did not trust the CA marks submitted by their schools to WAEC. Owulah disclosed the reason for the distrust in his narration of a real-life situation.

*Yes I trust the external more than the internal [CA] because people have their favourites. Like the one example that I'm doing now, there's somebody who didn't do anything [assignment] at all but I was just told [by school head] to at least fill in the places, fill in something, but when it gets to the [column for] examination I should just put in a dash. For all you know there's somebody in class who could have done all the assignments and got thirty-six, but this person I have given ten for each of the four assignments, making forty. So the person*

*who has not been in class and has not done any assignment has more marks than the one who was in class and did all assignments.*

Behind the general distrust is the apparent disarray in the teachers' understanding of the concept of CA and how it is to be done as indicated in the following remarks:

*The actual work of the SBA is for teachers to assess the work of each pupil at the end of the day and it should be done with the kids. Assuming in a week we have got a series of activities done and maybe you can take one day's activity and record the marks for the children to know how they have fared (Musavi).*

Excerpts of conversation between Researcher (R) and Fafia, a teacher (T)

R: *What are the activities you do for your SBA?*

T: *I give them research work and we have tests every four weeks. Then I also give them home work and project work.*

R: *How will you generate the marks that will be sent to WAEC for grading the BECE?*

T: *I think it is the true record of what they've attained from their previous classes, so the book [cumulative record] is glaringly there, everybody sees it. At the end of each term we record the marks they've attained in the book. Then we only do the transcription when the need arises in the final year and that's what we send to WAEC.*

R: *The cumulative record, what do you enter in it, is it the SBA and terminal exam marks or SBA alone?*

T: *The SBAs are accumulated to form the term's marks and at the end of each term we record.*

R: *So the CA is a combination of SBA and terminal exam marks.*

T: *Yes.*

R: *For which years?*

T: *It starts from class one... I don't know if there's a change of the procedure. Formerly we accumulate all the scores, then find the average and that formed the CA. I don't know if the trend has changed.*

Excerpts of conversation between Researcher (R) and Twima, a teacher (T2)

R: *What activities constitute your SBA?*

T2: *Tests, two tests in the classroom, group work either in the classroom or outside the classroom and project work. At the end of the term they take overall exams.*

R: *How do you generate the CA marks sent to WAEC for the grading of the BECE?*

T2: *That one depends on the SBA from JHS1 through JHS3 and we take the average, we take 50 percent of whatever scores they had and the exam is also 50 percent.*

R: *You mean SBA, 50 and exam 50 percent?*

T2: *I mean the exam is 50 percent and all other assignments you have, combined on the SBA makes the 100 percent. But after you have added Form 1, Form 2, Form 3, that percentage I'm not very much familiar, I can't tell whether it's 30 or 40 [percent]. The end of term exam we've been conducting is part of the SBA. So the project and classroom test is 50 percent and end of term exam is also 50 percent.*

Alima's understanding is different. Asked about what she did for her SBA she said

*I came on release and where I came from we were using the old form. Here I've learnt from my colleagues that you give the children tasks, group work and you record them. I have been here for only this term and I haven't given them any SBA yet. [About CA marks for WAEC, she said] Actually for that it is the headmaster who does it.*

Mirabel's situation is more revealing about the practice of CA.

*Well, I have just been introduced to SBA. I didn't know anything about it until Headmaster made mention of it recently. So we'll be having an inset to be briefed on it. There was even a controversy about the use of continuous assessment and SBA and the Headmaster was saying that now it looks like what teachers do for their SBAs are not the real SBA, so if you [we] really want to do the SBA then it is a different thing altogether and that's why we'll be doing the inset.*

Considering the teachers' apparent lack of understanding of CA and how it is done, it is not surprising that the marks are sometimes, if not often, generated arbitrarily as Owulah narrated.

*To be frank and honest, because I don't want to do this thing here... we sometimes generate it ourselves. Because the concept [understanding] is that once the 30 [percent] is going to be used the school shouldn't even come down.*

It is apparent from the teachers' narratives that they do not understand what SBA is and how to carry it out, and this might explain why the teachers do not trust the CA marks they generate. This interpretation is supported by the results of the quantitative data which show that 87.5 percent of the teachers do not agree that CA alone should be used to grade BECE. The preference shown by the teachers for the external examination is

summed up by the observation of Owulah: *the external assessment is more reliable and less biased*. Obviously, the teachers do not trust their own professional judgement in this circumstance and would prefer an external authority to play the role of the arbiter in determining what their students know.

The common mistrust of CA marks by teachers and students means that the external examination is more valuable to them and therefore they become exposed to its full impact. As the BECE carries a certain type of knowledge, which may be at variance with what the curriculum intends, its acceptance means that the knowledge inherent in it is equally accepted in the classroom without resistance from teachers and students.

### **5.3.4 The Effect of BECE on Pedagogy**

The importance attached to students' performance in the BECE appears to compel some teachers to adopt a style of teaching that does not support the type of learning envisaged in the curriculum but which suits the requirement of the external examination. Teachers in this category believe in the style of teaching that feeds students with information that they are expected to learn and be able to recall in the examination. Jerry's conception of his role as a teacher is indicative of this style. He believed that his duty was to

*impart knowledge into the children, that is, me being more experienced I am leading less experienced children therefore I am to give them the right stuff or the knowledge that will equip them to lead a better life in future, so I'm to impart into them the right knowledge that will help them in future.*

This conception agrees with and extends the understanding of the quantitative data. It explains why majority of the teachers (77.5%) agree that the teacher is a dispenser of knowledge.

Fafia laid bare the effect of this style of teaching when he tried to give a reason for the paucity of the type of teaching that encourages students to learn thinking skills and explained that

*It depends on the skills which the teacher uses to teach. Most teaching nowadays goes with rote learning and teaching like copying direct from books... it depends on the approach to teaching and learning.*

It is clear that this style teaches students to commit things to memory purposely for the examination. Vinor also described it as encouraging rote learning where, *maybe the*

*child is not actually going to learn and understand; just to chew, pour, pass and forget it, that is it.*

Musavi drew attention to the alternative teaching style by differentiating between rote learning and meaningful learning in his explanation. Apparently, he saw merit in both styles not because he was in agreement with their effects but mainly because of the recognition of the need to satisfy the BECE, thus revealing further the influence of the examination on teaching.

*To us teachers, too I can say rote learning is good but we should do meaningful learning too. Most often we give the rules to them without explaining how they came by, we don't explain things to them to understand the basis. So the children also resort to learning by rote, chew, pass and forget; but if the child understands it he will not forget.*

The teachers are aware that students expect them to use the style that has the examination as its focus and actually demand it from them. Musavi seemed to have understood this from his experience in using both styles of teaching.

*Sometimes if you want to take their [students'] mind outside the classroom to the environment they think you are deviating, and in order for you not to let your lesson be boring to them you are tempted to come back so that you can satisfy their demands.*

The teachers are thus aware of the restriction imposed on their style of teaching by the external examination. As Mirabel put it

*For the form three class I think yes, the external exam is really controlling me... but for the other classes, not very much, just to some extent.*

The analysis suggests that the teachers adopt what can be termed 'the style that suits the stuff' in a bid to satisfy the demands of the external examination. In effect the teaching style that encourages students to learn for recall appears to be the one that is suitable for the BECE and its use is encouraged by the students.

### **5.3.5 Teacher Self-worth and BECE Results**

The teachers' self-worth and their self esteem depend on the performance of their students in the BECE. Apart from their own feelings of worth, the respect or lack of it that goes with the results is very important to the teachers. In addition, schools are compared and similarly judged on the performance of their students in the BECE. This

appears to represent a major source of motivation for the teachers to adopt strategies that will enhance the performance of their students in the external examination.

Poor students' performance triggers a sense of guilt in the teachers which they try to deal with through introspection. They do this by trying to find the cause of the poor performance. Musavi provides a typical example of how the teachers deal with this emotional turmoil:

*I go into myself and ask did I do something wrong, what didn't I do right? ... Sometimes from their [students'] attitude in class, when the results come you do not blame yourself, you'll rather blame them.*

The emotions evoked by the results appear to arise from the pressure felt by teachers as a result of the parental expectation about student performance in the BECE and progression to SHS. Twima explained that

*[it is] because this time they[parents] look at the children's performances after the exams, so if you don't broaden their knowledge on how to answer questions very well they can't perform and at the end of the day, the teacher hasn't taught.*

It appears that the effect of students' performance on the reputation of their schools is another source of pressure on teachers as revealed by the following experiences of two teachers about how they feel when their students perform well in the BECE:

*It makes me to walk shoulder high. Some time back this school was the fourth in performance in the District and countrywide we were thirty-third and we had an award. So any time the name of the school is mentioned you also make yourself like a peacock. But the tide is now changing and it makes us feel bad. (Fafia)*

*When the results are released and the school performs well, the name of the school will be mentioned first before they come to the various subjects. So it has something to do with the name of the school, even enrolment. If the school is able to perform well, come the next academic year many parents will like to bring in their children because the school has performed well. (Alima)*

The emotional experiences associated with the performance as expressed by the teachers agree with the quantitative data. Almost all the teachers (97.5%) reported that they feel valued if their students do well in the BECE. This strong emotional attachment to performance would be expected to influence the behaviour of the teachers towards CA. Their distrust of CA marks can stem partly from the pressure to award marks that will help improve their students' chances of performing well even if such marks are

undeserved. It appears the teachers' emotional attachment to students' performance is strong enough to detract them from being objective in generating CA marks.

### **5.3.6 The Importance of BECE in Selection**

The students seemed aware that their future trajectories in life are largely dependent on their results in the BECE particularly that this is what grants them access to SHS through which this goal can be achieved. Besides, they were aware of the competition required which they saw as dependent on the outcome of the BECE. Thus, for many of these students the primary purpose of learning is to pass the BECE. In their view, anyone unable to continue to SHS is, therefore, a dropout even if the student goes on to the world of work or engages in apprenticeship. This view shows a certain bias towards academic qualifications and the accompanying white-collar jobs compared to manipulative skills.

