



School based assessment in food and nutrition practical examinations: Eswatini Teachers' Experiences

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Available online at: www.isca.in, www.isca.me

Received 8th June 2020, revised 14th December 2020, accepted 3rd March 2021

Abstract

In 2015, the Examinations Council of Eswatini (ECESWA) presented a new technique from External Examiner Based (EEB) to the School Based Assessment (SBA) of Food and Nutrition practical examinations. The purpose of this study was to explore the teachers' experiences with the EEB and their attitudes towards the SBA. The population of the study was Consumer Science (CS) teachers from the Hhohho and Shiselweni regions of Eswatini. Fifty nine (n=59) CS teachers were purposively selected. A mixed methods approach, comprising quantitative and qualitative methods, was employed using a descriptive survey research design. Findings of the study revealed that teachers generally had negative attitude towards SBA. They bemoaned nonpayment for the time consuming task of assessment. Teachers were also discouraged by the lack of technologies necessary for the assessment to include cameras, computers and printers. They indicated preference for the EEB because inspectors' visits lessened their workload. They also considered the external examiners as more objective since they were not directly involved with the students. Teachers were not satisfactorily trained for SBA and wanted financial incentives while expecting ECESWA to consider reverting to the former system of conducting the assessment. Based on the teachers' suggestions, it is therefore recommended that teachers be further trained on SBA and schools be supplied with requisite technology for assessment.

Keywords: School based assessment, external examiner based assessment, assessment.

Introduction

The approach to the summative assessment of Food and Nutrition (FN) practical examinations for the past decades involved the use of four external assessors who covered the four regions of Eswatini in 226 Schools referred to as Examination Centres. There were a number of challenges faced including the travelling costs of the external Examiners, and timetable interruptions due to power failures and impassable roads. The approach was therefore associated with unexpected waste of resources as well as disruption of the process which would demand postponement of the practical examinations.

School Based Assessment (SBA) of Food and Nutrition practical examinations in Eswatini education system is a recent curriculum change. A study on the Eswatini education system concluded that there was need for curriculum review and assessment that would clearly outline the skills and competencies that the learners should achieve. The sustainability of change is dependent upon the beliefs, reactions and positive attitude of the recipients as they attempt to meet the challenges brought about by the change¹.

Majid¹ further postulates that implementation of change often brings about concerns among those involved and consequently leads to failure in the innovation attempt.

This is further echoed in findings of a study which reflected that teachers' acceptance and preparedness to carry out the change are vital in attaining the aspiration of the SBA².

In countries such as the United Kingdom, New Zealand, the South Pacific, Scotland, the Caribbean, Australia and Hong Kong where School Based Assessment was executed, there has been debate on reliability and validity of this form of assessment³. On the other hand, ongoing research has shown that teachers are generally unhappy with the implementation of SBA mainly because of the resources (time and energy) required for conducting the assessment⁴. In OECD countries, teacher based assessments have been shown to be perceived as unreliable. They are associated with possibilities of cheating and a high risk of bias between groups of students. Disparities were reported in rating criteria between the schools and educators in the same school⁵.

Some African countries such as the Republic of South Africa, Botswana, Namibia, Kenya and Nigeria have adopted SBA and document similar experiences as the Western countries⁶.

School Based Assessment (SBA): SBA is usually carried out by educators on interpretations on students' work on different tasks assigned periodically⁷.

The teacher gives instantaneous and practical response to learners and kindles constant appraisal and fine-tuning of the instructional process whilst promoting learning in a more flexible manner. It complements different assessment methods, to include external examinations consequently contributing to the ultimate mark for the subject⁸. Several researches attest to SBA as one that eases examination induced strain as well as an instrument for appraising the pupils' progress⁹.

The EEB method of Food & Nutrition (FN) assessment in Eswatini and what led to the SBA form of assessment: Costs, security of examination materials and time constraints: Since the inception of Food and Nutrition (FN) into the school curriculum in Eswatini (since the 1970's), the summative assessment of the subject was expensive for ECESWA. Numbers of examination candidates in the subject are generally low hence, the high costs per candidate student. The costs covered included itinerant costs associated with traveling from one school to the next assessing the practicals as well as out of pocket allowances. The number of practical sessions depended on the enrolments of each examination centre as schools were named. Where the candidate student numbers were larger, the assessor camped much longer (Table-1).

