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Assessment Syllabus and the Validity of Agricultural Education

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Abstract

The decline in the performance of students in their final secondary examinations coupled with the emerging trend of teaching students for the sole purpose of passing examinations brings to question the validity of the entire examination system. This study was concerned with the degree to which public examinations in Botswana can be said to be valid in measuring syllabus-based content and cognitive skills deemed by the society to be essential for the development of individual and the society. The study used a survey inferential design to collect and analyse syllabus and test-related information from related documents. The population of the study includes Botswana General Certificate of Secondary Education agriculture examinations papers from 2007 to 2012. SPSS was used to analyse data using correlation analysis to test all the hypotheses at .05 level of significance. The content and skills in the mock tests portrayed more of the BGCSE examinations than the syllabus probably because teachers in senior secondary schools rely on past examinations papers during teaching and assessment. Agriculture mock examinations for almost all the years are significantly more valid with BGCSE examinations as the criterion than with the curriculum content as the criterion The study concludes that teachers ought to be provided with an in service training on test development. Schools should have quality procedures to discourage teachers from using past examinations as a source for setting school examinations but rather base their teaching and assessment on the instructional objectives of the syllabus.

Keywords: Assessment Syllabus, Validity of Education, Examinations.

Introduction

Society expects the school system to produce persons with the right and relevant skills that are desirable and necessary for engineering and sustaining development. The ultimate goal of education in any country is to develop human resources and build a strong manpower foundation with skills and knowledge needed for the development requirements of such a country. The Long Term Vision for Botswana states that "by the year 2016, Botswana will have a system of quality education that is able to adapt to the changing needs of the country as the world around us changes". This shows how the government is committed to adding value to learning that is intended to empower students with necessary skills for survival and for coping with the changing world.

Determining the level to which essential skill has been developed can be linked to the achievement of learning outcomes which give students every opportunity possible to become educated and informed adults that could easily navigate the transition from school to work successfully. The general concept of essential skills in education can also be related to the degree to which what is learned is relevant and contributes to the development of the society. Despite their central role, many criticisms have been made on public examinations (external examinations) regarding their quality[1]. Observations show that tests are inadequate particularly, in assessing content and ability that learners could do with in their daily life.

Educators and policy makers have realized and acknowledged the critical influence assessment has on teaching and learning and are making efforts to improve the standards and quality of education through assessment[2]. Assessing in school subjects is hardly ever planned to measure any ability of field magnitude and more often, subjects with content that helps schools leavers to perform in life, examples being nutrition, home economics, modern agriculture and science, are not examined[3]. This can be achieved if the school based examinations and final examinations reflect what the curriculum or syllabus entails.The problem is that even if teachers know the most desirable skills to impart among the students, the nature of the education system compels teachers to assess to the test.

The study endeavours to uncover the degree to which public examinations reflect school curriculum in Botswana. It is expected that public examinations adequately sample the content in the curriculum while at the same time adequately sampling and assessing the skills expected to have been learned by the learner.

When a value is obtained through measurement, it is expected that a replication of this measure can be made for as long as both the measurement procedure and the instrument were valid. However in education and psychology we are hardly ever capable of obtaining a sequence of similar results with the comparable instrument because the measurement may have an impact on the person from whom the measure is being taken[4].

Memory fluctuations for example prevent exact replication of a previously obtained score, that is to say the test score observed is tainted by a measurement error. According to classical test theory (CTT), observed score is made up of a true score and a measurement inaccuracy.

$T = X + E$

CTT assumes unsystematic error as it is considered that over a number of measurements, the unsystematic inaccuracy has a likely value equivalent to nil. This is because random error fluctuations are both positive and negative and at the long run cancels out zero. Besides the random error (E), the score X might have a component of systematic variation that does not reflect the construct under measurement. This constitutes systematic error which occurs when ability other than that which the test was designed to measure significantly influences test takers' performance on the test[4]. This systematic error should however, be of great concern to test makers and test users as it may significantly affect the final score awarded to a test taker, thereby bringing to question the validity of interpretations that can be made from the test.

There are many types of CTTs. The basis depends on features of a test score sum comprising of numerous items. Majority of them presume that the raw score achieved by a person constitute an accurate component and a chance error factor[5].

