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Examination Question Paper Development and Administration for Deaf Learners at Grade 7 Level: Reflections of the Zimbabwe School Examinations Council (ZIMSEC)

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Abstract: *The study analyzed the development and administration of examination question papers for grade 7 deaf candidates in Zimbabwe. The study was motivated by the low pass rate among deaf candidates at grade 7 level in the period 2007 to 2011. At the centre of the study were two variables namely exam item development and exam paper administration. The descriptive survey design was used to solicit data from Zimbabwe School Examinations Council officials, teachers of candidates with profound hearing impairment and from heads of special schools that enroll students with hearing impairment. The population under study comprised 101 teachers of students with profound hearing impairment in the five special schools in Zimbabwe, 4 heads of special schools that enroll students with profound hearing impairment and about 300 officials from the Zimbabwe School Examinations Council.*

Non –probability sampling methods were used to come up with a representative sample of 4 school heads, 50 teachers and 10 Examination Managers. The results showed that there are a few modifications being done for deaf candidates during item development and the administration of exams at grade 7 level. Respondents also exhibited varying knowledge levels regarding what is supposed to be done for the deaf candidates pointing to systems barriers. Teachers of the deaf who are the key stakeholders were not being involved in the development of model test items for the deaf candidates. The study concluded that the low pass rates among deaf candidates is more of a result of external factors especially the unsystematic way exams are being administered. It was recommended that the Zimbabwe School Examinations Council should modify assessment instruments for candidates with profound hearing impairment. The Zimbabwe School Examinations Council should also involve teachers of candidates with profound hearing impairment during test development from the initial stages through item writing workshops so that tests are set with candidates with hearing impairment, not to be treated as an append ache.

Key terms: *Measurement: Deafness, Special School, Hearing impairment, Assessment procedures Examination Accommodation, Special arrangements*

I. Introduction and Background

The teaching, learning and assessment of students with profound hearing impairment in special schools, resource units and full inclusive settings have been met with challenges of highest degree in Zimbabwe. The fact that students with profound hearing impairment are subjected to the same educational milestones and the same examinations with those of their mainstream counterparts seem to weigh down on the former. Like their mainstream counterparts, students with profound deafness need feedback, they need to be motivated to learn and they have aspirations which are hinged on results of teaching, learning and assessment. They also need to boost their self esteem through performing to their optimal capacity, but this often is met with disappointments.

At grade seven, students with absolute deafness write end of course examinations in subjects like English, Shona/ Ndebele/Tonga/Nambia, Mathematics and General Paper and results revealed that they faced various challenges despite that they are taught by specialist teachers and are accorded an opportunity to do the course in more years than the seven years their mainstream counterparts are confined to. The predicament students with profound hearing impairment are in seemed to have worsened with the introduction of assessment through structured and essay components by the Zimbabwe School Examinations Council in 2002, raising issues of curriculum and assessment procedure appropriateness as well as human resource competence in schools that enroll students with profound hearing impairment.

The trend was that special schools for the students with hearing impairment were ranked among the least performers academically each year on the Provincial Education Directors' Merit Awards throughout the country's nine provinces. Some special schools for students with profound hearing impairment registering zero

percent pass rate every year. Observations revealed that some resource units in mainstream schools have since closed because Heads of such schools were considering enrolling students with profound hearing impairment a threat to their highly esteemed pass rates.

Statistics collected from the Zimbabwe School Examinations Council (ZIMSEC) confirmed the dismal performance by candidates with deafness in Zimbabwe's special schools for students with deafness over five years. The gifted students with hearing impairment, who pass grade seven, have been observed to perform below their expected threshold. Very few students with profound hearing impairment have been recorded to have passed with distinctions and the question is: were all students with hearing impairment in schools average and below average learners? Are there no gifted or exceptionally intelligent students among those with profound hearing impairment?

The statistics captured below include candidates with residual hearing and those with normal hearing in reverse inclusion. Thus the actual pass rates for candidates with severe to profound deafness can even be lower than is reflected below.