The survey supported this view with about 71 percent of students agreeing that JHS education is not enough to ensure future success. In other words, becoming successful is synonymous with progression to SHS. This is perhaps the reason for the intolerance some teachers said they observed in students when they try to teach in a way that relates what they learn to real life situations. Students see as a waste of their time when teachers spend time teaching areas they consider not directly relevant to the types of questions or areas commonly considered in the BECE. This 'pressure' on teachers appears to result in a transmission mode of instruction where teachers simply focus on knowledge for passing the examination, and not on wider and important issues or topics that require learning approaches that are not easy to test in the BECE format. Such expectation also feeds into the culture of passivity in learning on the part of students. According to the teachers, the students' negative reaction compels them to abandon the line of teaching that refers to the environment, suggesting that the students are aware of and demand the type of knowledge that they need to perform well in the external examination. This type of student involvement goes to emphasise how strongly BECE attracts students' attention by making them keen on the type of knowledge they acquire.

In effect, students may be playing an influential role in what is taught and how it is taught, irrespective of what the school curriculum aims for. We have what may be

described as ‘student-determined’ curriculum shaped by their understanding of what they need to be successful in the BECE. Teachers are therefore left in a less powerful position as their professional standing then becomes tied into how successful their students are in the BECE. It is also a case of shifting power to the students when it comes to who defines what legitimate content for learning in the classroom is with the BECE shaping this power shift.

### **5.3.7 The Impact of BECE on Students’ Learning**

The students were unhappy about how the BECE drives their education because they seem to be aware that it is not only academic knowledge that can make them successful in life. Their reference to successful footballers and musicians with little education suggested that they have a dual view of success; having higher education and developing one’s talents. In their view the attention given to BECE denies them the opportunity to develop their talents and seems to explain why they think JHS education is insufficient to make them successful. Apparently, the students would prefer the success associated with higher levels of education because of the discourse on JHS as preparation for SHS. However, they seem to understand the uncertainties in the competition for places in SHS and appear to be unhappy because they are not being prepared to pursue the alternative line of becoming successful. Some of the teachers shared the apparent frustration of the students but sounded helpless because according to them the school time table is so overloaded that there is no time left for anything else. In effect, the programming of school activities appears to be aimed at meeting the requirements of the BECE.

For the students to feel unhappy about the restriction placed on their education by the BECE means it is the external examination that will provide the motivation for them to learn since they are not likely to feel particularly enthused about the compulsion to learn academic skills only. This explains why the students said that they learn in order to satisfy the requirement of the BECE in a manner that one teacher described in local jargon as ‘chew, pour, pass and forget’, meaning the students place a high premium on material or learning that will ensure that they are successful in the BECE. The emphasis on the BECE can also divert attention from the broader curriculum goal of providing terminal education, which the test developers saw as particularly important for those

JHS students for whom the BECE was terminal. Consequently, even though test developers, teachers and students are aware of the broader aims of the JHS curriculum, they were all very conscious of the overriding influence of the BECE as a high-stakes examination. The implication of this is that what is not expected in the examination will not be considered as valuable knowledge and students may not be challenged to be creative.

It is apparent that one reason for the unhappiness is that although they believe that at junior high school they are expected to apply knowledge they are not taught to do so under the influence of the BECE. As SBB1, a male student explains,

*When you go higher [to JHS3] you have to think, you have to apply the things you learn in lower classes to be able to solve the problems.*

This is significant because it contradicts the notion of being children held by the item writers. This situation can also be attributed to the influence of BECE which does not normally require application of knowledge. The divergence between what the students believe they can learn and the type of learning they do under the influence of the BECE can negatively affect their self-confidence and their desire to learn since they are likely to feel that their capabilities are being underrated. Consequently, they may not feel challenged enough to learn, resulting in the apparent lack of self-motivation for learning.

## **CHAPTER 6**

### **DISCUSSION OF FINDINGS**

In this chapter, the salient findings of the study are examined and, bearing in mind the research questions, discussed in relation to the context of the study. The discussion is arranged according to themes, starting with the test developers, which are followed by teachers and students.

#### **6.1 Social Influences on Item Writers**

It was found that the test developers had assumptions about the effect education should have on the learner. They subscribe to the view that the learner in school should be prepared to handle the demands of everyday life and be able to make positive contributions to society (Kotzé, 2000). Such assumptions represent test developers' beliefs, given that it has been argued that an individual's beliefs constitute the basis of his or her actions (Nespor, 1987; Pajares, 1992). The potential, therefore, exists that test developers' beliefs influence the way they approach test item writing, quite irrespective of the requirements for setting test items. However, it was also found that test developers had concerns about the effect of examination results on students and other stakeholders – especially parents – which tended to displace their beliefs when they set out to write test items.

The social concerns that mediate item writing appear to constitute an array of complex issues, one of which is the unfavourable conditions under which some students learn, especially in deprived areas. The item writers appear to be under the impression that students who learn in deprived conditions cannot pass the BECE if certain types of questions are set. Concerns about inequitable learning conditions mean that they are preoccupied with social justice and equality of opportunity for all students as they write test items. Therefore, they set the type of questions that they believe students in deprived conditions can answer well, and thus qualify for placement in SHS.

This tendency appears to signify, albeit indirectly, that the standard of learning in deprived schools has become the standard of the BECE, and, consequently, the standard

for teaching and learning in JHS. It can be argued that the notion of the lowering of the quality of education is an indirect reference to the ‘standard of deprivation’ that has been set by the external examination. Maintaining this standard through the BECE could result in students not being sufficiently stretched to learn beyond it, and when combined with the low quality of questions, may sustain mere learning for recall and justify the prominence of recall questions.

The social impact of the examination seems to appeal to item writers because of the generally held view that higher levels of education provide better employment opportunities and better chances of breaking out of the deprivation cycle that many families are subject to (Dore, 1976; Stobart, 2008). Nevertheless, the influence in the classroom of the external examination is such that the ‘liberating’ role envisaged by test developers inevitably has implications for teaching and learning. Indeed, it can lead to the provision of a type of education that does not allow its beneficiaries to fully realise their potential and, therefore, it cannot contribute meaningfully to the improvement of the very deprivation that determines the nature of the test items. Yet, this reciprocal influence is likely to perpetuate the present situation until a break occurs in the nature of test items; thus, there is a need to improve the quality of the test items in order to generate a new cycle of effects.

In addition to purely social issues, there is the mental image of students that test developers have. They see JHS students as children who cannot function at higher levels of cognitive activity and for this reason, test items for BECE should not require them to demonstrate their ability to think independently or solve problems. Here again, it was found that test developers who believed that the examination should encourage students to think deeply about issues and come up with solutions acted on a contrary assumption when it came to item writing. Their perception is also problematic in the sense that it contradicts what the students themselves believe they are capable of doing – being able to think independently and apply knowledge. This tension between what students think they can learn and what item writers assume they cannot learn has the potential to create despondency in the students in terms of what they learn, and can explain, at least in part, the apparent lack of self-motivation for learning. Indeed, it could be that students do not see the value of learning beyond passing the BECE and thus are only motivated to learn for the examination.

## 6.2 Item Writers' Awareness of Influence

On another level, item writers' notion of performance in a given social setting as a gauge of the standard of education suggests a reference to the application of what students learn in school in real life situations. The item writers appear to expect that students will invariably transfer the contents of their lessons to the social setting, implying the expectation that they are taught such skills in school. However, the questions they set for the examination are the types that are not likely to encourage learning for transfer as they dwell mainly on recall of knowledge.

Curiously, however, item writers do not appear to see a relation between the BECE and students' performance in real life situations, and generally appear to be unaware that external assessment induces the kind of learning that the questions demand. It appears that it is for this reason that item writers generally expect improvement in the cognitive demands of BECE questions to come from a source other than themselves. As a result, they appear not to have any intention to use their test items to influence the type of knowledge that is taught and learned in JHS. Such limited awareness among test developers of the effect of their questions on what students learn can thus explain the lingering low-level and recall type of questions set for the BECE.

It could be that the 'emancipation' role of the examination is of such importance to item writers that it precludes all other considerations. It could also be the case – at least in part – that item writers are not prepared to accept responsibility for the low standard of education due to an apparent lack of awareness that they in fact determine the type of knowledge that is acceptable and, therefore, should be made available at JHS. It can be argued that this low level of awareness of the relation between the quality of test items and the quality of education results from inadequate training of item writers from the awarding body. It appears that the orientation they receive is limited to the technological aspects of test items, which address validity and reliability without taking into account qualitative elements and the educational effects of items in the classroom. In effect, it is apparent that although BECE item writers determine the standard of education at JHS through the items they write, they remain unaware of this fact.

### **6.3 The Influence of Past Questions**

The role played by past questions in JHS education appears to be complex and has far-reaching consequences, as it affects item writing, teaching, learning, classroom assessment, and education policy. In relation to item writing, past questions determine the standard for subsequent examinations, since the need to maintain the reliability of the examination demands that past and present examination questions are comparable in all aspects. However, as present questions become past questions and the cycle of influence continues, the need to employ past questions as a benchmark appears to turn them into a tool for maintaining the standard of the BECE. In other words, the perpetuation of past questions has become a tradition that regulates the standard of the BECE and as long as this remains unchanged, examination questions will also be limited to the level of this standard.

To break the current cycle and begin a new cycle of influence will require improved examination questions, but the difficulty lies in how to start the process of improvement. For this reason, it will be necessary for test developers to acquire a new understanding of the wide-ranging effects of external assessment in education and to adopt a new approach to writing items that aims at transmitting curriculum goals to the classroom through test items.

Judging from the low level of awareness among item writers and the uncertainty among them about who should initiate the test item improvement process, it can be expected that there will be challenges both at the level of awareness creation and at that of practical item writing. Perhaps the willingness of assessment decision makers to confront the time-tested ways of examination development currently in operation will be the next hurdle to clear on the road to improving the quality of test items.

The item writers also seem to be aware that past questions play an important role in determining the standard in terms of content and nature of the test items they write. For this reason, they try to match the standard of past questions. Again, the item writers are aware that past questions are essential to teachers as they prepare their students for the examination. They are generally aware that teachers who use past questions as a guide for test preparation tend to succeed in getting their students to perform well in the

BECE. In effect, the item writers are aware that the past questions influence what teachers teach and, by extension, the type of knowledge students acquire in JHS.