Accurate mark can be established by the score mean that the individual gets on the similar examination if they had an endless figure of testing sittings. Since it's not likely to get an endless number of assessment marks, *T* is a theoretical, but essential, feature of CTTs. Domain sampling theory presuppose that items chosen for any one test are a sample of items from never ending area of possible items. The parallel test theory assumes that two or more tests with different areas sampled give similar true scores with dissimilar error scores. Classical approaches to test theory give augment to numerous postulations. The fewer random error in the gauge, the more the raw mark represent the true mark.

With item response theory, the results of test should be determined by two things if a test was valid and the administration process was valid too; the test takers' ability and the test item's level of cognitive demand (difficulty). Then it is assumed that the person's ability is the only factor that accounts for their response to each item in a test. If a test is designed to measure one and only one ability, and items are arranged in order to which each demands this ability before it could be answered correctly (from the least to the most demanding), examinees will have a higher probability of answering correctly the first set of items that calls for less ability than what they possess ($\beta > \Theta$)[6]. On the other hand, item response theory attempts to replica scholar skill by means of question level performance as an alternative of total test level performance.

Cognitive skills are ordered from those at low level to complex abilities). Classification of skills is founded on an objective frame, while a categorization in its sense perhaps is established on a random criterion. Using this classification is also recommended as it provides a guide for educators to know that they are covering an array of skills that their learners will need to tackle different life situations after their course. Without arranging the topics and identifying the depth of their coverage, it is not easy for educators to be acquainted with the degree to which an area can be discussed[7].

This therefore means that teachers should all the time set their lessons basing themselves on the specifications of the taxonomy to ensure focused and well organized lessons that have clearly stated boundaries and are devoid of confusion and ambiguities.

In order to meet peak standards, they themselves must be linked to classroom learning and assessments. This obligation must also equal adequate resources. Many principles are not linked to curriculum and examinations[8]. Curriculum is based on all levels of cognitive skills of Bloom taxonomy in order to ensure the development of all levels of cognitive skills. The society expects that a child should be taught how to think critically, but the teacher may not be able to do that.

The curriculum is central to teaching and testing. It should fulfill the developmental or millennium goals of every African country by offering all the necessary skills expected of the student when they graduate from school. Using the curriculum as a criterion, BGCSE examinations are aligned to the curriculum; test items must reflect instructional objectives and should be representatives of the population of skills and knowledge included in the curriculum. Similarly, Mock examinations, classroom examinations and classroom teaching should reflect what the curriculum demands. Classroom tests, classroom activities and teaching strategies should fulfill the requirements of the curriculum.

In practice, according to the researcher's speculation, content of mock and school examinations is dependent on the content of BGCSE examinations. Classroom instruction, which is assumed to be reflected in classroom test, is done through sampling what is set in previous examinations; while the Mock examination is prepared to be as similar as possible to the BGCSE exam. In this situation, school examinations are sampling from a sample (BGCSE exam). The curricular validity of these school examinations is therefore very limited.

Figure 1 represents: Validity 1 – Validity of BGCSE examinations given the curriculum. Validity 2 – Validity of classroom examinations given the curriculum. Validity 3 – Validity of Mock examination given the curriculum. Validity 4 – Validity of Mock examination given BGCSE. Validity 5 – Validity of classroom examination given BGCSE.

Abbreviations: BGCSE examination – stands for Botswana General Certificate of Secondary Education Examinations. CSBPS– Cognitive skill/behaviour as provided for in the syllabus. CSBMME– Cognitive skill/behaviour as measured by mock examinations. CSBMBGCSE– Cognitive skill/behaviour as measured by BGCSE. SMCPS– Subject matter contents as provided for by the syllabus. SMCMME– Subject matter contents as measured by mock examinations. SMCMBGCSE– Subject matter contents as measured by BGCSE. CTT– Classical test theory. IRT – Item response theory

Problem and Purpose of the Study: "It is generally known that performance of students can be an indicator of how they were taught. Trends indicate a decline in Botswana General Certificate of Secondary Education (BGCSE) candidate, Agriculture which is one of the Creative, Technical and Vocational subjects show deteriorating achievement by students from 60.18% to 40.52% between 2007 and 2011 for Grade C and better[9]. Botswana is committed to not only provision of education to all but a quality education and this has been supported by several national documents including the Revised National Policy on Education and its Long Term Vision.