Table 1: Grade 7 Pass Rate of Deaf Candidates: 2007-2011

Year	Total Candidature	Number Passed	Percentage
2007	59	22	37.3
2008	48	9	18.75
2009	41	8	19.51
2010	68	17	25
2011	60	12	20

(Statistics compiled from ZIMSEC records, 2012)

If the candidates in institutions were this affected when they have more resources, more qualified and more experienced personnel than those in resource units, one wonders what it is like to similar students in the mainstream school settings.

The researchers also noted with regret the dropout rate of students with absolute deafness. The majority of these students have failed to proceed to secondary school and are street vending. They are seen at places like Harare's popular Copper Cabana. A comparative analysis between the number of candidates who register for grade seven and those who register for Ordinary level has made alarming revelations on dropout cases soon after grade seven. An average of 100 candidates with deafness is registered for grade seven against an average of 20 candidates registered for Ordinary level each year and not even one has been recorded to have completed Advanced level. The disparity is regrettable. This is adequate proof that candidates give up on education soon after their first national summative examination.

It is against this background that the researchers deemed it necessary to conduct a research that establish the factors surrounding assessment procedures used by ZIMSEC that impact on performance measurement of candidates with profound hearing impairment.

1.1 Statement of the Problem

There has been a high failure rate observed over the years among candidates with absolute deafness at grade seven levels. This has consequently led to high dropout rate by students with profound deafness soon after grade seven. Parents, teachers and administrators of deaf students have questioned the relevance and validity of assessment procedures Zimbabwe School Examinations Council is using to benchmark standards for these candidates. The research sought to answer the question: What factors impact on performance measurement of candidates with hearing impairment at grade seven level?

1.2 Sub-Problems

The study was guided by the following sub-problems:

- To what extent does the question paper development process affect performance measurement for candidates with profound impairment?
- How does the examination administration process affect performance measurement for candidates with profound hearing impairment?

1.3 Delimitation of the Study

The research study sought to solicit data on assessment procedures for candidates with profound hearing impairment from the Zimbabwe School Examinations Council. The focus was also on special schools that enroll students with profound hearing impairment such as Emerald Hill in Harare, Jairos Jiri Naran Centre in Gweru, King George VI in Bulawayo and Henry Murrayschools for the deaf in Masvingo as a follow up on the implementation of the procedures and impact assessment.

II. Conceptual Framework

Assessment practices in education vary and are dependent on diverse theoretical frameworks of practitioners and researchers, their assumptions and beliefs about the nature of human mind, the origin of knowledge and the learning process of the target group (Earl, 2003). In this research the conceptual framework was influenced by the Marxist's conflict theory and the social model of disability which gave birth to disability rights movement. The disability rights movement contributed to an understanding of people with disabilities as a minority or a coalition of minorities who are disadvantaged by society, not just as people who are disadvantaged by their impairments. Teaching strategies that are disabling and unfair assessment procedures impact negatively on the performance measurement of children with hearing impairment. Advocates of disability rights emphasise differences in physical or psychological functioning, rather than inferiority. Feagin (1984) states that a minority group has five characteristics which are:

Suffering discrimination and subordination, (2) physical and/ or cultural traits that set them apart, and which are disapproved by the dominant group, (3) a shared sense of collective identity and common burdens, (4) socially shared rules about who belongs and who does not determine minority status, and (5) tendency to marry within the group. The Deaf Community fits well in the enshrined characteristics and is often regarded as a linguistic and cultural minority rather than a group with disabilities, and some Deaf people do not see themselves as having a disability at all. (The Convention on the Rights of Persons with Disabilities, 2006).

Candidates with profound hearing impairment are disadvantaged by assessment procedures that are designed to cater for the dominant group. This framework has led to a ranging controversy over assessment issues like efficacy and adequacy of public examinations and bias against minority and marginalized groups- those with profound hearing impairment included (Kofitse, 2010). Dietel, Herman and Knuth (1991) observed that while assessment has the potential to improve learning of all students, historically it has acted as a barrier rather than a bridge to educational opportunities. Assessment systems have attracted severe criticisms for their perceived imperfections in measuring student achievement. Questions of bias, unfairness and inequities among others are raised about examinations. Increasing diversity of societies among other factors has increased the need to offer equal opportunities for all, fairness in assessment and selection processes (Kofitse, 2010). Sedlacek and Kim (1995) argued that although many of the measures most widely used have established validity and reliability, in some instances, these measures are often used inappropriately and unethically with populations from different cultures. If people have different cultural experiences and (this includes people with deafness) present their abilities differently, it is unlikely that a single measure could be developed that would work equally for all (Kofitse, 2010). Scholars therefore are calling for democratizing assessment.