Table-1: Food and Nutrition enrolments from 2000- 2015.

	Year	No. of schools	No. of Candidates
O' LEVEL	2000	80	848
	2001	81	871
	2002	83	931
	2003	82	790
	2004	87	971
	2005	92	1049
	2006	94	1113
IGCSE	2007	91	1152
	2008	96	1029
	2009	98	1258
SGCSE	2010	105	1250
	2011		1330
	2012		1469
	2013		1558
	2014		1528
	2015		1721

After the practical sessions, the assessors would sign for the work with the school administration and carry the examination materials to assess them during their own time, which often resulted in item loses. Assessors would each work on a tight schedule for about 30 days in order to meet the deadline for the submission of marks to ECESWA by the end of October each year. This made the assessment a stress filled exercise for the external examiners.

Inaccessibility of centers and electricity failures on stormy days: Since the examinations are in spring season in Eswatini, certain centers situated in isolated parts were difficult to get to. Once there was power cut-off the examinations would be cancelled and perishable ingredients go bad.

Occasionally, clashes with the Master time table for SGCSE examinations were experienced. Due to complexities, the Examinations Council of Eswatini was compelled to embark on reviewing the fundamental structure of the assessment tool.

Types of School Based Assessment at Eswatini General Certificate of Secondary Education (EGCSE) level in Eswatini: The EGCSE programme, preceding the IGCSE and O' Level programmes was introduced in 2010 and offers the following types of School Based assessment:

Course Work assessment (Tests): These are regular homework assignment based on the topics covered in class during the course of the last one or two years.

Practical Work: Practical or assignments are done under the supervision of the subject teacher and recorded for consideration at the end of the year final course assessment.

Project work: Students work individually or in groups of not more than three. Through project work students are required to show that they do use their knowledge, abilities and skills of different subjects within the groupings. Apart from Food and Nutrition, Eswatini offers School Based form of assessment in these subjects at EGCSE level (Table-2).

Table-2: Course work components in EGCSE subjects.

Subject	Course work
Fashion & Fabrics	Project presentation
Agriculture	Projects + practicals
Design & Technology	Research + project presentation
Technical Studies	Research + portfolio presentation
Prevocational Studies	Research + project presentation
English Language	Oral presentation in CD Tapes

Synopsis of the Implementation of School Based assessment of Food and Nutrition practical examinations. National Workshops were conducted in 2014 where teachers were inducted on the new approach of assessment. This was done through allowing coordination sessions during training and enabling teachers to mark dummy practical planning sheets using the new assessment tool (banded mark scheme) and a follow up discussion of these in their individual groups.

The Food and Nutrition Examination is composed of two papers; a practical and a theory paper each contributing 50% to the final mark. The practical component has two (2) sessions, the Planning Session and a Practical Examination which is conducted in this way:

At least 3 weeks before the examination, ECESWA sends instructions informing schools about the materials to be prepared and the general conduct of the examination. The preparation is coordinated by Heads of Departments and Centre Administrators to prepare all the required materials.

Planning Session: A planning Session, which is, a paper and pen examination supervised by invigilators, of an hour and a half is conducted by schools on the same day countrywide. This is done a week before the practical examination.

On this day, five tests are to be assigned to candidates in strict alphabetical order. Planning sheets 1 (choice of work), Sheet 2 (order of work and methods) and Sheet 3 (Shopping list) are issued and are used as answer sheets.

Practical examination: During this examination, candidates perform various activities, in the presence of invigilators and a teacher assessor: i. The teacher observes the candidates during working step by step making reference to the marking criteria. ii. The planning sheets are assessed and completed ensuring that they are dispatched to ECESWA following the instructions. iii. The assessor has the entire examination duration to observe which is dependent on the number of candidates who are put into groups of 8 candidates each.