Another aspect of past questions that was found to influence the external examination was the pattern that was discernible in the questions. This shows that such a pattern is indeed followed as test items are written. As a result, BECE questions can be predicted with some degree of accuracy and subsequently prepared for. When such a strategy is implemented, students are likely to become familiar with the type of question that can lead to improvement in their performance. The problem that such an approach poses is that the desire for improved performance can trap teaching and learning in a cycle of learning for recall. This is because better performance encourages more practice with past questions, a cycle that is then repeated year after year, thus making it difficult to modify the questions. Therefore, it is envisaged that past questions will continue to influence test items for a long time to come.

The findings of this study concur with the position that, “All deep educational changes are challenging and assessment cultures seem to be particularly impervious to transformation” (Carless, 2005, p. 52). It is only when those involved in assessment, both at the institutional level and at that of item writing, become aware of the necessity for innovation and are willing to take steps to transform assessment that progress can be made towards aligning it with the changing objectives of teaching and learning that education reform aims to meet.

## **6.4 The BECE Defies Policy**

The involvement of past questions in JHS education reaches beyond their omnipresence in classroom activities. It is apparent that the content taught is guided by that of past questions, content that in turn determines the style of teaching that is suitable for it. For example, recall type of content appears to demand a transmission style of teaching and passive student participation. Past questions also tend to be used as a model for teachers’ monitoring as their format and structure shape class assessments. Thus, in terms of teaching, learning and assessment, past questions play the role of an alternative syllabus.

This appears to be the case because in the absence of the examination syllabus in schools, past questions serve as a reflection of its contents, and in effect, the examination syllabus has been smuggled into the classroom in the form of these accumulated questions. For this reason, it can be argued that the GES policy not to allow WAEC to publish its examination syllabus has been rendered ineffective by the BECE. What this suggests is that the pervasiveness of past questions in the classroom has made it possible for the BECE to circumvent government policy. In this instance, the absence of an official syllabus appears to have forced the examination to further narrow what is learnt by limiting teaching to the contents of past questions. It may thus be more useful to make the examination syllabus officially available to schools in order to ensure a wider coverage of its contents.

The lesson here is that policy on its own may not be effective in arresting the negative effects of an external examination on the education system because the examination will inevitably find its way into the classroom. What is therefore required is the type of test items that can have the desired effect on teaching and learning.

## **6.5 The BECE is Compelling**

Teachers were found to respond to the BECE in different ways. Depending on what he or she believes to be the purpose of JHS education, some of them teach to the test while others try to teach for application in real life situations. The different responses involve different styles of teaching and possibly the delivery of different types of knowledge. Teachers who believe that the role of JHS is to prepare students for SHS favour the transmission style, which involves the teacher imparting the relevant knowledge while students passively receive it. This style appears to be suitable for the recall type of learning that the BECE generally demands. In this case, there is an alignment between the teacher's belief, the style of teaching, and the BECE whereby the examination does not seem to create any internal conflict for teachers.

However, those teachers who believe that the role of JHS extends beyond preparation for SHS appear to approach teaching differently. They operate in a way that promotes the application of knowledge by, for example, relating lessons to life outside the classroom. This appears to be the style of teaching envisaged by education reformers in

Ghana because it is more likely to result in learning that applies knowledge to real-life situations to solve problems.

Those who teach in the latter manner appear to experience a dilemma in that they are likely to feel torn between teaching students for the external examination and preparing them for life. This internal conflict appears to arise because the demands of the BECE are in conflict with their belief and preferred style of teaching. In the end, however, this category of teachers appears to be compelled to abandon their desired style of teaching in favour of the examination-driven style because not doing so will have consequences for the performance of the students as well as their teachers. What this signifies is that the BECE demands compliance from all teachers – even the unwilling ones – in terms of adopting a particular style of teaching and to teach to the test.

The power of the examination to compel teachers to conform to its demands appears to be sustained by the psychological pressure that issues from the fact that teachers derive a sense of self-worth from the performance of their students in the BECE. It seems that it is this pressure that encourages compliance with the demands of the examination.

## **6.6 The BECE and Student Learning**

The compulsive teaching environment created by the BECE also affects students. Their efforts to learn seem to be prompted by a perception of the BECE as a means of achieving the aim of going to SHS, and anything that does not seem to support this motive is likely to be seen as a distraction. This can explain student disapproval of teachers who try to relate teaching to real life situations, which is a logical reaction. Since students are compelled by the examination to learn, it may well be that without it they will not pay attention to their schooling and fail to gain much in respect of the knowledge and skills that JHS education is expected to provide them with.

In effect, the compulsion to learn created by the BECE plays an important role and it may be appropriate to extend its duration to ensure that more of the curriculum goals are covered, since this is the most likely way to ensure that students acquire the desired knowledge and skills. It would appear that this notion of learning for a purpose is required to instil in students the motivation to take a serious interest in learning.

Nevertheless, although it is the selection aspect of the BECE that provides the drive for learning, it remains necessary to provide a further purpose for education. Thus, it should be possible to institute another examination for selection while the BECE remains to provide certification. The two examinations can thus focus on different levels of thinking, with the certificate examination concentrating on the real-life application of knowledge while the selection examination becomes an aptitude test based on the curriculum. This is likely to provide further motivation to study for both examinations and maintain student interest in learning over a longer period.

## **6.7 A Preference for External Assessment**

The preference shown for external examination by both teachers and students is an indication of the acceptance of the BECE in the classroom together with its influence, teaching and learning being likely to follow the lead of the BECE. The effect of such a preference can be seen in teachers' reliance on past questions as the model for class tests. However, the opportunity to practice setting their own questions thus becomes limited and they miss out on improving their assessment skills. It could be that this is one of the reasons why teachers opt to use readily available past questions for class tests instead of setting their own questions. In effect, the BECE appears to have strengthened its hold on teachers' assessment practices by preventing them from exercising their initiative.

Thus, again, the preference shown for the external examination means that teachers are likely to pay little attention to CA since they will see it only as a means of helping to grade students. This might explain in part the ineffectiveness of CA and also the tendency to arbitrarily generate CA marks for grading purposes. The diversion of attention from CA under the influence of the BECE appears to result in a lack of confidence in the former. This suggests that alternative assessments in JHS may find it difficult to thrive in a teaching and learning environment created and dominated by the BECE. It therefore appears that it will only be when the BECE is reformed such that it can be more supportive of teaching that its dominance will become useful.

## 6.8 Conclusion

It is presumed that item writers for the BECE are guided by the examination syllabus in order to produce – in an objective manner – test items that meet the demands of the syllabus and the specifications of the examination. In practical item writing situations, however, a personal interpretation of social issues appears to interact with the syllabus and influence the items. The nature of the items and the type of knowledge needed to address them are thus determined by an interaction in which social influences appear to carry more weight than the required objectivity. Concerns about inequality of learning conditions and a desire to use the examination to bridge this gap appear to be the deciding factors in setting the BECE. Thus, item writers see their role more in terms of using the examination to bring about social justice and fairness than they regard themselves as custodians of the quality of education.

There appears to exist a certain culture of past questions that links assessment to teaching and learning. This culture maintains the standard of the examination and, consequently, the standard for teaching and learning; additionally, it has its own requirements, which are at variance with the goals of JHS education in some respects. The effect of this culture also appears to extend to education policy. The outcome is twofold. Firstly, an alternative syllabus has emerged that appears to have entrenched itself, thus ousting the official curriculum. Secondly, it has provided a means for the BECE to circumvent and render the policy on the publication of the examination syllabus ineffective. Furthermore, the policy on alternative assessment in the classroom that introduced CA appears to be impotent as it cannot thrive in a hostile culture of past questions.

It is interesting to find that although test items largely determine the quality of teaching and learning, the item writers do not seem to be aware of it. As a result, they set their questions with no intention of influencing classroom activities in any way, thus perpetuating the mainly recall type of questions that constitute the BECE.

The examination seems to provide the motivation for students to learn, as they see it as the preferred means of becoming successful because that is what the school curriculum encourages. This leads to the understanding that specific examinations contribute to

maintaining their interest in learning for a longer period of time. The BECE thus appears to be at the centre of teaching, learning and assessment, and can affect education policy as well.

## **CHAPTER 7**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **7.1 Introduction**

The conclusions highlight the contribution of the research to understanding the influences that shape the development of the Basic Education Certificate Examination (BECE) in Ghana and their impact on teaching and learning in junior high school. Previous studies show that external examination questions in sub-Saharan African countries are predominantly at the level of recall of knowledge with little demand on how to use knowledge (Bekoe, 2007; Ghartey-Ampiah, 2006; Kellaghan & Greaney, 1992; Lewin & Dunne, 2000). However, the aim of education reform in many countries, including Ghana, is to raise the level of thinking of students and according to Chapman and Snyder (2000), “In general, the change governments seek [in reforms] is to raise the cognitive complexity of students’ thinking and problem solving processes by concentrating the questions on the application of knowledge rather than information recall” (p. 460). The type of knowledge that is taught in practice is thus likely to be at variance with the curriculum goals.

It is also known that external assessment has a significant influence on teaching and learning in school, implying that what is assessed is what gets taught in the classroom (Havnes, 2004; Popham, 1987; Resnick & Resnick, 1992). In spite of the important role they play, very little is known in the literature about the intentions of test developers and the factors that influence them when they set examination questions. It is important to understand test developers because they seem to hold the key to closing the gap between the curriculum and the actual learning that takes place in the classroom. It is the reactions to their test items that constitute the influences of the external assessment on teaching and learning. Understanding the influences that shape their test items will be valuable in pointing to what needs to be done to redirect the influence of BECE to become more supportive of teaching and learning. Similarly, understanding the experiences of teachers and students in relation to BECE will deepen understanding of the scope of its influence and also draw attention to the urgent need to improve the quality of the test items for BECE.

