



## Examinations Wash Back Effects: Challenges to the Criterion Referenced Assessment Model

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### Abstract


Examinations play a central role in the educational system due to the fact that information generated from examinations is used for a variety of purposes. Critical decisions such as selection, placement and determining the instructional effectiveness of a programme of study all depend on data generated from examinations. Numerous research studies have shown that examinations have an influence on the learning and teaching process and that such influence could be either positive or negative. It is imperative that washback effect is evaluated to determine its impact on the quality of learning and teaching that goes on in the schools. This paper presents evidence that point towards presence of examination washback effect on the teaching process as a result of the format and content of the Primary School Leaving Examinations in Botswana. A questionnaire containing quantitative and qualitative items was used to capture opinions of teachers relating to the extent to which final examinations influences topic select, content coverage, teaching methods, and classroom activities. Generally, opinions presented by the teachers point towards presence of a negative washback effect. This apparent negative washback effect on the curriculum presents a challenge to a successful implementation of criterion reference testing system in Botswana.

**Keywords:** Examinations washback effect, Washback hypotheses, Measurement driven instruction, Construct underrepresentation.

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## 1. Introduction and Background Information

Assessment plays a central role in any educational system in the sense that data collected through examinations provide information needed for making high stake decisions. Valid and reliable scores have to be generated in order to determine whether learning is really taking place within the classroom. The relationship between teaching and examinations has attracted the attention of researchers such as Ahmed and Rao (2012); Alderson and Wall (1993); Buck (1988); Messick (1996); Nkosana (2009); Shohamy (1993) and Shohamy *et al.* (1996). The interest emanates from the apparent influence of examination information on learning and teaching. Extensive research of the washback construct culminated in the production of a number of examination washback models. The model presented below is by Bailey (1996) and consists of three main components: these are participant, process and product.

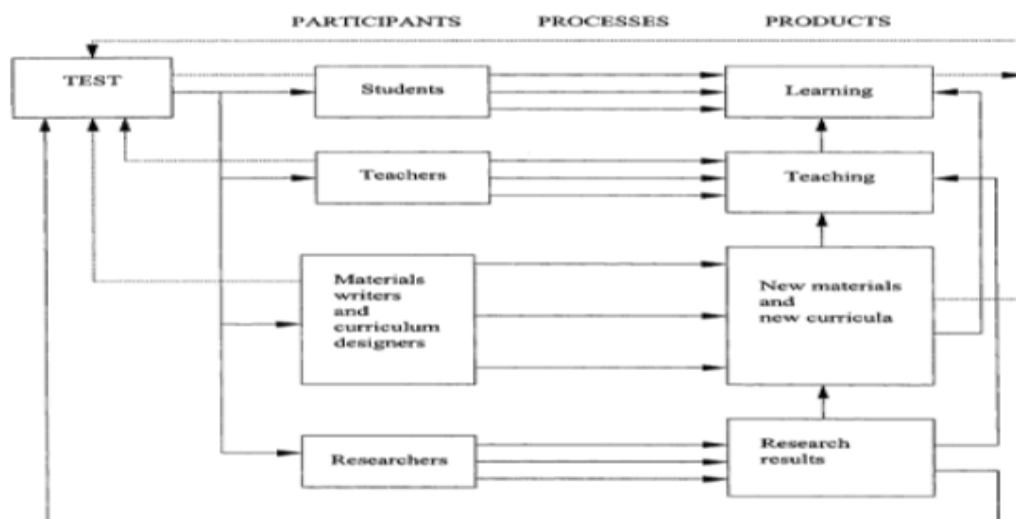


Fig-1. Bailey's Examination Washback Model

(Source: Bailey (1996))

The model shows that students and teachers are the main actors within the classroom. However, their actions are directly influenced by content sources generated by curriculum designers and other publishers as well as researcher results. In educational literature, there is a general consensus that examinations influence teaching and learning; this influence is generally referred to as washback (Pizarro, 2010). Alderson and Wall (1993) observed that washback effect within the classroom can either be positive or negative. Positive washback occurs in a situation where the information from examination clearly indicates areas of strength and weakness for each learner. Teachers can therefore use the information to institute necessary intervention strategies aimed at promoting learning in the classroom. For example, if examination feedback information indicates high content mastery with respect to handling of abstract concept but noticeably low performance in the area of concrete application of the concepts, teachers can respond to this shortcoming by modifying their instructional delivery practices to address the identified area of need. Hughes (1989) listed procedures that could be followed to achieve positive washback. These include sampling a wide area of the content domain and using criterion referenced testing techniques. This is otherwise referred as measurement-driven instruction (MDI); that is, using a test as a deliberate washback generating tool (Pizarro, 2010)