The educational system of Botswana has been modelled to a large extent by this national education documents. Quality is to be enhanced by beginning objective based testing where student tests are linked to curriculum skills. RNPE inclination is towards improvement of quality in the educational system. Bjorn Forde of United Nations Development Programme in Botswana defined quality education in Botswana as learner's cognitive growth and the endorsement of principles to society. Classroom assessment play a vital role in pedagogy that supports knowledge with perceptive. Observation and data indicate that teachers' assessment practices possibly underprovided in numerous conduct.

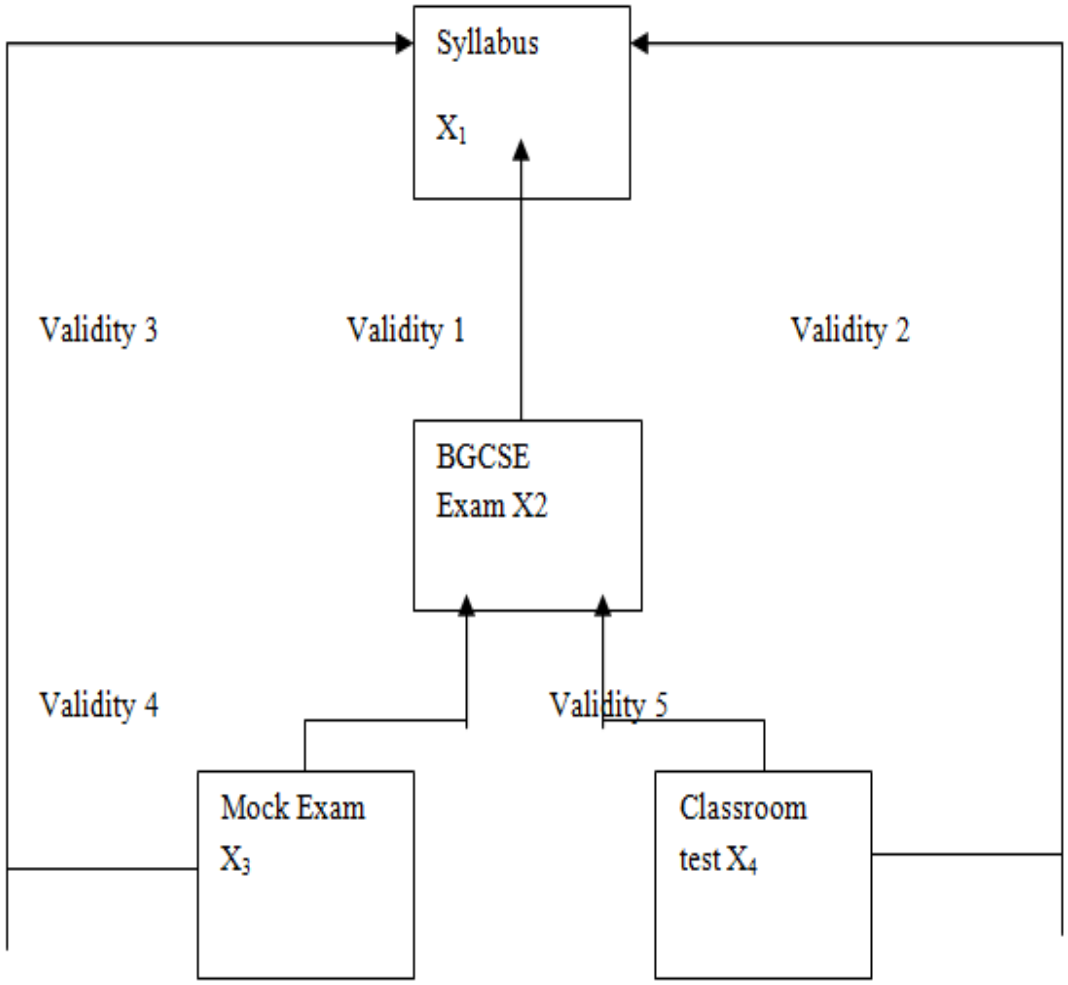

Figure-1
Syllabus Examination - Relationship in Practice

The intention of the study is to comparatively examine the subject matter and the cognitive goals of the BGCSE and syllabi for Agriculture, as well as the content, the level of cognitive demand of related items in the mock and final BGCSE examinations.