It was found that although item writers are presumed to be guided by the examination syllabus and its test specifications, their personal understanding of the social impact of BECE overrides the objectivity required in item writing. There appears to be an underlying feeling of sympathy towards the students who learn under deprived conditions. It was also found that the item writers consider the students as children who should not be bothered with higher order questions involving thinking and application of knowledge. These findings have implications for the quality of education which is influenced by the external examination and can explain the persistence of low level recall questions in the BECE. Consequently, a benchmark of low level knowledge has been established, which will not encourage teaching for critical thinking and problem solving that are required in order to remove the inequalities in educational provision. This can lead to the creation of a vicious cycle in which poor learning conditions provide justification for recall questions which lead to the teaching of the type of knowledge that makes school leavers ill-equipped to solve the problem of poor learning conditions.

It was also found that test developers believe that the standard of education is low and they also believe that it is necessary to improve on the quality of questions set for the BECE. However, they were unable to relate the quality of BECE questions to the quality of education. This finding reveals the low level of awareness of item writers about their own role in influencing the quality of teaching and learning. It is expected that this will pose a major challenge to any efforts aimed at improving the quality of their test items because the awareness will have to be created first to enable any such effort to succeed. This finding also suggests that the improvement that the item writers desire in their items should be initiated by WAEC because the test developers' perceptual and attitudinal positioning and, perhaps, their skills do not seem to be adequate for them to initiate any improvement on their own. Furthermore, the institutional framework of WAEC with its procedures and processes may not allow them to do so on their own. In effect, the test items are likely to remain at mainly recall level for a long time to come since WAEC is also not likely to review its processes and procedures immediately.

The findings on past questions suggest that they play a significant role in the educational system. In addition to serving as the measure of the standard of BECE, they

are the tools that are used to maintain the low quality of the questions. Thus they serve as the medium through which BECE exerts its influence on teaching and learning as a result of the attention they receive in the classroom, especially in the examination class. What is significant about past questions is that their ubiquitous presence in the core activities in the classroom has turned them into an alternative curriculum that directs teaching, learning and assessment. This alternative curriculum appears to have an important role to play in improving the quality of teaching and learning because any intervention that is not channelled through it is not likely to make the desired impact in the classroom.

At the level of the classroom it was found that the style of teaching adopted by teachers is largely determined by the BECE. Teachers who believe that JHS is preparatory and for that reason BECE is meant for selection to SHS adopt the transmission style which involves imparting knowledge that will help the students to perform well while students play a passive role. However, this passivity appears to be limited to the effort required to have access to knowledge as they were found to be actively involved in determining the type of knowledge they acquire as well as the method of its delivery. On the other hand, those teachers who think BECE is a hindrance to the delivery of a more holistic education tend to adopt the style that requires students to think about how to apply knowledge in real life situations. Teachers who are in this category may experience internal conflict because they cannot afford to ignore the preparation of their students towards the BECE and, therefore, have to teach to the test contrary to their beliefs. The significance of this finding is that even teachers who do not believe in teaching for selection are unable to resist the coercive power of BECE to teach a particular type of knowledge in a particular way to satisfy its requirements.

It was also found that the influence of the BECE extends to policy on education. This finding reveals that the BECE casts its shadow over CA, reducing it to a mere tool for generating marks for the purpose of grading students in the BECE. Furthermore, it was found that BECE is able to circumvent government policy and succeed in attracting the attention of teachers and students thus producing an effect that is contrary to the intention of the policy. The import of these findings is that the external examination can interfere with policy and prevent its effective implementation.

Concerning the students, it was found that they perceive the BECE as preventing them from learning other things that can also be useful to them in life. The students also believe that they are capable of thinking and applying knowledge but BECE does not give them that opportunity. What these findings suggest is that BECE induces in the students a certain attitude to knowledge acquisition and the type of knowledge to be acquired in school. Consequently, thinking through problems to find solutions eventually becomes alien to the students, half of whom will terminate their formal education at BECE. This means that the aim of the curriculum to provide quality education to the students is not likely to be achieved on account of the influence of the BECE.

## **7.2 Contribution of the Thesis**

This research made some significant findings that deepen the understanding of the influence of external assessment on teaching and learning in the Ghanaian context. At the institutional level, the processes and procedures of WAEC are designed to ensure objectivity and neutrality with reference to the examination syllabus when the test developers plan and write items for the BECE. However, it was found that the item writers' personal beliefs, social and political considerations and their sense of social justice and equality of opportunities play a dominant role in determining the nature of the items they write. This finding challenges the assumption of objectivity and neutrality in item writing from the perspective of BECE item writers. This will direct attention to the role played by the unexplored factors that impinge on the examination.

The second finding relates to the role of examinations in society from the philosophical point of view of Foucault (1977). The power to determine, through the mechanism of selection based on the possession of prescribed knowledge, who should be accorded various positions and privileges in society are inherent in examinations. Those who control the examinations thus exercise this power and in doing so, the item writers influence knowledge production in the education system by certifying the type of knowledge that is acceptable. In effect, the BECE item writers determine what constitutes acceptable knowledge in JHS but are not conscious of it. This lack of awareness means that the item writers are not in a position to modify and redirect on

their own the type of knowledge that is available at JHS without the intervention of the awarding body.

Test preparation is a well-known activity that is carried out to prepare students for external assessments (Wright, 2002). It usually takes the form of practising test materials that resemble the actual test. In contexts where they are available, past questions play an important role in test preparation as they help to make students familiar with the type of questions expected in the test. However, the role of past questions is not limited to test preparation as they were found to constitute an alternative syllabus that guides educational activities in the classroom. Their influence on item writing makes their contents the guide to teachers and students and the vehicle for the influence that the external assessment exerts on teaching and learning.

The implementation of educational policy does not often achieve the desired results because it is believed that the implementers understand and interpret the policies differently from the intentions of the policy makers (Cheng, 1999). This study found that the external examination constitutes a potent force that mediates the implementation of assessment policy. By virtue of the pervasiveness of its influence, BECE is able to circumvent policy and distort its implementation. This shows that it is not only implementers that make a difference in the effectiveness of policy; the tools used in the implementation can also affect the results.

### **7.3 Implications for Policy and Practice**

BECE test developers are a select group of people who are not known to the public. However, they determine the state of health of junior high school education through the influence of their tests on teaching and learning. The type of test items they set determines the kind of teaching and learning that goes on in schools as they prepare students for the examination. This happens because end-of-cycle examinations such as BECE have high stakes by virtue of the role they play as instruments for selection. It is therefore important to take a critical look at the test items for such examinations with a view to making them influence teaching and learning in desirable ways. The desire of education reformers in Ghana is to educate children to reason and apply the knowledge they acquire in solving problems in everyday life situations. This is what is considered

as quality education, the type that will ensure the achievement of MDG 2 (UNESCO, 2005). The provision of quality education is critical to a developing country like Ghana which desires to speed up its economic and social transformation and modernisation through education and underscores the need to set qualitative test items for the BECE.

Assessment and certification at the end of basic education in Ghana has been conferred on WAEC and decisions about the quality of BECE are under its control. BECE has the power to coerce teachers to teach to the test and therefore it stands out as a potent tool for bringing about changes in the classroom. Being the custodian of the processes that have a bearing on the quality of the examination, it is appropriate that WAEC should initiate the process that will lead to improvement in the quality of the test items. The process needs to start with awareness creation for the item writers and subject officers about the real effect of their items on the quality of education. This will require a reorientation of the item writers to have in mind the goals of the JHS programme and the quality of education envisaged under it. The item writers will also be required to write items that will connect the goals to the classroom because they will understand that the past questions serve as a guide to teachers and students. Initiating this step is expected to bridge the gap between the desired quality of education and the one being delivered currently under the influence of BECE. It is critical that the awarding body takes the initiative because no other institution or intervention is likely to have the kind of far-reaching effect that BECE has on teaching and learning. The examples of awarding bodies in Hong Kong and China, which initiated improvements in their examinations with a view to changing teaching and learning are available to guide WAEC.

The tradition of the awarding body is to rely on time-tested practices in item writing with the presumption that the processes will result in objectively written test items. This has been found to be insufficient in ensuring the objectivity required. The fact that the external examination questions can be predicted makes students' performance a deceptive index for quality. For this reason it is the ingenuity of the item writers not to create patterns of questions that will make a difference in any effort to improve on the items. When that is achieved, the challenge will be how to maintain the new level of quality. Perhaps the establishment of a quality assurance unit by the awarding body to

constantly review the test items after each examination and make inputs into the item writing process will be a way of sustaining the initiative and safeguarding quality.

To further enhance the effectiveness of assessment, teachers should be assisted to better understand its usefulness in education to enable them improve their own assessment practices such that assessment can contribute to raising the quality of education. In this regard the pre-service training of teachers should include a compulsory course in educational assessment which should go beyond the traditional delivery of measurement and evaluation courses which dwell on the technology of assessment (Madaus & Horn, 2000). The quality aspect of assessment and its effects on teaching and learning should be the emphasis of this course. This is because no matter the sophistication of the statistical tools applied to candidates' scores, low quality questions will induce similar quality of teaching and learning. It is thus necessary to think of the quality of the test items first.

It is noteworthy that the prevailing understanding of assessment is deeply rooted in behaviourism and it is within this tradition that improvements are expected to be effected. The emerging constructivist paradigm is yet to be established in the education system in Ghana. A gradual approach to changing the emphasis of the BECE should, therefore, be adopted since the interest of politicians in assessment results cannot be ignored.

## **7.4 Conclusion**

The findings of this study reveal that the test developers for BECE are aware that the test items for the examination dwell mainly on recall with very little demand on students to think and apply the knowledge they have acquired. This is in spite of the fact that the test developers appreciate the need for the examination questions to demand a higher level of thinking. Indeed they judge the quality of junior high school education by the students' ability to apply what they have learned in out-of-school and real life situations.

The causes of the persistence of the low level questions, mainly recall, in the examination can be traced to elements that are inherent in the culture of the Ghanaian. As adult members of society, the item writers seem aware of the generally held view

that going beyond basic education provides the best means of improving the economic and social circumstances of individuals and their families. They are also acutely aware of the deprived learning conditions of a section of the student population who do not have any reasonable chance of participating in senior high school education if the BECE examinations ask higher order questions. Sympathy for this category of students thus constitutes a major motivation for item writers to restrict their questions to recall items which they believe will enable these students to also perform well and so get the opportunity to be selected for senior high school. So this responsibility weighs very heavily on their actions. Previous attempts to berate the external examination for not paying enough attention to higher order problem-solving items fail to understand the power of this influential factor.