On the other hand, negative washback could be experienced when the nature and content of the examination lead teachers to concentrate on topics that regularly appear in the examination. In such a situation, learners are only exposed to regularly tested subject matter and do not have the opportunity to acquire relevant skills related to objectives not tested. Negative washback effect essentially results in a situation where content in the syllabus is significantly trimmed and emphasis is more on memorization on facts rather than assisting learners to develop critical thinking skills. This anomalous practice within the classroom environment is captured well by Buck (1988) in the following statement;

However, if the examinations are not testing these goals, students, who usually have their sights set on the examination, may pass the tests but totally fail to attain the basic goals set by educational planners. In such a case the washback effect is very negative indeed. (p. 17)

In Botswana, examination washback has been a concern for policy makers and educational practitioners alike. For example, an observation was made in the Education for Kagisano report of 1977 about the relationship between teaching and examinations at different levels in the system. It is clearly stated in the report that;

The system emphasizes preparing pupils at each educational level for the major examinations at Standard 7, Form III, and Form V; rewarding the competencies that will be used at the next higher education level, and ultimately preparing young Batswana for white color, modern sector jobs... This creates strong pressures towards memorization of facts in preparation for the exams rather than strengthening the basic skills for pupils and developing the ability to think and reason (Republic of Botswana, 1977).

The current paper assesses examination washback effect at primary school level. The relevance of the current study is necessitated by the country's transition from norm referenced testing (NRT) model to criterion referenced testing (CRT) practices in 1994. Introduction of criterion referenced testing at primary school level was subsequent to the recommendations of the Revised National Policy on Education that were made in 1993. Primary school system transformed from being a high stake selection exam to an instrument used for diagnostic purposes. CRT allows for a strong linkage between the item in the test and objectives reflected in the syllabus such that performance on the test faithfully reveals the knowledge status of the each candidate. Objective based testing was also aimed at making sure that there is a seamless connection between assessment at national and classroom level. If there is a seamless

connection between the two, then teachers will concentrate more on assisting learners to acquire the skills reflected in the syllabus. Feedback information from final examinations will serve to support learning and teaching process thus exerting positive washback effect in the system. Classroom activities will be geared towards achievement of objectives in the syllabus. Assessment then will function as a *'systematic process of gathering evidence of what the child can do relative to the instructional outcome, gathered at an opportune time that will allow the teacher to use the feedback to make judgment about appropriate adjustments in the instructional environment'* (Republic of Botswana, 1992).

### 1.1. Statement of the Problem

The prevalence of negative washback effect due to the influence of the content and nature of the examination will lead to selective teaching and learners will be drilled on content regularly tested in the examination. Important subject matter or objectives in the syllabus that are not often tested are ignored. This has the effect of significantly narrowing down the content in the syllabus and thus compromising the quality of basic education in Botswana. This research study is based on three research questions listed below; the questions are derived from the washback hypotheses model proposed by Alderson and Wall (1993). The research questions are:

To what extent does examination influence the teacher's content selection?

To what extent does examination influence the degree or depth of teaching?

To what extent does examination influence the teacher's selection of classroom activities?

### 1.2. Significance of the Study

Delineating elements that promote negative washback effects in the learning and teaching environment will allow for development and implementation of appropriate intervention strategies. The direct effect of this will be a concomitant improvement in the learning and teaching process as teachers will be compelled to cover a broad area of the syllabus. The quality of education will subsequently improve as learners will be exposed to a full spectrum of the knowledge and skills outlined in the syllabus.

## 2. Literature Review

Andrew *et al.* (2002) conducted a research study aimed at assessing the effects of introduction of a new test within the Hong Kong Advanced Use of English programme. The new test served as a high stakes selection instrument for student intending to proceed to tertiary institutions. The test was taken by approximately 20 000 prospective students each year after their final year of secondary education. The introduction of the test was in response to low English language proficiency level exhibited by undergraduates students. Therefore, the new test was meant to engender deliberate positive washback effect in the teaching of English language in order to raise the language proficiency level of prospective students. The researchers noted that "the specific intention was that the addition of an oral exam (with a substantial weighting of 18%) would encourage continuing attention, by teachers and students, to the speaking skill in the last 2 years of school" (p. 210). The test was administered over a period of three years (i.e., 1993, 1994 and 1995) to three different groups. The three separate groups were used to test for the effects of washback influence. The data collected was videotaped and subsequently analyzed by trained assessors. The researchers observed a significant difference between the 1993 and 1995 groups in individual presentation and group discussions. For example, the 1993 group tended to make general introductory remarks that were content based whereas the 1995 cohort used more direct format similar in type to the one in the prescribed text books. This piece of evidence made the researchers to conclude that the new test had some positive influence on the teaching and learning process since the changes associated with the 1995 group wash in line with the demands of the new test. The researchers opined that; "Given that title introduction is the only strategy suggested by the textbooks for starting a presentation, it seems reasonable to hypothesise that this marked contrast is evidence of washback mediated through published materials" (Andrew *et al.*, 2002).