Assessment and examination policies, practices and procedures should provide disabled students with the same opportunity as their peers to demonstrate the achievement of learning outcomes (QAA Code of Practice- Precept 13, 1999).

For assessment to be effective and valid, it must be able to assess the aims of the course, provide sufficient evidence to enable professional judgment of the learner, support the teaching and learning strategies and for the integral part of the scheme (Agbo and Mankilik, 1999). The setting, moderation and administration of a fair and equitable examination for Deaf students, remains a challenge for Examinations Bodies, teaching specialists have noted. The research on the evaluation of Zimbabwe School Examinations Council's assessment procedures to determine performance measurement for candidates with profound deafness was based on this conflict theory. Access, equity and fairness were key attributes underlying this research.

Item Development Process

Popham (2002) underscored the importance of measurement when he said that a standard alone does not define the expected achievement of students who are deaf, but the measure of that standard provides definition of that standard. Consequently, as educators work to select and create tests to measure standards that they have written, they are refining and defining standards. It is important that the measure be the best it can possibly the and that the diversity of the population must be recognized in developing and / or selecting that measure so that equity and access are maximized. The purpose of assessment according to QAA Code of Practice- Precept 13 (1999) is to determine a student's academic achievement and skills. To do this, examinations and assessments must be rigorous regarding standards so that all students are genuinely tested against an academic benchmark. But, similarly, if they are to fulfill their purpose, they must also be flexible regarding the mode of measurement so that each student has an equal opportunity to demonstrate their achievement. One then questions to what extent are Zimbabwe School Examinations Council assessment procedures flexible so that they meet the demands laid down by the scholars above.

NEBOSH Policy and Procedures (2012) highlighted critical issues of concern when modifying or making special arrangement for the candidate with deafness. Adjustments to assessment should not invalidate the assessment requirements of the qualification nor give the candidate an unfair advantage, reflects as far as possible the candidates' normal way of working and should be based on the individual needs of the candidates.

UCLan Assessment Procedures (2012) postulated three more issues of concern when providing alternative assessments to candidates with profound hearing impairment which are the alternative assessment's ability to accommodate the student's functional differences that arise as a consequence of disability, their methods of communication, learning styles and physical considerations. Adjustments to assessment also, should not compensate the candidate for lack of knowledge or skills and lastly the qualification of a candidate who had an adjustment to assessment must have the same credibility as that of any other candidate. Alternative assessment strategies should be pursued to minimize the impact of impairment on a student's performance at assessment. Using such approaches, students with profound hearing impairment will be better able to demonstrate their abilities and skills. Accepting such criteria, it appears reasonable to allow a student whose first or preferred language is Sign Language, to sign written examination responses or submit written assessed coursework in Sign Language. The researchers were wondering as to what language was being used by ZIMSEC in trying to mitigate the predicament candidate with hearing impairment are in.

Test developers must ensure that there are no unnecessary physical barriers in items give these candidates surmountable challenge. Martin and Mounty (2005) added that insufficient context in question stem in another shortcoming that handicaps test-takers who are deaf. Candidates with deafness require additional contexts by comparison with the hearing test-takers in order to adequately establish the mental set up which the responses are based. Thus, a first step during examination moderation is to revise written examinations for deaf learners in order to remove or correct these shortcomings, of which the test developer may be completely unaware (Marschark, 2003).