Another social factor that accounts for the nature of the questions is the paternalistic view held by the item writers about the students. They see the students as children who are not capable of applying knowledge and, therefore, should not be tasked with questions that ask for thinking and problem-solving irrespective of the curriculum goals for junior high school. The desire to protect the children from difficult mental labour thus outweighs the educational requirements of the examination and reinforces the importance of social considerations in item writing. But this also reflects a lack of awareness among item writers of the fact that what children are capable of doing is often a function of the kind of education they receive, and if teachers teach them to problem-solve and think critically, children should be able to answer questions which demand such skills. On another level, the influential role played by the social elements could be seen as a rejection of the social reproduction role being played by the external examination as revealed by Broadfoot (1996) in favour of a communal, but perverse desire to achieve a more equitable distribution of access to higher levels of education. What this overlooks is the fact that higher education requires students with the kind of higher order skills and abilities that the test developers are ‘protecting’ the students from encountering in order to improve their chances of accessing secondary education and beyond. It has thus become the case of societal expectations wagging the examination dog! This fits the expectations of the teachers who reinforce this in their teaching, consequently leading to the vicious cycle of poor examination items, poor results, poor teaching and poor quality of education. What this thesis argues is that

breaking this cycle will have to start by tackling this problem from the item writers' end.

In effect, the nature of the test items appears to satisfy the expectations of teachers and their students as to what is actually required in terms of the cognitive level of the items. This, in a way, compromises the construct validity of the examination in terms of the curriculum goals of the junior high school programme although it maintains harmony between what goes on in teaching, learning and the external assessment thus conferring a kind of 'practical' validity on the examination. The test developers compromise validity by not focusing on asking higher order questions, which then teachers take as validating the kind of emphasis they place on teaching, and ultimately by de facto the school curriculum. This could explain the difficulty Ghana has had in improving the quality of education at the basic school level. Effectively, the power of societal influence as a result of students failing examinations and many not qualifying for secondary education, influences test developers' actions, and the resultant effect on the validity of the test items, combine to produce a seemingly beneficial effect on teaching and learning, but which in the end contributes to a cycle of poor quality basic education in Ghana. What this means is that there will be minimal pressure on the awarding body, as appears to be the case, to improve the nature of the test items since the external examination is seen by the beneficiaries as supporting teaching and learning. What this thesis has unmasked is that the root of this problem may lie with the test item developers but in a way which has not been easy to identify and address, because of the subjective nature of this influence which is located in their sub-conscious.

The risk inherent in this situation is that the vicious cycle will continue and the catalytic role expected of education in promoting national development will not be fulfilled. This situation is likely to persist until stakeholders, and also the examination body (WAEC) becomes more aware of this crucial influence and how that is fuelling poor quality education in the country. There is, therefore, the need to create sufficient awareness among education policy makers, teachers, examination decision makers and test developers about the educational implications of the nature of the external examination to the point that they will begin to pay attention to it and become ready to take steps to improve the quality of the external assessment. But crucially, it calls for WAEC to pay more attention to the problem and devise mechanisms to minimise this effect. Making

this known and addressing the problem will constitute a major challenge, but one which needs to be addressed if WAEC is to exert a positive influence that helps to improve the quality of education in Ghana. But considering the impact of the examination on teaching and learning, this has to be done with tact and sensitivity, through training and quality assurance processes which aim to identify the mismatch between test specification requirements and what test developers actually produce as test items.

## **7.5 Further Research**

It can be said that there is a gap between the goals of education and the outcome in terms of students' learning at the basic education level in Ghana. It will be elucidating to understand the difference in order to inform policies that will address the gap. Investigation into the processes leading to the drawing up of the curriculum is necessary. Qualitative methods need to be deployed to understand the processes involved in translating the goals of education into the curriculum developed by the GES. For example, what do panellists think about at the stage where the educational goals are translated into teaching syllabuses? Do the curriculum developers relate the subject-specific contents to the educational goals? What type of assessment instruments do the curriculum developers have in mind when they draw up the curriculum?

Furthermore it will be necessary to know why alternative forms of assessment do not appear to be achieving their purposes in JHS in Ghana. These will provide a fuller understanding of the issue and inform the discourse on the actual role of assessment in the educational system, especially in developing countries, and what awarding bodies like WAEC can do to make their assessments support the achievement of the country's educational goals.

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## APPENDICES

### Appendix 1A

# Memorandum

To : Director-General- GES

CC: Hon. Minister,  
Hon. Minister of State  
Hon. Deputy Minister in-Charge of Pre-Tertiary  
Chairman, GES Council  
Deputy Director-General, GES  
Head of National Office, WAEC, Accra ✓

From : Chief Director-MoESS

Date : June 04, 2008

Subject : SHS Syllabus

I am compelled by emerging issues on the revision of the SHS Syllabus to bring the following to your attention.

The aims of the SHS reforms are to:

- a. Expand access and offer viable choices of programmes
- b. Make the syllabuses more practical and lab-oriented, especially in the vocational and the technical Streams
- c. Improve the level of literacy, numeracy, skills and competence of graduates/products
- d. Ensure that the students are better prepared for **tertiary education**
- e. Enable the universities ultimately to revert to the 3 year BA for non-professional courses

It follows therefore that the SHS new syllabuses should lead to higher attainment than the old syllabuses. However, feedback received gives me the impressions that it is not clear that the implications of this have been fully grasped by the CRDD:

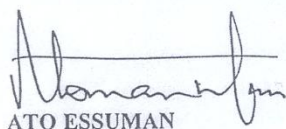
- That the Primary and JHS curriculums must ensure that literacy and numeracy are mastered by all by the end of JHS and a base laid for Science, Maths and English which can be built on not merely reinforced or revised, in the SHS first year core programme
- That the SHS syllabus must ensure a standard closer to the pre-university level of the 'A' Level rather than the old SSS standards so that students do not need foundation courses at tertiary level.

The implications for WAEC are that they must design and pilot new exams, which may include practical lab experiments and questions based on critical analysis, inference and deduction.

Teachers must be trained not only to deliver the new type of syllabus but receive training in new methodologies.

Therefore, the method of testing, as well as the standard of achievement set by WAEC need to be reviewed and new examinations designed to meet these aspirations. If these three areas are not synchronised immediately, the reforms may not be as effective as envisaged. In particular, the Curriculum and Research Development Division must be dissuaded from continuing the present policy of writing the new syllabuses as if there is no difference in standards between them and the old JSS and SSS syllabus.

Kindly attend to this with the urgency it desires.



ATO ESSUMAN

## Appendix 1

# The West African Examinations Council



EXAMINATION LOOP, RIDGE  
P. O. BOX 917, ACCRA, GHANA.  
CABLE: EXAMS ACCRA.  
TEL.: 685901 - 4  
TELEFAX: (23321) 223002  
EMAIL: waecaccra@yahoo.com

Our Ref: HNO/SCD/VOL.5/205



Date: 17<sup>th</sup> August, 2010.

Mr. Akunu Agbeti,  
Security and Certificates Department,  
Accra.

Dear Sir,

**RE: PERMISSION TO CARRY OUT RESEARCH WITH  
TEST DEVELOPERS AND TEACHERS**

Your letter of 4<sup>th</sup> August, 2010 on the above subject refers.

I wish to inform you that your request has been granted. You can therefore contact the Ag. Head/TDD for assistance.

It is our hope that the ethics of research will guide your handling of the data you will obtain.

I wish you the best.

Thank you.

Yours faithfully,

**P. G. A. AYESU (MRS.)  
HEAD OF NATIONAL OFFICE**

## GHANA EDUCATION SERVICE

*In case of reply the  
Number and date of this  
Letter should be quoted*

My Ref: GES/GAR/AdM/16 vol.1/49

Your Ref. No.....

Director: R. A. KETEKU (MISS)

Telephone: 030-2932792

e-mail: [gdeducation09@live.com](mailto:gdeducation09@live.com)



REPUBLIC OF GHANA

MUNICIPAL EDUCATION OFFICE  
P. O. BOX AF 2326  
ADENTAN.  
GREATER ACCRA REGION.

27<sup>TH</sup> OCTOBER, 2010.

### LETTER OF INTRODUCTION

Mr Agbeti is a member of staff of the West African Examinations Council who is being sponsored to undertake a postgraduate study at the University of Sussex in the United Kingdom.

As part of his studies, he is required to carry out a study of the influence of the Basic Education Certificate Examination (BECE) on teaching and learning in Junior High Schools.

He has selected the Adentan Municipality as the site for the study which will involve a survey and interviewing of selected teachers and students.

Kindly give him the necessary support to enable him conduct a successful survey.

Thank you.

ROSEMUND A. KETEKU (MS.)  
MUNICIPAL DIRECTOR OF EDUCATION

ALL HEADS OF BASIC SCHOOL  
ADENTAN MUNICIPALITY

**INFORMATION FOR RESEARCH PARTICIPANTS****1. Purpose of the Research**

The research is for academic purposes only. The findings will be reported to the University of Sussex, UK, and may be published in academic journals.

**2. Research Topic**

**Influences of External Assessment on Teaching and Learning in Junior High School in Ghana**

**3. Conditions of Participation**

- Participation in the research is voluntary and participants can opt out at any stage of the study.
- There is complete anonymity for participants. In presenting the report of the study, participants (individuals or institutions) will not be identified or be made identifiable. Reference will only be made to them under pseudonyms. Departments and subjects will also not be identified in the report.
- Interviews will be recorded and transcribed by the researcher.
- Interviewees may ask to read to transcript before the report is presented.
- Copyright of the data generated in the study shall be vested in the researcher who may publish any part of it without further recourse to participants.

**4. Benefits of Participation**

- Participants' attention will be drawn to the relationship between the BECE and their roles and actions as test developers, teachers and students which they may not have considered before.
- It will enable participants develop a keen awareness of the role of the external exam in teaching and learning.
- Participants' will become more conscious of how to use the external exam either as test developers or classroom participants.
- It will expose participants to different approaches to research.