Cheng (1998) carried out a similar study aimed at investigating the impact of public examination innovation introduced by Hong Kong Public Examinations Authority. The expected changes also followed the philosophy of positive washback or measurement driven instruction. Positive washback was expected to result in the narrowing down of the gap that existed between what happens in the exam room and the outside world (Cheng, 1998). Cheng's study emphasized on perceptions and attitudes of learners as they may relate to changes in test contents. Participants in the study were sampled in 1994 and 1995. In 1994, 1100 students were sampled while in 1995 only 600 were sampled. The difference in the sample size is ascribed to resource limitations. The 1994 group used the old examination format while the 1995 one was treated as an experimental group. Subsequent comparison showed that the experimental group used more English in the classroom than the control group. Secondly, the experimental group reportedly went for more coaching clinics and did more language games and group discussions. Basing on this evidence, the researcher concluded that the examination drove teaching in the direction of coaching and drilling for what was required in the exam. Therefore, a significant increase in coaching activities and memorization of content indicated presence of negative washback effect.

In 1996, Alderson and Hamp-Lyons published a paper that was based on their research which sought to investigate common claims that TOEFL (Teaching of English as a Foreign Language) was exerting an undesirable influence on language teaching. Another criticism against TOEFL was that it raised student scores without really equipping them with language skills they will need at tertiary level (Alderson and Hamp-Lyons, 1996). The study was based in a specialized language institution in the USA; students from the institution are regularly admitted to USA universities. The researchers interviewed students and teachers to record their opinions and attitudes towards TOEFL. Specifically, students were asked to give their opinion on how they would like TOEFL preparation courses taught. Evidence collected indicated that most teachers had a negative attitude towards TOEFL because they so it as being inauthentic and non-communicative. They also expressed the view that it was students who drove the methodology as they insisted to be taught in a way that will help them do well in TOEFL test.

Another informative washback effect study was done by [Tabataba and Estani \(2013\)](#) in Iran. The purpose of the study was to determine the examination washback influence of IELTS Academic Writing Module test on learners' motivation, test taking anxiety, test taking strategies and course expectation. Participants for the study were sampled from Advanced Writing and Academic Writing classes; the total number of student selected was 79. Both quantitative and qualitative data collection methods were used. For example, questionnaire responses were triangulated with evidence from observation and interview sessions. A multivariate test for repeated measures and analysis of covariance were employed to tease out significant difference between the groups. The repeated measures technique produced non-significant results showing no washback effect. However, the ANOVA analysis indicated significant difference between the groups at an alpha level of .05 ([Tabataba and Estani, 2013](#)). The researchers were able to extract two key points from the study. Firstly, the innovation in the examinations system failed to produce desired results. Secondly, washback effect tended to vary from learner to learner. These two results lead the researcher to suggest a new washback model that reflected the interactive and multidirectional nature of the washback variables.

An interesting mixed model study was also conducted by [Ahmed and Rao \(2012\)](#) in Pakistan. The main objective of the study was to determine the effects of examination washback on the teachers' selection of methodology in English Language teaching in higher secondary schools. A teacher could either use the Grammar Translation Method (GMT) or the Communicative Method. Purposive sampling technique was used to identify 128 high school teachers who were later required to respond to a questionnaire containing Likert scale items. The researchers also carried out document analysis by evaluating content in the prescribed text books and examination papers. The result of the study showed that teachers preferred to use the Traditional Grammar Translation Method (GTM) as opposed to the recommended Communicative method ([Ahmed and Rao, 2012](#)). The selection of GTM was attributed to the nature and content of the exam which tended to focus more on grammar.

[Salihi \(2012\)](#) published a paper entitled 'The washback effect of Iranian Universities Entrance Exam: Teachers' insights'. The paper looked at the influence of Entrance Examination (EEC) test on Iranian high school teachers. The EEC is a high stake selection exam used to choose students proceeding to tertiary level education. Stratified sampling procedures were applied to ensure fair representation of teachers from all five educational districts in the Iranian city of Isfahan. The target population for the study was an estimated 436 teachers from which a sample of 200 was taken. The researcher mailed the questionnaire to the selected teachers; the response rate was 66%. Subsequent data analysis showed that 89.4% of the teachers indicated that they put more emphasis on reading comprehension. Also 74.2% of the teachers said they teach according to EEC format ([Salihi, 2012](#)). The conclusion made was that the EEC led teacher to ignore communicative approach in favour of mock examinations.