The practical examination runs for two hours and a half and is intended to measure practical skills and the product. Photographs of the product are usually taken with the candidate in front of his/her work. The enlarged photos of candidates finished dishes, marked planning sheets and the filled out marking criteria are all put in a well labelled portfolio to be sent to ECESWA for moderation.

Anticipated benefits for implementation of Food and Nutrition School Based assessment in Eswatini: The implementation of SBA is expected to encourage personal progress; help develop positive attitudes, enhance collaborative skills and promote creative teaching and learning activities. Elsewhere students were found to be happier and had more confidence and learnt better in SBA¹⁰.

The implementation of School Based Assessment of FN is anticipated to minimize, if not to eliminate failures and dropouts and thereby enhance the effectiveness of education process in schools. It is supposed to motivate and also give students and teachers an opportunity to improve their performance and fosters positive wash-back effects of public examinations.

Anticipated challenges of School Based assessment for Eswatini: There is a variety of anticipated challenges associated with the school based assessment for Eswatini. School assessment of students based on school test is a very poor basis for comparing students from different schools, because it does not allow a more realistic comparison in that it will not prevent teachers' personal interest from interfering with the assessment¹¹. The OECD further points out that, teachers naturally tend to overrate their students since poor results would reflect poor teaching on their part. Since teachers assess their own students, it is difficult to ensure that a standard of all assessment is the same.

The examination Council of Eswatini, whose mission is to provide an efficient examination management and administration service at an affordable fee has the mandate of administering external examinations in the country¹². In line with the curriculum transformation, ECESWA has sought to transform examination procedures including the FN practical examination. However, there is no systematic documentation in Eswatini on the apparent views allied with the execution of SBA in selected subjects¹³. This paper therefore, sought to determine teachers' experiences of the implementation of SBA, their attitude towards it and to gather teacher's opinions with regards to strategies to improve the assessment of Food and Nutrition Practical examinations in Eswatini at EGCSE level.

Research questions: i. What are teachers' experiences with the external examiner based assessment? ii. What are teachers' attitudes towards implementation of school based assessment? iii. What strategies are needed to improve the assessment of the Food and Nutrition practical examinations?

Methodology

The study employed both quantitative and qualitative data collection methodologies.

Sample: The study was conducted among fifty nine ($n=59$) Consumer Science teachers in the Hhohho and Shiselweni regions who were involved with the SBA assessment of Food and Nutrition practical for the first time in 2015. They were conveniently selected from rural, urban and semi urban schools, and included some who Convenience sampling is a type of nonprobability sampling in which people are sampled simply because they are useful sources of data for researcher¹⁴.

Data collection tools: The instrument (Questionnaire) used for this study consisted of three sections.

Part A dealt with teacher attributes. Part B was a dichotomous response on the new format. Part C had open ended questions addressing the teachers' experiences with SBA. For the qualitative data, thematic analysis of the open ended questions was used to document responses from the 59 teachers regarding school based assessments of FN practical examinations.

Data analysis procedures: Quantitative and qualitative data were analysed using SPSS version 23.0 and thematic analysis respectively.

Results and discussion

Demographic characteristics: The teacher respondents came from two districts in Eswatini, Hhohho in the north ($n=40$, 68%) and Shiselweni in the South ($n=19$, 32%) and the group was almost exclusively female ($n=57$, 97%) with only two males ($n=2$, 3%). Information presented in Table 1 shows that at least half of the teachers ($n=33$, 56%) had teaching experience of less than 10 years and 3 in 4 ($n=26$, 44%) had teaching experience of more than 10 years. The average teaching experience is the 5-9 years. Concerns of English teachers regarding the implementation of SBA points out that, those teachers with more teaching experience were more suitable for effective implementation of SBA¹⁵. The majority of teachers in this study had teaching experiences of less than 10 years and thus they are likely to have difficulty with SBA implementation (Table-3).

Table-3: Teaching experiences for teachers.