## **CONSENT FORM FOR RESEARCH PARTICIPANTS**

**PROJECT TITLE: Influences of External Assessment on Teaching and Learning in Junior High School in Ghana**

**Project Approval Reference:** 1011/03/07

I agree to take part in the above University of Sussex research project. I have had the project explained to me and I have read and understood the Explanatory Statement, which I may keep for records. I understand that agreeing to take part means that I am willing to

- Be interviewed by the researcher
- Allow the interview to be audio taped
- Make myself available for a further interview should that be required

I understand that any information I provide is confidential, and that no information that I disclose will lead to the identification of any individual in the reports on the project, either by the researcher or by any other party.

**AND**

I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalised or disadvantaged in any way.

Name:

Signature:

Date:

*Thank you for agreeing to take part in the study*

## Appendix 5

## Questionnaire for JHS Teachers

Please complete the following by placing a tick ☒ in one box only to indicate how much you agree or disagree with each statement.

1. JHS education is enough to make students who do not enter SHS to become 'successful' in life.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Performance in BECE is the best way to select students to enter senior high school.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. JHS teachers should focus much of their teaching on what will make students perform well at the BECE.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. At JHS, students should be taught things they need to know even if these are not going to be examined in the BECE.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The main duty of a JHS teacher is to give students all the information that will make them knowledgeable in the subject.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I am conversant with the requirements of the BECE for the subject I teach.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I use past BECE questions in teaching.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I am skilled at setting my own questions for my students to answer.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I would rather refer to past BECE questions than set my own questions for school examinations.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. If there is no BECE what I teach will be different from what I do now.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. If there is no BECE how I teach will be different from what I do now.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. I believe that students should be coached to answer BECE examination questions.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. My students are anxious about the BECE.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. I feel valued as a teacher if my students do well in the BECE.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. The main purpose of BECE is to measure how much knowledge students have acquired in school.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Teachers should use BECE past questions in all class tests and mock exams to make candidates familiar with the questions.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. Teaching in JHS3 is more focused on BECE than teaching in JHS1.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. To pass BECE well a student only needs to remember what has been taught in class and in textbooks.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. Candidates' continuous assessment marks alone should be used to give them grades for BECE.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please complete this part by placing a tick in the appropriate box.

20. Are you male or female? Male ☐ Female ☐

21. Are you a trained teacher? Yes ☐ No ☐

22. What is your highest educational qualification?

Cert A	Post Sec	Diploma	1 <sup>st</sup> Degree	Other
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. How long (in years) have you been teaching?

1 – 4	5 – 8	9 – 12	13 – 16	17 or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please specify

24. What subject(s) do you teach in JHS and in which form(s)?

.....

Thank you

## Appendix 6

## Questionnaire for JHS3 Students

Please complete the following by placing a tick ☒ in one box only to indicate how much you agree or disagree with each statement.

1. JHS education is enough to make students who do not enter SHS to become 'successful' in life.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  2. Performance in BECE is the best way to select students to enter senior high school.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  3. Our teachers should teach only what will make us perform well at the BECE.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  4. The main duty of a JHS teacher is to give students all the information that will make them understand the subject
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  5. If there was no BECE how I learn will be different.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  6. At JHS, students should be taught things they need to know even if these are not going to be tested in the BECE.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  7. Our English teacher sets questions that ask us to apply what we are learning to practical problems.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  8. Our Mathematics teacher sets questions that ask us to apply what we are learning to practical problems.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  9. Most class tests that our English teacher sets ask about what we remember from what he/she has taught.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
  10. Most class tests that our Mathematics teacher sets ask about what we remember from what he/she has taught.
 

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. I attend extra classes to prepare me for the BECE exams.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
12. I often try my hands at past BECE questions.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
13. Our English teacher spends more time teaching about applying knowledge than recalling facts.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
14. Our Mathematics teacher spends more time teaching about applying knowledge than using formulas.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
15. The main purpose of BECE is to measure how much knowledge students have acquired in school.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
16. Our teachers should use BECE past questions in all class tests and mock exams.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
17. To pass BECE well a student only needs to remember what has been taught in class and in textbooks.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
18. Candidates' continuous assessment marks alone should be used to give them grades for BECE.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
19. Candidates' WAEC exam marks alone should be used to give them grades for the BECE.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
20. Without a BECE certificate I have no hope for the future.
- |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Strongly<br>Disagree     | Disagree                 | Undecided                | Agree                    | Strongly<br>Agree        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
21. Are you male or female?
- |                          |                          |
|--------------------------|--------------------------|
| Male                     | Female                   |
| <input type="checkbox"/> | <input type="checkbox"/> |

Thank you

### **INTERVIEW GUIDE FOR EXAM SYLLABUS DEVELOPERS**

#### **What do test developers believe is the goal of the junior high school programme?**

1. You took part in the exam syllabus development for BECE in 2009. Cast your mind back to the panel meeting. How did your subject group go about the syllabus development?
2. What are some of the issues that your group considered as important and which guided the development of the exam syllabus?
3. What kind of students is the JHS programme supposed to turn out?
4. Did your group consider the goal of the JHS programme in your deliberations? Explain how.
5. In what way for instance did this consideration show in your exam syllabus?
6. Would you say the exam syllabus for your subject adequately captured the goal of the teaching syllabus?

#### **How do test developers' views about testing influence examination syllabus development?**

7. Some people say external exams such as BECE are not necessary and others say they are important. What is your view? Can you explain why?
8. Which of the following statements about BECE is acceptable to you and why? BECE is intended to measure how much of the syllabus content students have mastered;  
BECE is intended to show teachers and students what is important to teach and learn?
9. Was the development of your exam syllabus guided by this view? (If not, then which view of testing guided your group?)
10. Was this view reflected in the exam syllabus your group developed? How/Why not?
11. In your view is it important to have a view of testing when developing an exam syllabus?

#### **How do test developers understand the relationship between external assessment and teaching and learning?**

12. There has been a lot of talk about falling standard of education, especially at the basic level. What is your take on it?
13. How would you judge the standard of education?
14. What relationship, if any, is there between external assessment and teaching and learning?
15. In your view would it be fair to say BECE is largely responsible for the quality of education at JHS? Please explain.
16. Have you by chance or by curiosity ever compared any BECE past question with the GES teaching syllabus?
17. Listen to this quotation. What is expected of external exams now is that "questions set for candidates should elicit from them responses that reflect the

national goals and objectives”. Would you consider BECE questions as adequately expressing the intentions of the JHS programme?

**What effect do test developers expect to have on teaching and learning when they plan and set test items?**

18. In what ways, if any, would you want to see BECE questions changed?
19. Would changes in the nature of BECE questions have any effect on teaching and learning?
20. In practical terms, when you developed the exam syllabus did you personally intend it to have any effect on teaching and learning?
21. If yes, what type of effect did you have in mind?
22. How will the effect be realised? (How will it come about?)

### **INTERVIEW GUIDE FOR ITEM WRITERS**

#### **What do test developers believe is the goal of the junior high school programme?**

23. How long have you been writing items for BECE?
24. When was the last time you wrote items for the exam? Cast your mind back to that. Tell me how you went about it.
25. What are some of the issues that you considered as important and which guided the development of the items you wrote?
26. What kind of students is the JHS programme supposed to turn out?
27. In what way for instance did you consider the goal of the JHS programme when you were developing your items?
28. What use, if any, did you make of the teaching syllabus?

#### **How do test developers' views about testing influence examination item writing?**

29. Some people say external exams such as BECE are not necessary and others say they are important. What is your view? Can you explain why?
30. Which of the following statements about BECE is acceptable to you and why?
  - a) BECE is intended to measure how much of the syllabus content students have mastered.
  - b) BECE is intended to show teachers and students what is important to teach and learn.
31. Was your item writing guided by this view? (If not, then which view of testing guided you?)
32. Can you explain how this view of testing was reflected in your items?
33. In your view is it important to have a view of testing when writing items?

#### **How do test developers understand the relationship between external assessment and teaching and learning?**

34. There has been a lot of talk about falling standard of education, especially at the basic level. What is your take on it?
35. How would you judge the standard of education?
36. In your view would it be fair to say BECE is largely responsible for the quality of education at JHS?
37. What relationship, if any, is there between external assessment and teaching and learning?
38. Have you by chance or by curiosity ever compared any BECE past question with the GES teaching syllabus? (What is your verdict?)
39. Listen to this quotation. What is expected of external exams now is that "questions set for candidates should elicit from them responses that reflect the

national goals and objectives”. Would you consider BECE questions as adequately expressing the intentions of the JHS programme?

**What effect do test developers expect to have on teaching and learning when they plan and set test items?**

40. Have you ever had training in item writing? How would you assess the adequacy of that training in light of this discussion?
41. In what ways, if any, would you want to change the BECE questions you set?
42. Would changes in the nature of BECE questions have any effect on teaching and learning?
43. In practical terms, when you write items what effect, if any, do you intend them to have on teaching and learning?
44. How will the effect be realised? (How will it come about?)

### **INTERVIEW GUIDE FOR TEACHERS**

#### **To what extent are teachers' views on classroom assessment and their teaching practices influenced by external assessment?**

1. As a teacher what basically does your job involve?
2. Educational reforms were implemented in 2007. What calibre of students are you expected to turn out at the end of basic education?
3. How do you get to know if your students are learning well what you teach them?
4. What would you say is the usefulness of assessment to you and then to your students?
5. There are two categories of assessment, i.e. internal & external. Some say external assessment is not needed in schooling while others say it is necessary. What is your view?
6. In the 2007 reforms, CA was reviewed and renamed SBA. What activities constitute your SBA?
7. Is the BECE of any use to you when you carry out your SBA? Explain how?
8. How do you generate CA marks that are sent to WAEC?
9. A lot of teachers show interest in 'pasco' (past questions). How useful is 'pasco' to you when you plan your lessons?
10. How different is the way you use 'pasco' in the exam class and the lower classes?
11. Describe how you would teach your subject if your students were not going to write BECE?
12. Would you recommend that SBA is used to grade candidates instead of the WAEC exam? Can you explain why?
13. Looking at the 'pasco' how do they compare with the goals of the teaching syllabus for your subject? How are they related to the goals of education?
14. Suppose you were selected to set questions for BECE. Describe the type of questions you will set.
15. How do you feel about yourself when you get to know the performance of your BECE candidates?
16. Do you see your teaching being controlled in a way by the standards set by the BECE? Explain.
17. How about your own assessment practices such as class tests and terminal exams? In what way, if any, are they controlled by the BECE?