The University of Victoria in Canada commissioned a study in 2006 to determine ways and means of improving the language proficiency of the teaching assistants employed within the campus. The internationalization programme of the university led to a substantial increase in the number of foreign students being employed as teaching assistants. It became important then to raise the language competency level of students intending to serve as teaching assistants. The main objective of the study was to explore the extent to which the new Spoken Language Ability Test could be used to stimulate positive washback in the teaching and learning of English language. The initial sample for the study comprised 47 registered foreign students; the students were required to take the old version of the Spoken Proficiency English A Test or SPEAK. Students who scored 220 out of the 300 items in the test were required to take the new version of SPEAK. Successful students were divided into two groups (Control and Experimental Group) and put on a 12 week long training programme. The control group continued with the regular programme while the experimental group took a language course. The paired sample *t* test revealed a significant difference in the mean values of the two groups. This difference suggested that the new test (i.e., Spoken Language Ability Test) had some positive influence on classroom related areas such as teaching content, teaching method, and student learning. According to [Saif \(2006\)](#) *'The test appeared to have directly and intensively influenced the teacher's choice of both main and supplementary material used outside and inside the classroom* (p. 28).

In 1998, the assessment at senior secondary school level in Botswana transitioned from Cambridge Oversea School Certificate (COSC) to the new Botswana General Certificate of Secondary Education (BGCSE). The change was meant to introduce a curriculum that was more relevant to the needs of the country. For example, English language under COSC had only two components (i.e., Reading and Writing) whereas under BGCSE all the four components (Reading, Writing, Speaking and Listening) were included in the syllabus. However, Listening Comprehension was not to be assessed in the final examinations. [Nkosana \(2009\)](#) carried out a study to establish the effects of non-examinable content on teaching and learning. A total of 553 students and 53 teachers were sampled from 10 secondary schools in Botswana. Both teachers and students responded to a questionnaire containing closed and open ended items. The results of the study indicated that both students and teachers regarded listening as a very important skill even though it was not assessed. Also, teachers felt inclusion of listening in examination would encourage students to take it more seriously ([Nkosana, 2009](#)). Essentially, the finding from the study did not support the washback hypotheses that examinations will influence what is taught in the classroom.

The literature on examination washback presented above show a lack of consensus amongst research studies done in different countries. Some studies clearly showed examinations have a positive influence on learning and teaching (e.g. [Spratt \(2005\)](#); [Saif \(2006\)](#)). Some researchers (e.g., ([Cheng, 1998](#); [Saeed and Rao, 2012](#))) have presented evidence that point to the existence of negative washback effect. Scholars like Alderson and [Alderson and Wall \(1993\)](#) have even questioned the validity of the washback construct. However, the need to evaluate the impact of examinations on the learning and teaching process remains to be important. Results from such studies could be used to inform policy formulation and influence day to day classroom practice.

### 3. Methodology

Both quantitative and qualitative data collection methods were used in the study. Evidence collected from a sample of teachers was used to determine the nature of examination washback prevalent in primary school classrooms. A questionnaire containing 36 quantitative items and a few qualitative questions was used to capture the views and perceptions of teachers regarding the influence of past examinations on teaching. The quantitative items were in the form of a Likert scale allowing teacher to indicate whether they strongly agree, agree, disagree or strongly disagree with the statement presented. Qualitative questions, on the other hand, generated narrative responses in order to directly capture perceptions and opinions of participants. Most of the questionnaires were administered during the month of August in 2013. The data was then analyzed using SPSS version 20.

#### 3.1. Population Characteristics and Sampling Procedures

Students who registered for a degree programme in the Department of Primary Education (University of Botswana) were considered as the target population for the study. The students are actually practicing teachers drawn from all the ten educational districts in Botswana hence the target population has all the salient characteristics of the parent population. A total of 66 teachers (36 males and 30 females) were sampled; this represents 13% of the target population

### 4. Data Presentation and Analysis

The questionnaire administered was divided into four sections: Section A focused on background information relating to the washback construct while Section B concentrated on classroom activities. Section C and Section D dealt with the influence of past examination questions on teaching and use of examination related booklets in the classroom respectively.

#### 4.1. Section A: Background Information

Section A of the questionnaire had five questions based on examination washback hypotheses. Item 1 in this section collected opinions of teachers regarding the influence of examination on what teachers teach in the classroom. Fig. 3 below illustrates the distribution of responses along a four point Likert scale categories. An overwhelming majority of 95.5% of the teachers responded positively to the statement. The responses of the teachers provide strong evidence to the hypothesis that examinations have a direct influence on the teaching and learning process.