Teaching Experience (years)	Frequency (n=59)	%
0 to 05	9	15
6 to 10	24	41
11 to 15	6	10
16 to 20	11	19
21 to 25	6	10
26 to 30	3	5

Effectiveness of the External Examiner Based Assessment: Teachers' views on the effectiveness of the external examiner based assessment were collected. They opined that the former assessment approach was more effective, reliable with some consistency in the scoring of the practical examinations since there were very few assessors who were also highly experienced regional inspectors. Also, an external examiner would be a stranger to the school, and therefore likely to be fair in her judgment, objective and free of bias as they were unfamiliar with the candidates.

Respondent teachers indicated a perception that learners did very well in the EEA. ECESWA believed in the external examiner as there was less pressure on learners and teachers¹⁶. This may be due to the fact that the external examiners' grade was not moderated.

Teachers indicated that the school principals would easily give out the money for practical examinations in the former assessment, yet teachers are confronted with challenges soliciting money for the practical examinations in the current arrangement. Others perceived benefits of having inspectors assessing pupils and marks moderated by them due to the expertise they had in assessing the practical examinations. Respondent teachers indicated that the external examiner would help guide teachers where necessary on other areas that concerned teaching and assessment as well. The studied teachers liked the visit of the inspectors to the schools for the assessment. This is contrary to the findings reported in other studies which indicated that teachers find inspectors' visit intimidating¹⁷.

Challenges: Teachers were asked to describe the encounters with executing the SBA. The challenges were grouped into five namely technology, awarding of markings, time, workload and tiresome work.

Technology: A total of 26 teachers (45%) reported that their schools lacked necessary electronic gadgets such as printers, cameras and computers. These gadgets are necessary to aid in providing evidence that a task was indeed done by the candidate.

Time: Most of the teachers ($n=18$; 30%) had to use most of their time preparing the portfolio and yet the time frame between mock (trial) and final examination was very short. Teacher reported experiences of the mock exam itself were that it is taxing in terms of time and finances. The Food and Nutrition practical examinations need support from administrators for allocation of additional time. However, in the absence of inspectors, the respondents claimed that administrators did not take the examination seriously.

Awarding marks: Some respondent teachers ($n= 16$; 28%) reported that scoring and banding student marks was still a challenge as they felt that they were not competent to do the assessment.

Workload: The Consumer Science teachers ($n=16$; 28% of them) also felt that the new assessment gave them an extra load. The respondents felt that practical lessons and examinations put added strain as it demands preparation of facility, candidates, materials and ingredients as well as a full concentration during the practical session. It would seem the low enrolments in some centers did not benefit some of the respondents as documented in the Annual Education Census of Report of 2015.

Challenges of SBA implementation are widely documented. According to Chan *et al*⁵, apart from time constraints, lack of knowledge by teachers, increased teacher workloads as well as supervision were all obstacles of SBA implementation. Teachers tend to be worried about their abilities and roles to meet all the requirements of SBA. Most schools in Eswatini are Government aided thus, a provision of coloured printer ink and digital cameras for portfolio presentations could pose a challenge (Figure-1).

The results of the study generally indicate that the school based format of assessment has limited support amongst teachers

hence only about 2 in 5 teachers (38%) thought Food and Nutrition should follow the new format. Figure-2 displays a distribution of teachers who recommended the school based form of assessment of Food and Nutrition examinations. This was, however, shown to vary by region such that teachers from Shiselweni ($n=18$, 78%) were more skeptical, hence only a few amongst them ($n=4$, 22%) were positive. This is in contrast with teachers from the Hhohho region ($n=37$, 54%) where about half of them ($n=17$, 46%) were positive about school based assessment as the method to adopt and issue in the future (Figure-2).