Research Hypothesis: H_{01}: Content validity for agriculture Mock examinations given the syllabus as a criterion is not significantly different from content validity of Mock examinations given the BGCSE examinations as a criterion.

H_{02}: Validity of cognitive skill measurement in agriculture Mock examinations given the syllabus as a criterion is not significantly different from validity of cognitive skill measurement of mock examinations given BGCSE examinations as a criterion

Review of Related Studies: A study carried out on the degree of content validity of primary school leaving examinations from past examination papers in Botswana and independent expert judges were selected to rate the questions in terms of topic and skill testing[10]. The finding showed a significant large number of lower thinking skills from 1988 to 1990 of which all rated below 53%. Questions repeatedly asked the same topic areas with same abilities. Researchers clearly identified that there are topics that were less tested although there are of great importance to the country. Researcher concluded that examinations were of low content validity due to inadequate sampling from the syllabus.

Enhancing quality of education through assessment - level of cognitive questions used in classrooms and quality of education: view of teachers in Botswana and Nigerian Primary schools study found out that in the perception of teachers, the levels of cognitive behaviour do vary significantly in the level to which they augment value of learning[11]. For teachers in Botswana primary schools, a significant difference was observed in the level to which current assessment practices in Botswana classroom involve different types of items based on the six level of Bloom's cognitive behaviour. A significant difference in the level to which each type of problem was supposed to improve learning and the level to which each is used in classroom examinations was also observed.

The study on relevance of Kenya's education to the cultural and socio-economic realities of its people today found out that the content of Agriculture text books are biased towards farming therefore being of minimal importance to pastoralist in Kenya[12]. Kenyan citizens are told education is key to development and yet the kind of education they receive is limited in terms of the development needs of the country. On examining the individual resource ability required by Kenyan travel operating sector and the degree to which current education stipulation is sufficient, found out that expert's dissatisfaction of skills demonstrated by workers at the administrative level. The teaching and learning method unsuccessful in producing workers required at higher occupational levels considering that tourism sector is important in the Kenyan tourism industry[13]. Examining the teachers occupation happiness concludes that the majority of public's division school teachers consider the elected method of Principal functioning is more emphasize the teaching emphasizes satisfaction but most of the principal don't engage the teacher in administrative decisions[14].

Nation-wide examinations are vital in evaluating the effectiveness of instruction, extent of curriculum coverage and even monitoring an entire education system. The quality of such assessments relies to a great degree on the nature of the gathered information on assessment[15]. Hence, making inferences about student's performance should go beyond test/examination scores. High stake tests can lead to unwanted consequences such as narrowing of the curriculum through undue emphasis on test preparation. This is particularly harmful when the leaner cohort is diverse with respect to goals[16]. It is invariably essential to know what other contributing factors beyond student ability affect the achievement scores, given that the educational landscape is not levelled. More often than not, the public examinations focus on educational efforts that are attached to learner performance, rather than providing useful information to learners, teachers, parents, and policy makers for educational enhancement[17].

The relationship between inclusion in the intended curriculum and student achievement in science was not as straightforward as in mathematics[18]. There were several lower performing countries with fewer topics in their curricula-Botswana, South Africa, and Tunisia. The study indicated that teachers decide what to instruct them. Teachers deduce and acclimatize the planned curriculum as per curiosity their students and this progress into the executed curriculum. Studies have exposed that the executed curriculum, even in very much synchronized educational systems is not alike to the planned curriculum. Policy developers to create resonance judgement about comparative well working and failing science education in their system rely on attainment measures and student learning.

Methodology

The study is descriptive survey based on quantitative content analysis of the syllabus, public examinations and a mock examination, which is the key data collection method for the study, can be seen as a method for descriptive survey for which the subjects are documents whose characteristics were described quantitatively. Documents being the BGCSE and mock examination papers including the syllabi of Agriculture subject. The population in this study consists of agriculture syllabi as well as agriculture BGCSE and Mock examination papers from 2007 to 2012.

Agriculture is an optional subject and the BGCSE and BGCSE and Mock examination papers were requested from randomly 20 sampled schools since they are exactly the same across the country. Six Paper 1 and 6 Paper 2 final examination papers and mock examination papers respectively were collected between 2007 and 2012. Examination of documents is good if intention is

to expand insight into a teaching approach and assessing movement, outline, and uniformity in teaching documents[19].