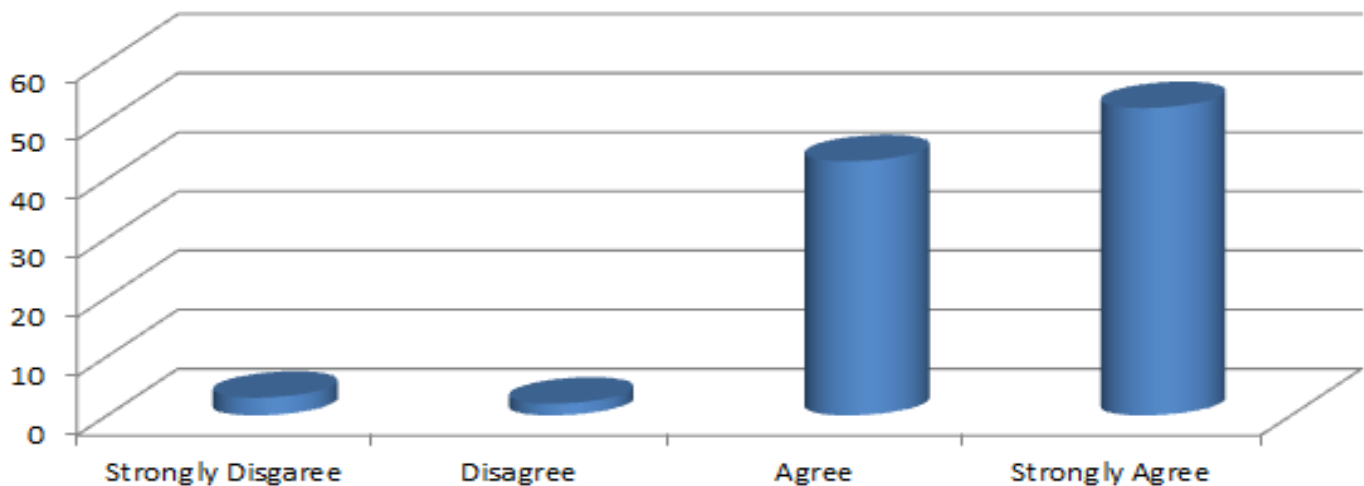


Fig-2. Examinations have an influence on what teachers teach in the classroom

Item 3 in the same section was designed to determine the relationship between content selection and examination practice. According to Fig. 2 60% of the teachers indicated that knowledge of the content of the examination influences their topic selection. However, 40% of the teachers said there was no link between selection of the topic and content of the examination.

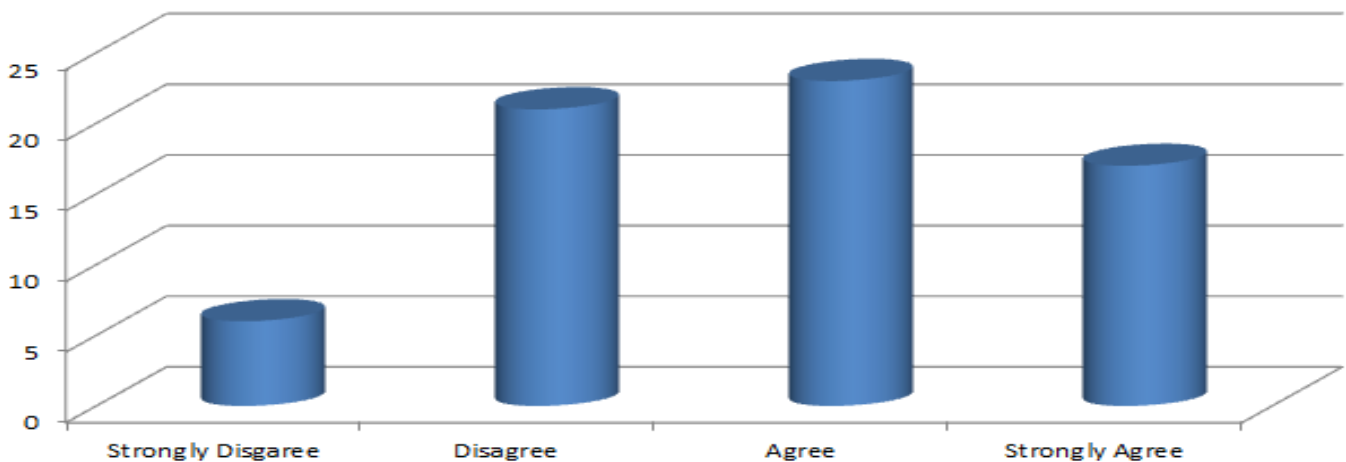


Fig-3. Examinations will influence the teacher to select some topics for teaching

Items 4 of the scale asked the respondents to indicate the extent to which the examinations influence the degree or depth of teaching a given topic. Fig. 5 shows the distribution of responses. Out of 67 teachers who responded to the items, less than 10 of them (10.5%) disagreed. This means a majority of the teachers were of the view that examinations influence the comprehensives teachers handle a topic. In other words, the amount of energy expended on a topic is determined by the content of the examination.