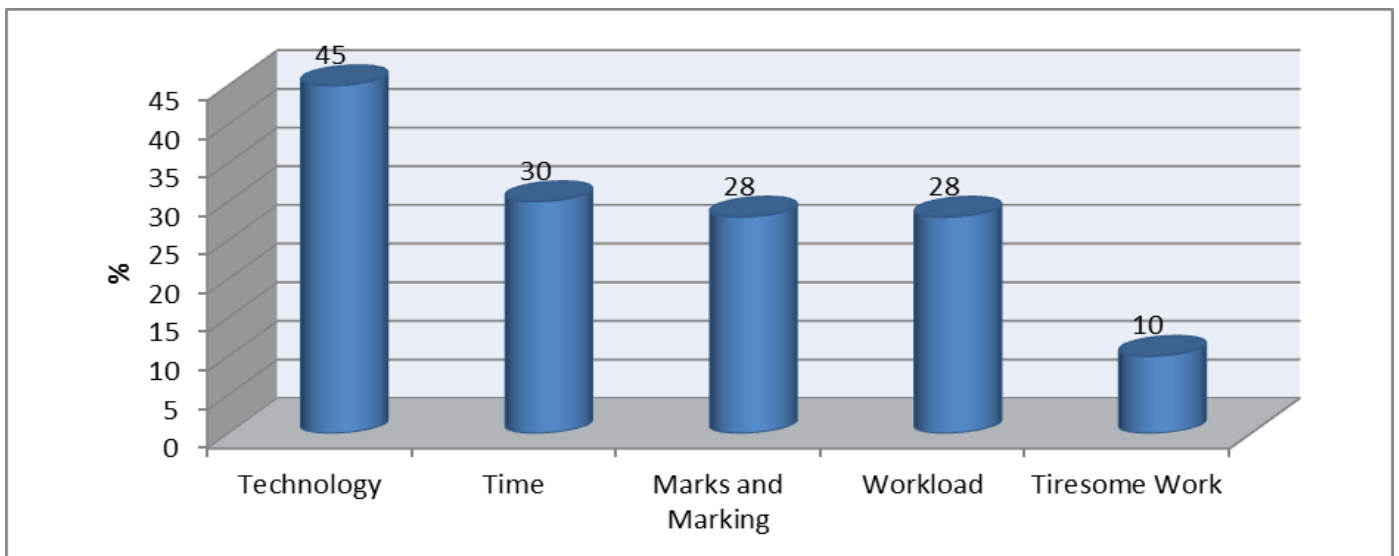


Figure-1: Distribution of challenges experienced by teachers when assessing Food and Nutrition Examinations in 2015 (n=59).