**Interview Guide for Students**

1. What does JHS education mean to you?
2. In each class you have a teacher and the students. What are the things you do in class as students that differentiate you from the teacher?
3. Why do you think learning is necessary?
4. What are the things you expect to learn in JHS? Are you learning what you think you should know? Explain.
5. What qualities would you expect a well educated JHS student to have?
6. How do you see your JHS education in terms of training you to solve problems and giving you facts that will make you pass BECE?
7. What role does the BECE play in your learning?
8. Do you have a teacher whose teaching you like best?
9. What makes you like his/her teaching?
10. Can you describe the kind of teaching that you don't like?
11. From your experience which of the two types of teaching is more common in your school?
12. Some people say exams are not necessary in schools and others say they are necessary. What is your view about exams?
13. In a few months from now you will be writing the BECE. How are you preparing for it?
14. Have you tried to answer any past BECE questions on your own? Can you explain why?
15. How about your teachers, do any of them use past questions in their lessons or in their class tests? If yes, why do you think they do so?
16. How is your learning in JHS3 different from that of JHS1 in relation to preparation for BECE?
17. What is the difference, if any, in the way JHS3 teachers teach and the way JHS1 teachers teach? Explain why.
18. How would you like it if class tests alone without WAEC exams are to be used to give grades to students for BECE? Explain.

**Appendix 11**

**Frequency Table for Teachers' Responses**  
(Items shortened as Labels in SPSS)

**1. JHS is enough for 'successful' living**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	10	25.0	25.0	25.0
disagree	21	52.5	52.5	77.5
undecided	1	2.5	2.5	80.0
agree	7	17.5	17.5	97.5
strongly agree	1	2.5	2.5	100.0
Total	40	100.0	100.0	

**2. BECE is best for selection to SHS**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	2	5.0	5.1	5.1
disagree	16	40.0	41.0	46.2
undecided	1	2.5	2.6	48.7
agree	13	32.5	33.3	82.1
strongly agree	7	17.5	17.9	100.0
Total	39	97.5	100.0	
Missing 9.00	1	2.5		
Total	40	100.0		

**3. Focus of teaching is BECE performance**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	6	15.0	15.0	15.0
disagree	13	32.5	32.5	47.5
agree	15	37.5	37.5	85.0
strongly agree	6	15.0	15.0	100.0
Total	40	100.0	100.0	

**4. JHS teaching is for BECE only**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	1	2.5	2.5	2.5
disagree	1	2.5	2.5	5.0
agree	21	52.5	52.5	57.5
strongly agree	17	42.5	42.5	100.0
Total	40	100.0	100.0	

**5. Teacher is dispenser of knowledge**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	4	10.0	10.0	10.0
disagree	5	12.5	12.5	22.5
agree	16	40.0	40.0	62.5
strongly agree	15	37.5	37.5	100.0
Total	40	100.0	100.0	

**6. Conversant with BECE requirement**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	2	5.0	5.1	5.1
disagree	2	5.0	5.1	10.3
agree	21	52.5	53.8	64.1
strongly agree	14	35.0	35.9	100.0
Total	39	97.5	100.0	
Missing 9.00	1	2.5		
Total	40	100.0		

**7. Uses past questions in teaching**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid disagree	3	7.5	7.5	7.5
undecided	1	2.5	2.5	10.0
agree	28	70.0	70.0	80.0
strongly agree	8	20.0	20.0	100.0
Total	40	100.0	100.0	

**8. Skilled in setting own questions**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid undecided	1	2.5	2.5	2.5
agree	17	42.5	42.5	45.0
strongly agree	22	55.0	55.0	100.0
Total	40	100.0	100.0	

**9. Prefers past questions for school exams**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	8	20.0	20.0	20.0
disagree	21	52.5	52.5	72.5
undecided	2	5.0	5.0	77.5
agree	8	20.0	20.0	97.5
strongly agree	1	2.5	2.5	100.0
Total	40	100.0	100.0	

**10. What to teach will be different without BECE**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	7	17.5	17.5	17.5
disagree	17	42.5	42.5	60.0
undecided	4	10.0	10.0	70.0
agree	9	22.5	22.5	92.5
strongly agree	3	7.5	7.5	100.0
Total	40	100.0	100.0	

**11. Will teach differently without BECE**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	7	17.5	18.4	18.4
disagree	16	40.0	42.1	60.5
undecided	2	5.0	5.3	65.8
agree	9	22.5	23.7	89.5
strongly agree	4	10.0	10.5	100.0
Total	38	95.0	100.0	
Missing 9.00	2	5.0		
Total	40	100.0		

**12. Coach students for BECE**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	3	7.5	7.7	7.7
disagree	4	10.0	10.3	17.9
agree	12	30.0	30.8	48.7
strongly agree	20	50.0	51.3	100.0
Total	39	97.5	100.0	
Missing 9.00	1	2.5		
Total	40	100.0		

**13. My students are anxious about BECE**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid disagree	4	10.0	10.3	10.3
undecided	1	2.5	2.6	12.8
agree	21	52.5	53.8	66.7
strongly agree	13	32.5	33.3	100.0
Total	39	97.5	100.0	
Missing 9.00	1	2.5		
Total	40	100.0		

**14. Feels valued if students do well in BECE**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	1	2.5	2.5	2.5
agree	7	17.5	17.5	20.0
strongly agree	32	80.0	80.0	100.0
Total	40	100.0	100.0	

**15. BECE is to measure knowl acquired**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	2	5.0	5.0	5.0
disagree	5	12.5	12.5	17.5
agree	17	42.5	42.5	60.0
strongly agree	16	40.0	40.0	100.0
Total	40	100.0	100.0	

**16. Use past qns for school exams and mocks**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	3	7.5	7.5	7.5
disagree	16	40.0	40.0	47.5
undecided	1	2.5	2.5	50.0
agree	14	35.0	35.0	85.0
strongly agree	6	15.0	15.0	100.0
Total	40	100.0	100.0	

**17. Focus more on BECE in Form 3**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	3	7.5	7.5	7.5
disagree	7	17.5	17.5	25.0
agree	18	45.0	45.0	70.0
strongly agree	12	30.0	30.0	100.0
Total	40	100.0	100.0	

**18. BECE is more of remembering facts**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	6	15.0	15.0	15.0
disagree	19	47.5	47.5	62.5
agree	15	37.5	37.5	100.0
Total	40	100.0	100.0	

**19. Use CA only for BECE grading**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	14	35.0	35.0	35.0
disagree	21	52.5	52.5	87.5
undecided	2	5.0	5.0	92.5
agree	1	2.5	2.5	95.0
strongly agree	2	5.0	5.0	100.0
Total	40	100.0	100.0	

**20. Teaching in exam and other classes**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid exam class only	3	7.5	7.9	7.9
exam + lower class	24	60.0	63.2	71.1
lower class only	11	27.5	28.9	100.0
Total	38	95.0	100.0	
Missing 9.00	2	5.0		
Total	40	100.0		

**21. Gender**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	21	52.5	52.5	52.5
female	19	47.5	47.5	100.0
Total	40	100.0	100.0	

**22. Trained teacher**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid trained teacher	38	95.0	95.0	95.0
untrained teacher	2	5.0	5.0	100.0
Total	40	100.0	100.0	

**23. Teacher qualification**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Cert A	5	12.5	12.5	12.5
Post Sec	3	7.5	7.5	20.0
Diploma	12	30.0	30.0	50.0
1st Degree	18	45.0	45.0	95.0
Other	2	5.0	5.0	100.0
Total	40	100.0	100.0	

**24. Teaching experience**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1 - 4 yrs	3	7.5	7.5	7.5
5 - 8 yrs	14	35.0	35.0	42.5
9 - 12 yrs	7	17.5	17.5	60.0
13 - 16 yrs	4	10.0	10.0	70.0
17 + yrs	12	30.0	30.0	100.0
Total	40	100.0	100.0	

**Frequency Table for Students' Responses**  
(Items shortened as Labels in SPSS)

**1. JHS enough for successful living**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	46	38.3	38.3	38.3
Disagree	40	33.3	33.3	71.7
Undecided	2	1.7	1.7	73.3
Agree	19	15.8	15.8	89.2
Strongly Agree	13	10.8	10.8	100.0
Total	120	100.0	100.0	

**2. BECE is best criterion for entry to SHS**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	1	.8	.8	.8
Disagree	8	6.7	6.7	7.5
Agree	33	27.5	27.5	35.0
Strongly Agree	78	65.0	65.0	100.0
Total	120	100.0	100.0	

**3. Teaching should focus on BECE**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	33	27.5	27.5	27.5
Disagree	45	37.5	37.5	65.0
Agree	20	16.7	16.7	81.7
Strongly Agree	22	18.3	18.3	100.0
Total	120	100.0	100.0	

**4. Teachers are fountain of knowledge**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	2	1.7	1.7	1.7
Disagree	4	3.3	3.3	5.0
Agree	42	35.0	35.0	40.0
Strongly Agree	72	60.0	60.0	100.0
Total	120	100.0	100.0	

**5. My learning will be different without BECE**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	11	9.2	9.2	9.2
Disagree	23	19.2	19.2	28.3
Undecided	2	1.7	1.7	30.0
Agree	50	41.7	41.7	71.7
Strongly Agree	34	28.3	28.3	100.0
Total	120	100.0	100.0	

**6. Teaching should not be for BECE only**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	3	2.5	2.5	2.5
Disagree	5	4.2	4.2	6.7
Undecided	2	1.7	1.7	8.4
Agree	34	28.3	28.6	37.0
Strongly Agree	75	62.5	63.0	100.0
Total	119	99.2	100.0	
Missing 9.00	1	.8		
Total	120	100.0		