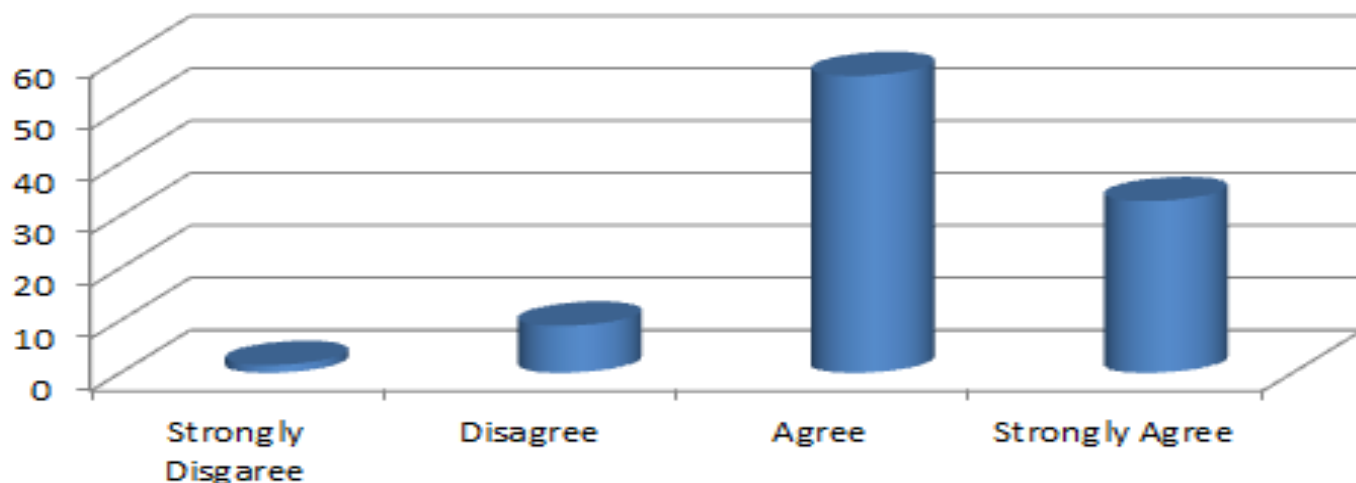


Fig-4. Examinations will influence the degree of depth of teaching a given topic

#### 4.2. Section B: Influence of Examinations on Classroom Activities

Items in Section B of the questionnaire were designed to establish the extent to which examinations influence classroom activities. Table 6 below shows a list of questions and the pattern of responses. The distribution patterns are all skewed to the left indicating that majority of the teachers either agreed or strongly agreed with the statement presented. For example, close to 92.6% of the teachers indicate that selection of a teaching method is influenced by examinations. The evidence in Fig. 6 also shows that majority of teachers (80.6%) say that classroom activities revolve around examinations preparation. Also 62.7% of the respondents skip non-examinable topics in the syllabus. Also, responses to Item 16 points to a high likelihood that content designed to develop cognitive and affective domains of the learners is not taught because the content is not assessed. Exclusion of some topics from classroom activities means that important aspects of the syllabus are not taught.

Table-1. Frequencies indicating influence of examinations on classroom activities

Question	Classroom Activities			
	Strongly Disagree	Disagree	Agree	Strongly Agree
Q7 Selection of teaching methodology is influenced by the need to help students pass	1.5	6	43.3	49.3
Q8 Do you normally cover the whole syllabus	9	38.8	29.9	22.4
Q11 Classroom activities revolve around examinations preparation	3	16.4	67.2	13.4
Q15 Teachers often skip content in the syllabus That is not examinable	9	28.4	43.3	19.4
Q16 Content not examined is important for cognitive Development of the child	1.5	7.5	50.7	40.3
Q20 There are objectives in the syllabus not assessed in the final examinations	1.5	6	70.1	22.4

#### 4.3. Section C: Influence of Past Examination Items on Learning and Teaching

Two related items (i.e., Item 21 and Item 22) were used to measure the extent to which teachers use past examinations papers to prepare students for final examinations. Item 21 on the questionnaire asked teachers to indicate the extent to which items in the final examinations are repeated. A total of 85.1% of the teachers sampled agreed with the statement that items are often repeated. Item 22, on the other hand, required teachers to state whether they find past examinations papers to be a helpful teaching resource that can be used to prepare students for final examinations. Since the statement was put in a negative form (i.e., Past examinations questions are not helpful in preparing students for final examinations), over 70% of the teachers disagreed with the statement. The evidence provided by the two items indicates that teachers extensively use past examinations papers to prepare learners for the final examinations. Repetition of items over the years has the potential to engender negative washback effect on teaching since teachers will try to predict the kind of items that will appear on the examination. Teaching will as a result be focused on topics that are tested regularly. Important content that is not regularly tested will be ignored by the teachers.

#### 4.4. Section D: Use of Examinations Related Materials or Booklets

Teachers often use examination related booklets together with the syllabus and other prescribed teaching materials. Fig. 9 below reflects items in Section D that measured the influence of examinations related booklets on teaching.