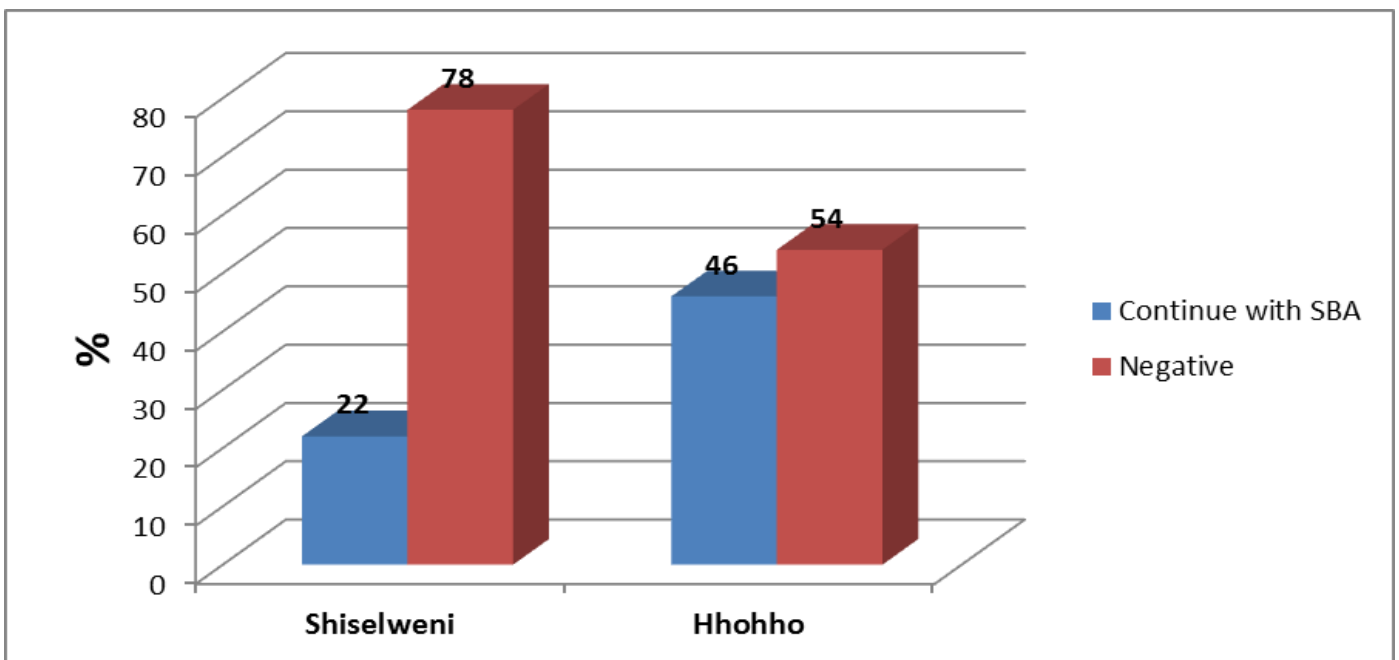


Figure-2: Distribution of teachers suggesting that school based assessment should continue.

Teacher Experiences and Descriptions of the School Based Assessment: Teachers were asked to describe, using one word, their experience of the school based assessment as used in the summative assessment in 2015. There were both negatives (Figure-3) and positives (Figure-4). The majority of the teachers offered negative descriptors of the school based assessment. They described the exercise as being hectic (29%), time consuming (29%), stressful (20%), tiring (15%), tedious (12%), challenging (12%) and less than (10%) indicated frustration and being too demanding. These reactions do not indicate a successful future since teachers are curriculum implementers as they make or unmake a curriculum through their commitment. This could be possibly because the respondents were not yet acquainted with the change or these were part of new teachers joining schools in new academic years (Figure-3).

The positives descriptors suggested it was an informative, easy, efficient and good experience. These teachers were found to have little teaching experience (maximum number of years

teaching). This observation could be attributed to the fact that among these were teachers who had not experienced the former assessment and thus could easily accept the School Based Assessment.

Suggested improvements: Teachers were asked to give their suggestions for improvement of the school based assessment in Food and Nutrition. Figure-5 presents the respondents' suggestions that were grouped into five categories: exam modalities, technology, reverting to inspector based assessment, providing incentives to teachers and providing adequate workshops and training.

Figure-5 indicates that the modal improvements highlighted by respondents touched on modalities of the summative examination with 19% ($n=11$), technology 8% ($n=5$) and a suggested return to the old inspecting external examiner based format at 7% ($n=4$).