Test developers must ensure that there are no unnecessary physical barriers in items or stimulus material that may cause serious construct- irrelevant score variance for people with profound hearing impairment (Zieky, 2006). Educational Testing Service (2009) retorted that it should be noted though that some physical aspects of the item are essential to measure the intended constructs, even if they cause difficulty for candidates with profound deafness. For example, to measure the candidate's ability to understand speech, it is essential to use spoken language as stimulus even if that stimulus is a barrier to candidates with deafness. Thus essential aspects of an item that are important for valid measurement must be retained even if they act as physical barriers in test taking by the Deaf. Language that is part of the construct being tested must be complex and challenging as needed for valid measurement. The need to assess the construct thoroughly and accurately must always be placed above the desire to make language more accessible (Ravitch, 2003). Martin and Mounty (2005) proposed that the assessment for candidates with deafness should be broadened to include a variety of other kinds of measures, rather than a dependency on written examinations. They cited development of portfolio of a student's academic work which should be analysed by educators using some rubric, individual interactive interviews to assess learners' real undertaking of a body of content and observation of the deaf learners' performance of some presentation or work with the subject matter.

Examination Administration for the Deaf

UCLan Statement Assessment Procedures and BSL (2012) have enshrined a number of procedures and special arrangements for candidates with disabilities including those with profound hearing impairment. Nesbosh Policy and Procedures (2012) make adjustments to standard assessment arrangements in order to give access to candidates with disabilities' assessment needs. Thus they are calling for a flexible assessment procedure in a list restrictive environment to allow candidates with profound hearing impairment equal access to the examinations. In The United Kingdom, the Course Work as some form of continuous hearing impairment allows candidates to sign to video or DVD. The candidate with profound hearing impairment brings with him prepared draft written notes in the format of key points. The appropriately skilled or qualified interpreter takes the completed video or DVD of the candidate's presentations and the notes (UCLan Statement Procedures and BSL, 2012). The Policy and procedures mandate the interpreter to type a translation. There is also a provision of a second interpreter who samples the translation to ascertain that the first interpreter did not either prejudice or gave undue advantage to the candidate. Assessment team will then require the candidate's notes, the translation and the translator's notes for assessment. The American with Disability Act (ADA) (1991) stipulates that there is need for an interpreter who is able to interpret effectively, accurately and impartially both receptively and expressively, using any specialized vocabulary. Marschak (1997) underscored the unbiased evaluation of candidates with profound hearing impairment using a variety of communication methods, including sign language. Each local educational agency ensures that tests and other evaluation materials used to assess a candidate under a section in the individual with Disability Education Act are provided and administered in the candidate's native language or other alternative accessible in a place and manner accessible to persons with disabilities or offer alternative accessible arrangements for such individuals.

Examinations in British Sign Language are pre-prepared, filmed then put on a medium such as a CD or DVD. UCLAN Statement Assessment Procedures and BSL (2012) hinted that use of DVDs allows students with profound hearing impairment the same access as hearing students and allowing them to go back and forth

to whichever questions they wish in the manner hearing candidates may flap back and forth a question paper. They argue that live interpretation has with it variations which might give a different perception because there are no two interpretations which are ever the same. Standardization is critical in this aspect and all candidates with hearing impairment everywhere experience or are subjected to the same examinations conditions. The same candidates with profound hearing impairment might 'lose' the thread or trail of thought if presented with a different translation (UClan Statement Assessment Procedures and BSL, 2012). This system allows greater parity for multiple students doing the same exams. Also, the DVD or CD Rom becomes part of a 'past papers' collection, with a file kept in the office.

During examinations administration for candidates with profound hearing impairment, an invigilator and access to technical assistance are required. Candidates make notes, and then sign to a camera while the interpreter is present. Interpreter is given tapes, and student's notes, and prepares translation. Interpreter also prepares translator's notes. As is in the course work, there is need for a second interpreter to sample the translation. Translation, student notes, and translator's notes passed to tutor for marking and copies are filed securely. Both UClan and NEBOSH assessment procedures have a provision for live interpretation of examinations. The interpreter is present throughout the examination session. The examination paper is read by the candidate and a British Sign Language (BSL) interpretation is given by the Interpreter if required . The candidate considers the question and may make brief notes and then gives the response in BSL to video camera/digital camera. At the end of the examination, the tapes and student's notes are passed to the interpreter, who prepares a translation, with accompanying translator's notes as is with the course work (NEBOSH, 2012: UClan, 2012).