**Table-2.** Use of Examinations related booklets in the classroom

<b>Use of Examination Related Materials</b>				
<b>Questions</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
Q26 Teachers often use of Examinations related Booklets to teach their classes	4.5%	14.9%	61.2%	19.4%
Q27 Examination related booklets cover most of the content in the syllabus	0%	26.9%	59.7%	13.4%
Q28 Examination related booklets reproduce questions in examination	1.5%	20.9%	68.7%	9%
Q29 Content in examinations related booklets encourage teaching to the test	1.5%	13.6%	69.7%	15.2%
Q30 Content covered by examinations related booklets is linked to objectives in the syllabus	1.5%	9%	74.6%	14.9%
Q32 Content in examinations related booklets is narrow	7.5%	50.7%	35.8%	6%

The evidence presented in Table 9 clearly shows that teachers extensively use examinations related booklets since 80.6% of them agreed with item 26. Teachers rely on the booklets because they cover most of the information in the syllabus (Item 27) and reproduce examinations questions (Item 28). Therefore, it is not surprising for 85% of the teachers to say that examinations related booklets encourage teachers to teach to the test. Also, close to 45% of the teachers believe content in the booklets is narrow as compared to the subject matter presented in the syllabus.

### 5. Qualitative Data Analysis

Item 35 of the questionnaire required teachers to state whether they agree or disagree with the statement that: ‘Examinations related booklets can help improve the quality of teaching and learning in schools’. A total of 74.6% of the respondents agreed with the statement. An open ended part of the same question gave each respondent the opportunity to give reasons as to why they agree or disagree with the statement. Teachers give varying reasons in support of their answers; the following table shows some of the themes that emerged from the narrative responses. The number in each column indicates the frequency of occurrence of each theme. For example, the Used for Revision theme was mentioned six times. Essentially, four main themes emerged and the themes are subsequently discussed.

<b>Items in the Booklets are aligned To Final Examination Items</b>	<b>Themes Supporting the Statement</b>			
	<b>Content in the Booklets is a summary of Syllabus Content</b>	<b>Used for Revision</b>	<b>Booklets are Based on Syllabus Objectives</b>	<b>Booklets provide additional material and reduces boredom</b>
<b>27</b>	<b>9</b>	<b>6</b>	<b>6</b>	<b>3</b>

**Fig-5.** Emerging themes for teachers who agreed with the statement

#### 5.1. Theme One: Booklets are aligned to the Final Examinations

The most frequently stated reason was that items in the booklets are similar to the ones used in the final examinations. One teacher commented that: ‘This is because most the questions that can be found in the examination booklets can be found in an Examination question paper and these can help learners to be familiar with the type of questions that an examination can question’. In other words, booklets address topics that are regularly tested.

#### 5.2. Theme Two: Booklets Summarize Content in the Syllabus

Teachers have a feeling that examinations related booklets improve the quality of teaching and learning because they present content in a summary form. The subject matter in the booklets is not only condensed but it is also simplified. An interesting observation made by one teacher is that the booklets are useful: ‘Because most of the topics in the syllabus are covered in the booklets and are in a summary form, therefore they are lowered to every learners level’. Suffice to mention at this juncture that simplifying or lowering the difficulty of concepts in the syllabus might produce a big difference between the prescribes syllabus and what is actually taught in the classroom.

#### 5.3. Theme Three: The Booklets are used for Revision Purposes

Since items in the booklets are similar to items used for final examinations, teachers often use the booklets to help learners prepare for the final examination. This perception is clearly captured in one comment made by a teacher to the effect that: ‘There is a lot of content and it (examination related booklets) makes it easy for revision purposes for learners and questions are shortened and aligned to the standards for PSLE hence improving the teaching and learning in schools and prepare learners for Exams’. If items in the booklets target the same cognitive skills as final examinations questions, then the effect in the classroom will be positive. Teachers can use the items in the booklets to generate diagnostic information. Subsequent remedial exercises can be employed to address areas of weakness. However, shortening of an items may result in decontextualized question that tap on a different construct from the one targeted by the original item. Lack of correspondence between the skills assessed in the final examinations and those targeted by examinations booklet items creates room for negative washback effect.

#### 5.4. Theme Four: The Booklets are based on Syllabus Objectives

Comments made by the teachers indicate a strong link between content in the booklets and specific instructional objectives in the syllabus. One of the comments posted explained that teachers used the booklets because: 'They cover most of the objectives in the syllabus and help teachers to identify testable and non testable objectives'. To the extent that booklets indicate testable and non-testable objectives, then teachers will concentrate on testable objectives. The non-testable objectives will be overlooked thus engendering negative washback effect.

The general perception amongst teachers who have a favourable view on examination related booklets is that they are relevant teaching and learning materials. Although the content presented in the booklets might be limited, the subject matter is simplified to make it accessible to learners. The booklets also give students enough practice for the final examinations. Since 25.4% of the teachers sampled disagreed with the proposed idea that booklets contribute towards improvement of teaching and learning in schools; it is imperative to present their perspectives. These group of teachers presented ideas that contradicted opinions held by those who agreed. One teacher who disagreed stated that: 'Teaching and learning is not about examination, it is equipping learners with skills and knowledge relevant to the world of work and be able to fit well in the community'. The view expressed by this teacher is consonant with the aims and objectives of basic education curriculum. One of the objectives is to help children develop a range of educational experiences that will enable them to discover and develop their own interests, talents and skills (Republic of Botswana National Commission on Education, 1993).