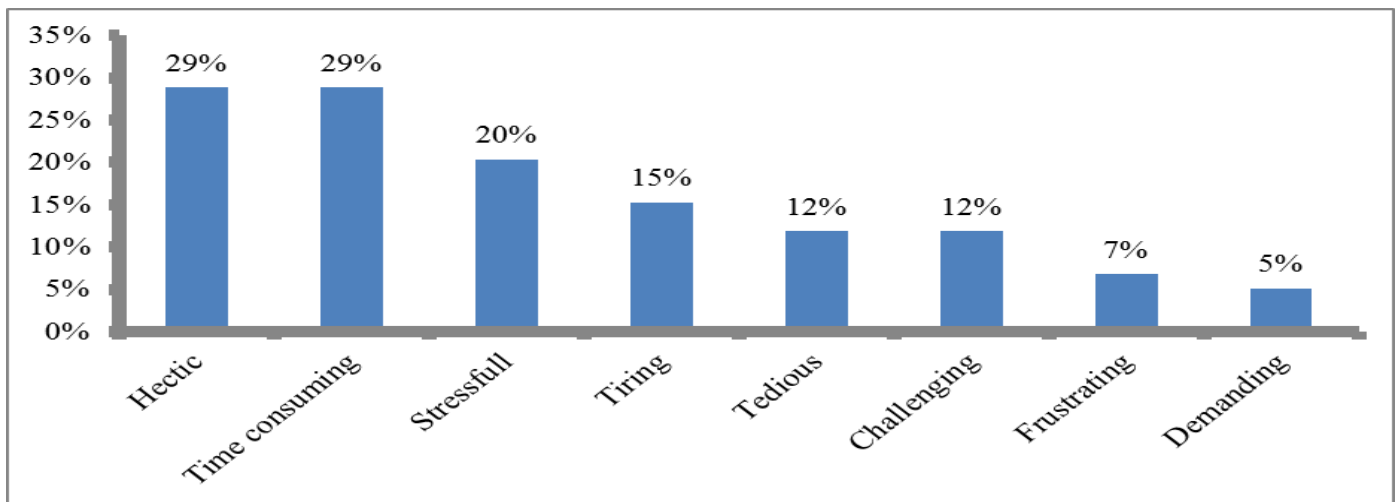


Figure-3: Proportions of teachers and the descriptors they associated with the experience of School Based Assessment.

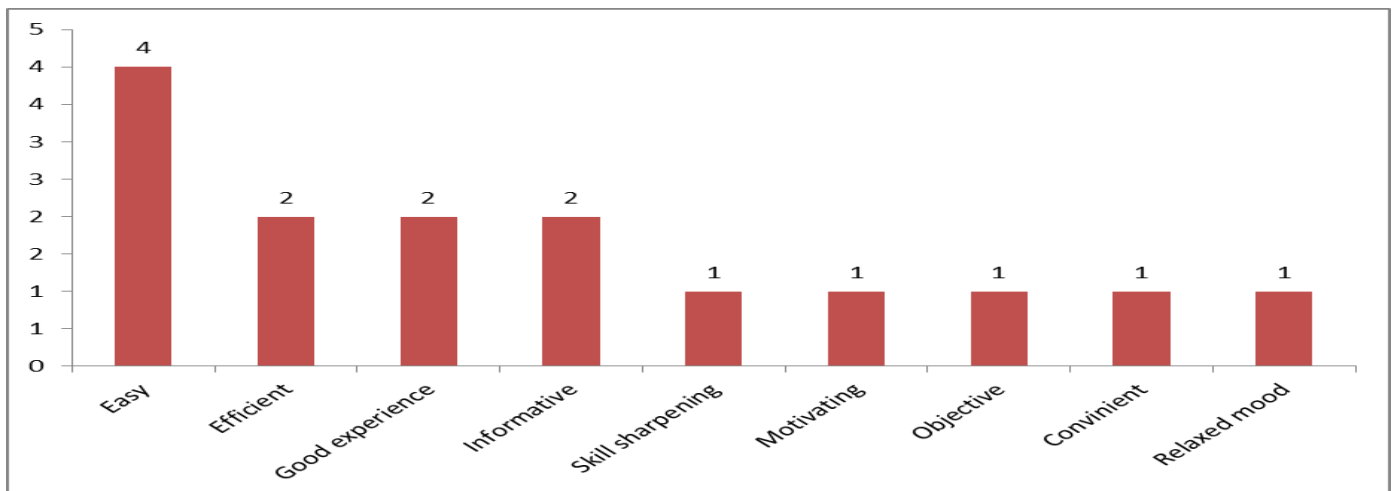


Figure-4: Numbers of teachers and the positive descriptors of the school based assessment.