III. Methodology

The descriptive survey design was used to solicit data from Zimbabwe School Examinations Council officials, teachers of candidates with profound hearing impairment and from heads of special schools that enroll students with hearing impairment. The design was critical in describing the assessment procedures available at ZIMSEC, explain their appropriateness in measuring performance of candidates with profound hearing impairment, suggesting improvements and predicting the effects of these improvements. \the descriptive survey design is considered apt because it gives the researchers the leverage to gather, organize, describe and analyse data in a very flexible way (Okonkwo-Uwandulu, Ojo and Onoja, 2012). The flexibility was visible in concurrent triangulation design (Cresswell, 2003) where qualitative and quantitative strategies were applied simultaneously to observe the same phenomenon. Questionnaires to teachers of students with hearing impairment and to ZIMSEC officials comprised the quantities strategy. Qualitative strategies involved interviews with heads of schools that enroll students with profound hearing impairment and focus group discussions with teachers of students with profound hearing impairment.

The population under study comprised 101 teachers of students with profound hearing impairment in the five special schools in Zimbabwe, 4 heads of special schools that enroll students with profound hearing impairment and about 300 officials from the Zimbabwe School Examinations Council. The common traits in the population were that they all were individual members who worked towards performance measurement of candidates with deafness.

Convenient sampling was done to target special schools for students with deafness and their heads since there are only five special schools in the country. Simple random sampling was employed to select teachers of students with profound hearing impairment. The sample required fifty teachers from the 101 teachers in five especial schools. All the 5 heads of special schools were obtained as a sample. Purposive sampling was done to come up with the ten officials from ZIMSEC. It was critical to target only those officials who were subject managers of the five subjects (Mathematics, General Paper, English, Shona and Ndebele) candidates with profound hearing impairment sit for at grade seven level and the regional managers who deal with the respective special schools during test administration. The researchers strongly ensured the sample contained the properties and parameters of the represented population. Inferential statistics was used to determine the whole population of officials who dealt with candidates with profound hearing impairment at every assessment procedure affecting performance measurement of candidates with profound hearing impairment.

A questionnaire was designed as a research instrument for gathering data from both the teachers of children with profound hearing impairment and ZIMSEC subject and regional managers. The questionnaire had a section for demographic data only that influenced the trend of responses. The questionnaire also was divided into themes as influenced by the sub-problems in chapter one. The researchers employed the use of an interview with heads of the four special schools that enroll students with profound hearing impairment. The interview schedule was designed to augment data collected from the use of questionnaires. The interviews were structured in a way that satisfied the themes developed from research sub-problems. The same questions in the interview schedule to the heads of schools that enroll students with hearing impairment were also used in a focus group

discussion with teachers of candidates with profound hearing impairment. The role of the researchers was to just direct and redirect the discussion and every participant was kept focused throughout the discussion.

The researchers carried out a pilot study at St. Giles Primary School in Harare District in Zimbabwe to assess the reliability and validity of the research instruments. Pilot testing was administered to five teachers of children with profound hearing impairment and the head of the school. Other subject managers at ZIMSEC which were not part of the cohort formed part of the respondents to the pilot study. From the participants, the researchers realized that the items on both the questionnaires to teachers of students with profound hearing impairment needed to probe and find out what teachers of students with profound hearing impairment needed to probe and find out what teachers and managers thought about the assessment procedures available not to just say they agreed or disagreed. It was realized that room for opinions like 'strongly agree, agree, not sure, disagree and strongly disagree' on a likert scale would be best suited for teachers of the deaf who needed to show their perspective on the assessment of candidates with profound hearing impairment.

IV. Findings

4.1 Demographic Data of Participants

(a)Teachers

Teacher's qualifications (n=50)

The results showed that 16 teachers had a Diploma/ Certificate in Special Education and 12 had a Bachelor of Education in Special Needs Education. The other 22 had general education qualifications.