**7. Teacher tests call for application**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	3	2.5	2.5	2.5
Disagree	22	18.3	18.3	20.8
Undecided	8	6.7	6.7	27.5
Agree	57	47.5	47.5	75.0
Strongly Agree	30	25.0	25.0	100.0
Total	120	100.0	100.0	

**8. Teacher tests call for application**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	4.2	4.2	4.2
	Disagree	6	5.0	5.0	9.2
	Undecided	7	5.8	5.9	15.1
	Agree	57	47.5	47.9	63.0
	Strongly Agree	44	36.7	37.0	100.0
	Total	119	99.2	100.0	
Missing	9.00	1	.8		
Total		120	100.0		

**9. Teacher tests demand recall**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.7	1.7	1.7
	Disagree	11	9.2	9.2	10.8
	Undecided	1	.8	.8	11.7
	Agree	40	33.3	33.3	45.0
	Strongly Agree	66	55.0	55.0	100.0
	Total	120	100.0	100.0	

**10. Teacher tests demand recall**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.7	1.7	1.7
	Disagree	11	9.2	9.2	10.9
	Agree	41	34.2	34.5	45.4
	Strongly Agree	65	54.2	54.6	100.0
	Total	119	99.2	100.0	
Missing	9.00	1	.8		
Total		120	100.0		

**11. I attend extra classes for BECE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.3	3.3	3.3
	Disagree	6	5.0	5.0	8.3
	Undecided	1	.8	.8	9.2
	Agree	48	40.0	40.0	49.2
	Strongly Agree	61	50.8	50.8	100.0
	Total	120	100.0	100.0	

**12. I often try past questions**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.7	1.7	1.7
	Disagree	2	1.7	1.7	3.3
	Undecided	1	.8	.8	4.2
	Agree	37	30.8	30.8	35.0
	Strongly Agree	78	65.0	65.0	100.0
	Total	120	100.0	100.0	

**13. Teaching is more of application of knowledge**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	5.0	5.1	5.1
	Disagree	34	28.3	28.8	33.9
	Undecided	8	6.7	6.8	40.7
	Agree	48	40.0	40.7	81.4
	Strongly Agree	22	18.3	18.6	100.0
	Total	118	98.3	100.0	
Missing	9.00	2	1.7		
Total		120	100.0		

**14. Teaching is more of application of knowledge**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	21	17.5	17.5	17.5
	Disagree	56	46.7	46.7	64.2
	Undecided	2	1.7	1.7	65.8
	Agree	23	19.2	19.2	85.0
	Strongly Agree	18	15.0	15.0	100.0
	Total	120	100.0	100.0	

**15. BECE measures knowledge acquired**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	4.2	4.2	4.2
	Undecided	2	1.7	1.7	5.9
	Agree	31	25.8	26.3	32.2
	Strongly Agree	80	66.7	67.8	100.0
	Total	118	98.3	100.0	
Missing	9.00	2	1.7		
Total		120	100.0		

**16. I prefer past questions for all school tests**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.3	3.4	3.4
	Disagree	16	13.3	13.4	16.8
	Undecided	2	1.7	1.7	18.5
	Agree	46	38.3	38.7	57.1
	Strongly Agree	51	42.5	42.9	100.0
	Total	119	99.2	100.0	
Missing	9.00	1	.8		
Total		120	100.0		

**17. BECE requires mainly recall of facts**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	8.3	8.4	8.4
	Disagree	16	13.3	13.4	21.8
	Undecided	1	.8	.8	22.7
	Agree	44	36.7	37.0	59.7
	Strongly Agree	48	40.0	40.3	100.0
	Total	119	99.2	100.0	
Missing	9.00	1	.8		
Total		120	100.0		

**18. CA alone should be used for grading BECE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	36	30.0	30.0	30.0
	Disagree	46	38.3	38.3	68.3
	Undecided	6	5.0	5.0	73.3
	Agree	19	15.8	15.8	89.2
	Strongly Agree	13	10.8	10.8	100.0
	Total	120	100.0	100.0	

**19. WAEC exam alone should be used for grading BECE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	33	27.5	27.5	27.5
	Disagree	44	36.7	36.7	64.2
	Undecided	8	6.7	6.7	70.8
	Agree	26	21.7	21.7	92.5
	Strongly Agree	9	7.5	7.5	100.0
	Total	120	100.0	100.0	

**20. My future is hopeless without BECE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	19	15.8	15.8	15.8
	Disagree	32	26.7	26.7	42.5
	Undecided	2	1.7	1.7	44.2
	Agree	23	19.2	19.2	63.3
	Strongly Agree	44	36.7	36.7	100.0
	Total	120	100.0	100.0	

**21. Candidate's sex**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	61	50.8	50.8	50.8
	Female	59	49.2	49.2	100.0
	Total	120	100.0	100.0	

## Appendix 12

**Comparison of Means for Teachers and Students on Common Items**  
**Using T-test**

	Mean		Standard Deviation		<i>t</i>
	Teachers	Students	Teachers	Students	
JHS is enough for successful living	2.20	2.27	1.09	1.40	0.727
BECE is best criterion for SHS selection	3.18	4.49	1.29	0.87	0.001*
Will teach & will learn differently without BECE	2.66	3.61	1.32	1.32	0.001*
Prefers past questions for class tests	3.10	4.04	1.30	1.14	0.001*
BECE is mainly recall	2.60	3.87	1.15	1.30	0.001*
Purpose of BECE is to measure knowledge acquired	4.00	4.58	1.18	0.73	0.005*
Uses past questions in teaching & student often tries past questions	4.02	4.56	0.73	0.75	0.001*
Use CA alone to grade BECE	1.90	2.39	0.98	1.35	0.015*
Teacher is fountain of knowledge	3.82	4.48	1.34	0.81	0.005*
Students are anxious & attend extra classes for BECE	4.10	4.30	0.88	0.97	0.260
Teaching should not be for BECE alone	4.30	4.45	0.82	0.92	0.349
Teaching & learning should focus on BECE	3.05	2.61	1.39	1.50	0.102
* Statistically significant difference $p < .05$					

**Factor Analysis of Teachers' Responses****Rotated Component Matrix (a,b)**

	Component				
	1	2	3	4	5
JHS is enough for successful living	.784	-.241	-.134	-.055	.153
BECE is best criterion for selection to SHS	.534	.401	.071	.518	.046
Teaching & Learning should focus on BECE	.381	.108	.382	.170	-.636
Teacher is fountain of knowledge	.511	.041	.253	.082	-.201
Will teach & Will learn differently without BECE	.056	.848	.132	.142	-.073
Teaching should not be for BECE alone	.159	.051	.072	.147	.844
Students are anxious & Student attends extra classes	-.029	.417	.200	-.306	.393
Uses past qns in teaching & Student tries past qns	.117	.119	.231	.795	.001
Purpose of BECE is to measure knowl acquired	.482	-.066	.619	-.090	.254
I prefer past qns for all class tests	-.076	.028	.853	.215	-.090
BECE is mainly recall	.542	.151	.066	-.674	-.027
Use CA marks alone to grade BECE	-.238	.770	-.444	-.012	.100

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 12 iterations.

b Only cases for which Student or teacher? = Teacher are used in the analysis phase.

**Factor Analysis of Students' Responses****Rotated Component Matrix (a,b)**

	Component				
	1	2	3	4	5
JHS is enough for successful living	-.502	.172	-.349	.058	.517
BECE is best criterion for selection to SHS	.475	.012	.208	.498	.226
Teaching & Learning should focus on BECE	.088	-.121	.148	-.104	.839
Teacher is fountain of knowledge	.674	.108	.135	-.268	.168
Will teach & Will learn differently without BECE	-.013	.224	.034	.740	-.224
Teaching should not be for BECE alone	.742	.076	-.090	.205	-.167
Students are anxious & Student attends extra classes	.020	.778	-.094	.226	-.105
Uses past qns in teaching & Student tries past qns	.301	.547	.174	.063	.137
Purpose of BECE is to measure knowl acquired	.629	.137	-.134	.042	.024
I prefer past qns for all class tests	.073	.581	.220	-.486	-.224
BECE is mainly recall	.059	.069	.697	.255	.191
Use CA marks alone to grade BECE	-.099	.052	.715	-.136	-.059

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 12 iterations.

b Only cases for which Student or teacher? = Student are used in the analysis phase.

## Appendix 15

**Factor Analysis of Teachers' Responses****Total Variance Explained (a)**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.541	21.179	21.179	2.541	21.179	21.179	1.939	16.156	16.156
2	1.910	15.913	37.092	1.910	15.913	37.092	1.764	14.699	30.855
3	1.652	13.766	50.858	1.652	13.766	50.858	1.661	13.838	44.693
4	1.262	10.514	61.372	1.262	10.514	61.372	1.583	13.195	57.887
5	1.008	8.398	69.770	1.008	8.398	69.770	1.426	11.883	69.770
6	.926	7.713	77.483						
7	.835	6.957	84.440						
8	.555	4.626	89.066						
9	.467	3.892	92.959						
10	.442	3.679	96.638						
11	.225	1.878	98.516						
12	.178	1.484	100.000						

Extraction Method: Principal Component Analysis.

a Only cases for which Student or teacher? = Teacher are used in the analysis phase.

## Appendix 16

**Factor Analysis of Students' Responses****Total Variance Explained (a)**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.305	19.211	19.211	2.305	19.211	19.211	1.996	16.636	16.636
2	1.431	11.927	31.137	1.431	11.927	31.137	1.380	11.502	28.139
3	1.287	10.722	41.859	1.287	10.722	41.859	1.318	10.983	39.122
4	1.203	10.029	51.888	1.203	10.029	51.888	1.300	10.836	49.957
5	1.018	8.486	60.374	1.018	8.486	60.374	1.250	10.416	60.374
6	.937	7.806	68.180						
7	.855	7.122	75.302						
8	.784	6.530	81.831						
9	.658	5.480	87.312						
10	.630	5.253	92.564						
11	.487	4.061	96.625						
12	.405	3.375	100.000						

Extraction Method: Principal Component Analysis.

a Only cases for which Student or teacher? = Student are used in the analysis phase.