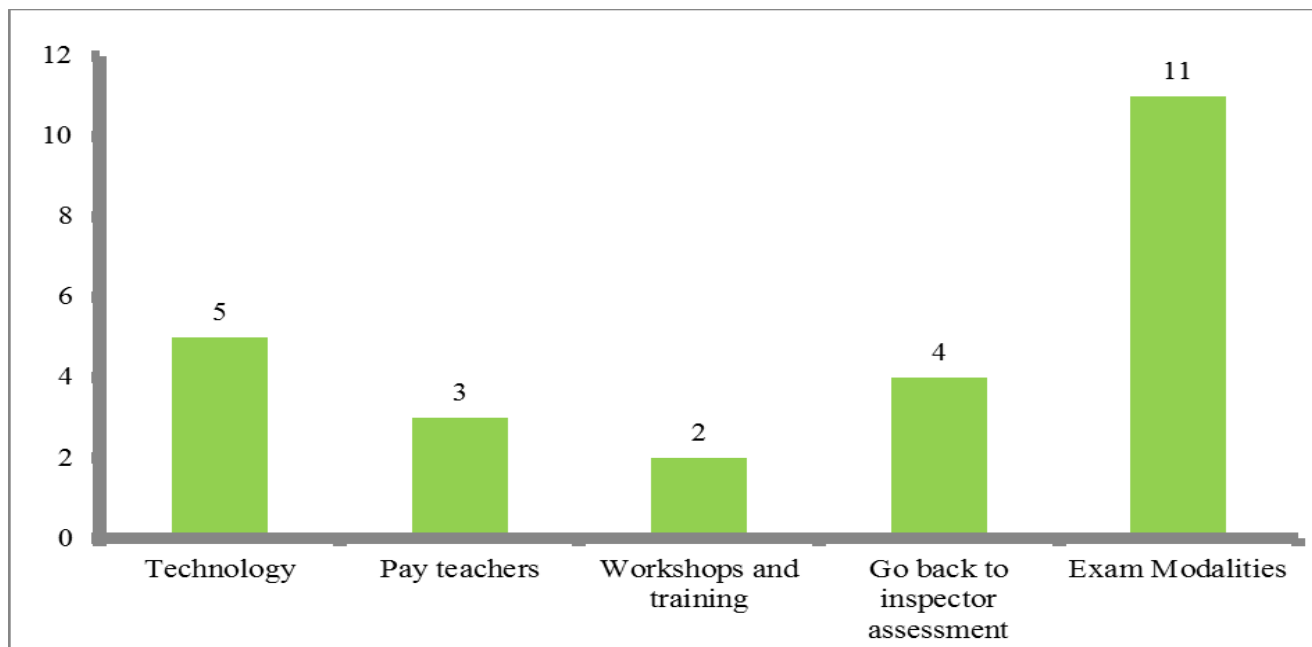


Figure-5: Distribution of suggestions for improvement of school based assessment in Food and Nutrition.

Conclusion

The researchers established that most teachers had 5 or less years teaching experience implying that they had limited exposure to the Food and Nutrition practical examination assessment. The results of the study suggest that most of the teachers were not conversant with the assessment procedure¹⁸. The teachers therefore, indicated that there was need for their intensive training to assess. Others recognised that, although some training was previously received, they would still recommend ‘more training for teachers’. There were even more specific suggestions for workshops for teachers on marking yearly.

The need for Consumer Science departments to own computers was also aired so that the schools could do away with photo taking and replace with videos; on the other hand others felt there was need for more photos to be added in the portfolio than doing away with them completely; provision of equipment such as (video cameras, computers and printers). Issues of challenges with the assessment modalities were also raised, such as the banded mark scheme; eliminating mock examinations and assessing only the final examination mark and teachers in neighbouring schools interchange to assess each other's practical examinations.

The teachers cheered the external examiner based assessment on the premise that they (external examiners) were paid for the work, had expertise in assessment, were fair, did not have favouritism and that the assessment exercise involved some skills transfer. Teachers reported that when inspectors visited schools as external examiners, they provided guidance even on other teaching and curriculum issues.

Teachers therefore felt that ECESWA should consider reverting to the External Examiner Based Assessment as the School Based Assessment exerts a lot of pressure on the teachers who feel incompetent in conducting the assessment even though they teach.

Recommendations: i. It is, therefore, recommended that the training needs for the teachers be met in order to acquire knowledge and skills to exhibit the high level of professionalism in implementation of SBA. ii. It is recommended that coordination meetings are conducted before the practical examination in order to harmonise teachers’ understanding of the examination. iii. In addition to the technical skills in assessment, teachers should be assisted to cope with the effects brought about by change. iv. For sustainability of this assessment approach, it will be practical to meet teachers’ needs in setting up centre clusters that would provide continued support for teachers involved in assessing. v. There is a perception amongst teachers that students got better grades in the old arrangement. Hence, there is need for further research to compare the baseline data of students’ grades in the old system, with the 2015 data per school and control for the demographic characteristics of the assessor, and the geographic location of the school.

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