### 6. Discussions

The discussion of results will be based on the three research questions stated at the beginning of the paper. However, evidence provided by the participants indicates a strong overlap between the research questions. To what extent does examination influence the teacher's content selection?

Over 95% of the teachers who responded to the survey instrument indicated that examinations influence what they teach in the classroom and 60% were of the view that knowledge of examination questions influences their topic selection. Therefore, the subject matter assessed in the examination has a significant influence on what is taught in the classroom. One main reason may be the recycling of items from year to year thus making examination procedures to be predictable. Over 80% of the teachers agreed with the statement that examination items were often repeated. Repetition of items in the examination eventually leads teachers to select topics in the syllabus that are regularly tested. Content in the syllabus that is not regularly tested is ignored; this point is consistent with the results of a study on examinations washback by Pizarro (2010) the researcher stated that: "Thus, the ET format leads teachers to ignore important aspects of the curriculum that are not tested in the examinations such as oral communication and interaction in the classroom' (p. 164). The undesirable effect of this practice is that classroom activities are geared towards helping learners to memorize the items at the expense of mastery of syllabus content.

To what extent does examination influence the degree or depth of teaching?

A majority of the teachers surveyed were of the view that examinations influence the comprehensiveness teachers handle a topic. Teachers are able to concentrate more on examinable content because objectives that are not tested are skipped. Therefore, examinations have an influence in the degree or depth of teaching in the classroom by making teachers to spend less time on objectives that are not regularly tested. In the end, teachers put more effort and time on objectives that are regularly assessed in the final examinations.

To what extent does examination influence the teacher's selection of classroom activities?

A large majority (92.6 %) of the teachers indicate that selection of a teaching method is influenced by examinations and over 80% say that classroom activities revolve around examinations preparation. This is further proof that past examination papers have a direct impact on the learning and teaching process. In this case, the impact is certainly negative because teachers only teach objectives that are regularly tested. The prescribed syllabus is effectively narrowed as most of the objectives are ignored. Another important finding extracted from the teachers' narrative responses is use of examinations related materials or revision booklets in the classrooms. Examination revision booklets are a compilation of past papers produced by private publishers. The use of such booklets has increased in schools because teachers perceive them as being relevant content sources. However, the booklets have two serious limitations that have the potential to impact negatively on teaching and learning; these are narrowing down of the content in the syllabus and simplification of concepts.

The examination revision booklets only address objectives in the syllabus that regularly appear in the final examinations; non-testable objectives are left out. Some objectives might not be testable but they have a central role to play towards provision of a holistic education; that is, education that develops the learners cognitive and affective domains. Teachers also indicated that the subject matter in the booklets has been simplified to suite the level of the learners. Objectives in the syllabus generally fall into two groups; high order and low order objectives. Simplifying objectives in the syllabus means using low order questions to assess application, analysis and synthesis skills; this will create a mismatch between the objective in the syllabus and the item in the test. Objectives that targets high order thinking skills are included in the syllabus as a way of preparing students for higher levels of education. If such objectives are not tested directly then there will be poor articulation between primary and junior secondary school levels. Students proceeding to junior secondary schools will undoubtedly perceive the content to be too difficult because they lack the necessary foundation. The evidence generally supports the hypothesis that examinations will influence what teachers teach as well as the degree and depth of teaching (Alderson and Wall, 1993).

### 7. Conclusion

The quantitative and qualitative analysis of data from a sample of teachers has pointed towards the possible existence of negative examinations effect in the learning and teaching process. The most fundamental negative effect of examination on learning and teaching appear to be narrowing down of the syllabus content. This results from inadequate sampling of the domain during test construction and the tendency for items to be recycled. According to



Messick (1996) narrowing down of the content results “In the threat to validity known as construct underrepresentation (which jeopardizes authenticity), the assessment is deficient: The test is too narrow and fails to include important dimensions or facets of focal constructs” (p. 7). Also, examinations booklets used in schools are sources of negative washback largely due to simplification of content and promotion of teaching to the test. The apparent negative washback effect is working against the intents and purposes of criterion testing system in Botswana. Construct underrepresentation (due to inadequate sampling) and construct irrelevant variance (due to simplification of high order objectives) affects the validity of the examination. In the end, the examination will fail to reveal what the learner knows, understands and can do in relation to the content universe. Grading of learners will revert to using normative interpretation of scores rather content mastery standards as demanded by CRT. There is need to develop an assessment practice that will compel teachers and learners to concentrate on the subject matter as presented in the prescribed syllabus so that the major benefits of CRT as stated in the Revised National Commission on Education of 1993 can be realized.

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