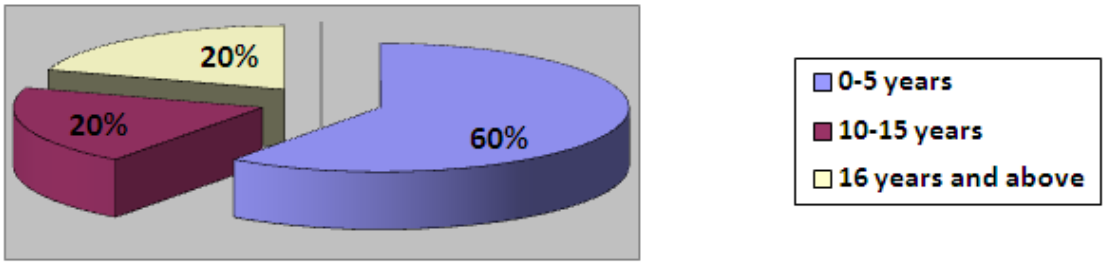
Teachers Experience in Deaf Education (n=50)

92% had experience of over six years teaching students with hearing impairment and only 8% comprise the beginners. The 92% is expected to have gained a lot in the teaching of students with profound hearing impairment.

(b) ZIMSEC Exam Managers (n=10)

Working Experience

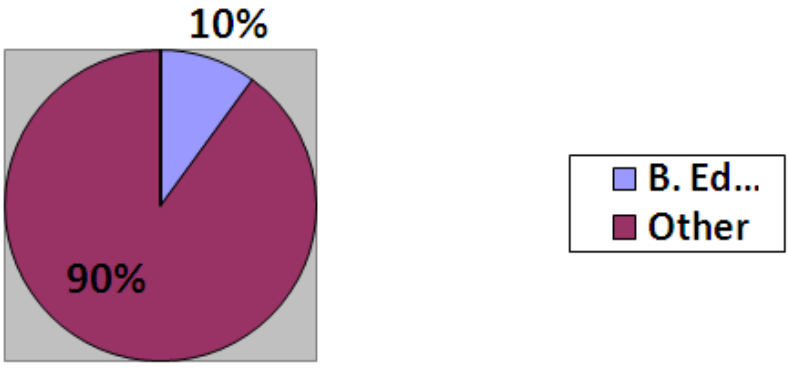
Figure 1: ZIMSEC Managers' Working Experience



From the figure it can be deduced that a total of 4 managers had experience of over six years working with ZIMSEC in their current portfolio. Six of the participants had experience of maximum five years.

Managers' Professional Qualifications

Fig 2: ZIMSEC Managers' Qualifications



The figure shows that the only one has qualifications in special needs education and the rest possess other qualifications.

4.2 The Item Development Process

Table 2: Teachers Responses
(n=50)

Questionnaire Item	Strongly Agree		Agree		Not Sure		Disagree		Strongly disagree		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
1	1	2	1	2	5	10	11	22	32	64	50	100
2	0	0	1	2	6	12	11	22	32	64	50	100
3	0	0	0	0	6	12	16	32	28	56	50	100
4	0	0	3	6	10	20	9	18	28	56	50	100
5	1	2	3	6	0	0	9	18	37	74	50	100

The table (2) contain items which focused on test development procedures which is the initial stage in the assessment of candidates with profound hearing impairment.

Item 1 sought whether ZIMSEC examinations were modified for candidates with profound hearing impairment, only five participants were not sure. Forty-three teachers disagreed and two of the participants agreed that modification was done for candidates with hearing impairment.

Item 2 sought to establish how knowledgeable were those involved in test development about the learning styles, experiences, communication process and skills of candidates with hearing impairment. Six participants were not sure while forty- three showed that those involved were not knowledgeable about the learning characteristics of candidates with deafness.

From the table, item3 showed six participants who were not sure whether teachers of the deaf were involved in the fairness review panels by ZIMSEC. The remainder, which is the majority (forty-four), revealed that teachers of the def were not included in these critical panels. When asked whether item developers were trained to use fairness review guidelines (item 4), only three were not sure. Forty- seven observed that test developers were not trained to use panel fairness review guidelines.

Item 5 sought to establish language appropriateness in assessment instruments for candidates with profound hearing impairment. Four participants agreed that language was appropriate to candidates with deafness, but the majority (fort-six) disagreed to the assumption that language was appropriate to the candidates with hearing impairment.