Content analysis from the syllabus was analysed based on cognitive domain as outlined in table 1, instructional objectives outlined were categorised under one of the 13 subcategories of skill, and each skill was given a numerical value. Agriculture Papers 1 and 2 were paired before any processing was done. These papers were analysed item by item to determine the cognitive abilities called for each student per item. The mark awarded to the item was

Table-1
Levels of Cognitive Skills

U1 (Cognitive skills)	Subcategory
Memory	Memory of specifies (terminology and facts)
	Memory of method of handling particulars
	Memory of universal categories (laws, theories)
Comprehension	Comprehension
Application	Application
Analysis	Examination of basics
	Examination of associations
	Examination of arrangement of standards
	Construction of a exclusive message
Synthesis	Creation of an arrangement
	Derivation of a set of abstract relationships
Evaluation	Judgement in relation to internal criteria
	Judgement in terms of external criterion

translated as the mark awarded to the skill being measured and then recorded. Marks awarded to similar categories were added up for the entire test to make 13 numerical values representing each of Bloom cognitive subcategories. Codes derived from the syllabus and from the examination papers were correlated using Pearson's r.

Further correlations were done by correlating the codes derived from the examination to each of the other codes. Analysis of data is essentially translation of an arrangement of the data in a different layout for an improved thoughtfulness and this is termed data processing[20]. Similarly, content codes in the examinations, subtopics addressed in the syllabi were extracted. Each subtopic was assigned a figure that showed how many times it is mentioned in the syllabus. Examination papers were analysed item by item and subtopics addressed in the examination items were paired with the mark awarded for the item in question. Codes resulting from the syllabus and those from the examination papers were then correlated using Pearson's r. Correlating codes from various examination papers with every other exam were further analysed. Unprocessed data analysis was necessary to appropriately take out the sequence of information with fewer mistakes. All figures were analysed using SPSS.

Data Analysis and Interpretation of Results: *H_{O1}: Content validity for agriculture Mock examinations given the syllabus as a criterion is not significantly different from content validity of Mock examinations given the BGCSE examinations as a criterion.*

Ho_1: $\rho_{v3} - \rho_{v4} = 0$
Codes derived from content coding Mock examinations were correlated with those derived from content coding the syllabus to stand for Validity 3. Validity 4 conversely was found by correlating Mock examinations with BGCSE examinations of the equivalent year.

Validity 4 shows that it is higher (r = -.08 to r = .33) than validity 3 (r = .02 to r = .04). To test the above hypothesis, the correlation values were compared.

To test these hypotheses, a Z – test of comparing Fisher's transformed r – values from dependent sample was done. The results as presented on table 2 in measurement of content indicated that the validity of agriculture by Mock examinations given the agriculture syllabus as the criterion is significantly less ($-1.96 < Z_{.05} < + 1.96$) than the validity of the agriculture Mock examinations given the agriculture BGCSE as the criterion in Botswana senior secondary schools for year 2008. Validity 4 is significantly more valid than validity 3 for 2008 agriculture mock examinations.

Table 2 reveal that most of the calculated values are less than the critical value of ± 1.96 for year 2007, 2009, 2010, 2011 and 2012 and therefore the research hypothesis is retained and concluded that Validity 4 was not significantly different from Validity 3.

H_{O2}: Validity of cognitive skill measurement in agriculture Mock examinations given the syllabus as a criterion is not significantly different from validity of cognitive skill measurement of mock examinations given BGCSE examinations as a criterion

Ho_2: $\rho_{v3} - \rho_{v4} = 0$

Correlation values derived from skill coding Mock examinations were correlated with those derived from skill coding the syllabus to constitute Validity 3. Validity 4 on the other hand was found by correlating Mock examinations with BGCSE examinations of the corresponding year.

Validity 4 appear higher (range .42 to .94) than Validity 3 (range -.21 to -.24). To test the above hypothesis, the correlation values were compared.

To test these hypotheses, a Z – test was used to compare with Fisher's transformed r – values from dependent sample were done. The results as presented on table 3 in the measurement of

cognitive skill indicated that the validity of agriculture by Mock examinations given the agriculture syllabus as a criterion is not significantly higher ($-1.96 < Z_{.05} < +1.96$) than the validity of the agriculture Mock examinations given the agriculture BGCSE as the criterion, in Botswana senior secondary schools for year 2008, 2009 and 2011 (table 3).

Results on table 3 reveal that Validity 4 is significantly different from Validity 3 for year 2007, 2010 and 2012. For year 2007, 2010 and 2012, correlation values for Validity 4 were higher than correlation values for Validity 3, it is then concluded that agriculture Mock examinations for the same years are significantly more test valid than there are curricular valid.

Table-2
Z-Test Analysis of the Differences in the Coefficients of Pearson Correlation in Content between SMCMME and SMCPS and Between SMCMME and SMCMBGCSE in Agriculture for 2007 – 2012

Year	Variables	r-value	Z_r (Z-transformed) value	Z-test value
	SMCMME and SMCPS	.03	.03	
2007				-0.10
	SMCMME and SMCMBGCSE	.03	.03	
	SMCMME and SMCPS	.03	.03	
2008				-2.51
	SMCMME and SMCMBGCSE	.17	.17	
	SMCMME and SMCPS	.08	.08	
2009				.76
	SMCMME and SMCMBGCSE	-.04	.04	
	SMCMME and SMCPS	.03	.03	
2010				.28
	SMCMME and SMCMBGCSE	.01	.01	
	SMCMME and SMCPS	.04	.04	
2011				-0.18
	SMCMME and SMCMBGCSE	.05	.05	
	SMCMME and SMCPS	.02	.02	
2012				.12
	SMCMME and SMCMBGCSE	.01	.01	

Table-3
Z-Test Analysis of the Differences in the Coefficients of Pearson Correlation of Cognitive Skill between CSBMME and CSBPS and Between CSBMME and CSBMBGCSE in Agriculture for 2007 – 2012

Year	Variables	r-value	Z_r (Z-transformed) value	Z-test value
	CSBMME and CSBPS	-.29	.29	
2007				-3.63
	CSBMME and CSBMBGCSE	.90	1.49	
	CSBMME and CSBPS	-.23	.43	
2008				-0.29
	CSBMME and CSCMBGCSE	.57	.72	
	CSBMME and CSBPS	-.21	.21	
2009				-1.87
	CSBMME and CSBMBGCSE	.42	.45	
	CSBMME and CSBPS	-.32	.33	
2010				-3.45
	CSBMME and CSBMBGCSE	.69	.85	
	CSBMME and CSBPS	-.24	.24	
2011				-.41
	CSBMME and CSBMBGCSE	.29	.29	
	CSBMME and CSBPS	-.21	.23	
2012				-2.45
	CSBMME and CSBMBGCSE	.48	.52	

Results and Discussion

Summary of Findings: This study uncovered the extent to which public examinations reflect the school curriculum in Botswana. It is expected that public examinations adequately sample the content in the curriculum while at the same time adequately sampling and assessing the skills expected to have been learned by the learner. The study is rooted in test theory and theory of human resources.

This hypothesis was tested by correlating scores resulting from content/skill coding the agriculture syllabus with content/skill coding from BGCSE agriculture examinations (Validity 1). Values derived from coding items from agriculture Mock examinations and values derived from the syllabus coding were correlated. Values were derived from content/skill coding the mock examinations, these were correlated to those of BGCSE to depict Validity 4. Codes derived from content/skill coding Mock examinations were correlated with those derived from content/skill coding the syllabus to constitute Validity 3. Validity 4 conversely was found by correlating Mock examinations with BGCSE examinations of the corresponding year. To test these hypotheses, a Z – test of comparing Fisher's transformed r – values from dependent sample was done. It was found out that the content and skills in the Mock tests portrayed more of the examinations than the syllabus.

Discussions: From this study, it is evident that the test theory can provide a framework for content and skill analysis of past examinations papers student set for, hence contributing towards the improvement of validity of public examinations in Botswana.

Findings show that agriculture Mock examinations for 2007, 2010 and 2012 years are significantly more test valid than they are curricular valid in terms of skill. The ideal situation however is that the skills called for in the mock examinations given syllabus should have a higher validity than the skills called for in mock examinations given the BGCSE examinations. This will be the case if the syllabus guides the teaching and testing. Teachers take past examinations and replicate them exactly as there are for students to take during school based assessment as shown by correlation values for Validity 4 which is higher than correlation values for Validity 3. This adversely compromises skill validity in agriculture. Agriculture being a practical subject, students should do well as they progress with their education and so as to sustain their existence which is also important for the country's economy. The advice that to educate for thoughtfulness, and consider learners previous acquaintance throughout the education practice has been disregarded[21]. Assessment should aim at discovering what the learner knows, understands or can do rather than using it for assessing whether the learner knows, understands or can do a pre-determined thing[22]. Poor assessment may unfortunately be a depiction of poor instruction[23].

Instead of using the syllabus as a guide to their teaching and testing, teachers use past examination questions. The Mock tests have a significantly higher validity with past examinations as a criterion than with the syllabus as a criterion. Weak relationships may fortunately be a depiction that teachers do not align their school based tests well with examinations. The skills that are not tested in the examinations are left out by the students and this does not serve the planned goal of teaching that will eventually facilitate growth, development and success in life. To realize these goals, the students should be exposed to all the cognitive levels, and the examinations and tests should similarly include items that measure all the cognitive skill levels.

Findings failed to show any alignment between the Mock examinations and the syllabus but instead showed a connection between the Mock examinations and final examinations. The low skill validity in agriculture is because most topics that are in the syllabus are not included in the school based tests and yet are never given the attention by the teachers. The very strong relationship between the mock examinations and the final examinations implies that an improvement in the alignment of the syllabus and examinations will definitely improve the alignment of teaching and testing with the syllabus. Since the Mock content are based mostly on the final examinations content, an improvement in the quality of the examinations in terms of skill can improve the quality of teaching.

Content in agriculture and mathematics Mock examinations does not significantly reflect content in the syllabus. In fact, findings show very low correlation values. The constructs being tested in these examinations are not those stipulated in the curriculum as shown also by very low correlation values. Standardized tests do not match the up-and-coming content standards, and over-dependence on this sort of assessment time and again leads to teaching that emphasizes basic skills[24]. Fundamental skills are vital in education but have been over highlighted to elevate standardized test scores. Findings show that questions repeatedly asked the same topic areas with same abilities[10]. Researchers clearly identified that there are topics that were less tested although there are of great importance to the country. Researcher concluded that examinations where of low content validity due to inadequate sampling from the syllabus.

As shown by the test theory in this study, both BGCSE and mock examinations should be aligned to the syllabus and test items must reflect instructional objectives and should be representative of the skills and knowledge included in the syllabus. For year 2008, the agriculture content validity of Mock examinations given BGCSE examinations as a criterion, is significantly higher than that with the syllabus as a criterion. Test validity is in fact the level of confidence with which an examinee's test score could be used to infer the ability under measurement possessed by the examinee. The ideal circumstance is that each examination is constructed

independent of the other examinations but the current study has shown that school examinations are repeatedly using the same test items from year to year, thus, sampling from the sample repeatedly.

However, for 2007 as well as from 2009 to 2012, Validity 4 was not significantly different from Validity 3. This is in agreement of what the test theory stipulates. The findings showed higher validity of the examinations than the syllabus for all the years except 2007. That means that content set in the Mock examinations is significantly test valid than curricular valid from 2008 to 2012. If assessment is an indication of the degree of instruction, then instructional validity in secondary schools in Botswana is inadequate. The consequences of these shortfalls of the syllabi on the quality of education cannot be over emphasized since the national development goals cannot be successfully achieved.

Conclusion

From this study, it is evident that the test theory can provide a framework for content and skill analysis of past examination papers student sat for, hence contributing towards the improvement of validity of public examinations in Botswana. The content and skills in the Mock tests portrayed more of the examinations than the syllabus probably because there is replication of past examinations papers than syllabus-based teaching and learning. It is concluded that Agriculture Mock examinations for almost all the years are significantly more test valid than there are curricular valid.

Recommendations: It is suggested that teachers to have an in service training on cognitive domains, test development and matching their test to the syllabus. The ministry of education need to weight content and perhaps skills in the syllabus to guide teaching and assessment. It is important that both final examinations and school based tests cover all the content and skills as called for by the syllabus to make them worth teaching.

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