Exam Managers Responses

Table 3: Item Development Process (n=10)

Questionnaire Item	Strongly Agree		Agree		Not Sure		Disagree		Strongly disagree		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
1	0	0	1	10	2	20	3	30	4	40	10	100
2	0	0	0	0	1	10	5	50	4	40	10	100
3	0	0	1	10	0	0	5	50	4	40	10	100
4	1	10	2	20	2	20	3	30	2	20	10	100
5	0	0	2	20	3	30	3	30	2	20	10	100

Table 3 contain items which solicited data on test development procedure and its impact on the assessment of candidates with profound hearing impairment. From item 1 which sought whether ZIMSEC examinations were modified for candidates with profound hearing impairment, only five participants were not sure. The majority of the managers disagreed; two were not sure and only one agreed.

Item 2 sought to establish how knowledgeable were those involved in test development about the learning styles, experiences, communication process and skills of candidates with hearing impairment. The majority (9) disagreed that those involved had adequate knowledge.

From the table, item 3 showed that 9 managers did not agree that teachers of candidates with hearing impairment were involved in the fairness review panel. When asked whether item developers were trained to use fairness review guidelines (item 4), only three agreed, two were not sure and the five disagreed.

Item 5 sought to establish language appropriateness in assessment instruments for candidates with profound hearing impairment. Two managers agreed that language was appropriate to candidates with deafness, but five disagreed to the assumption that language was appropriate to the candidates with hearing impairment.

Focus Group Discussions Feedback (n=50)

What is your analysis of assessment instruments developed by ZIMSEC in relation to candidates with deafness?

The teachers in the FGD raised critical points on the above question. Questioning technique was found to be not user friendly to candidates with deafness. The teachers cited abstract concepts in examination papers as creating difficulty for candidates with profound hearing impairment. The length of both compositions and comprehension was another obstacle that was cited. Language barriers highlighted included proverbs, similes,

metaphors related words and synonyms. Higher order questions such as those requiring inferences were also considered to be handicapping.

How best can test development be improved to meet the needs of candidates with deafness?

The FGDs suggested that the question papers for candidates with deafness be a modified version of the mainstream question papers. Pictorial representations, pictorial compositions, fill in compositions and descriptive compositions were recommended to be in the modified version. Some teachers advocated for simple and precise language. They requested that teachers of the deaf be involved in setting tests and also that the question paper be presented in sign language on videos.

Responses from Interviews with School Heads (n=4)

What is your analysis of assessment instruments developed by ZIMSEC in relation with candidates with deafness?

It is critical to note that the points raised through interview of heads of schools that enroll candidates with hearing impairment concurred with the data gathered through the focus group discussion above. All the four (100%) heads of schools that enroll students with profound hearing impairment, reported that language used in examinations was difficult for candidates with profound hearing impairment. All the heads cited that comprehension passages were too long to be done by candidates with deafness. The length of compositions (80-120 words) cannot be managed by candidates with hearing impairment whose nature is limited language and vocabulary. One head (25%) observed that in General paper, candidates with profound hearing impairment face problems with deduction of morals from stories, thus remembering Biblical stories and then kink to morals is an uphill task. Higher order skills in question papers have an abstract component that is difficult for candidates with profound hearing impairment to fathom. All the heads concur in that the assessment instruments used by ZIMSEC are developed with the hearing in mind and were nowhere near the requirements of candidates with deafness.

How best can test development be improved to meet the needs of candidates with deafness?

The four heads (100%) reported that examinations for the deaf needed modifications in a number of areas. The sentences should be short and precise removing all the irrelevant and window- dressing vocabulary. They suggested compositions with gap-filling for candidates with hearing impairment. The heads concurred that story problems in Mathematics should be reduced. Combined or multiple operations were rated difficult for the deaf and needed to be either removed or reduced. One head (25%) suggested that in compositions, candidates should be allowed to sign their responses on video tapes. All heads (100%) request for the involvement of teachers of the deaf during the development of tests especially from the initial stage. Two heads (50%) even suggested the involvement of stakeholders such as organizations of the deaf in item development.

4.2 Examination Administration for Deaf Candidates

Teachers Responses

Table 4: Examination Administration for Candidates with Deafness (n=50)

Questionnaire	Strongly Agree		Agree		Not Sure		Disagree		Strongly disagree		Total	
Item	F	%	F	%	F	%	F	%	F	%	F	%
6	26	52	23	46	0	0	1	2	0	0	50	100
7	19	38	16	32	2	4	7	14	6	12	50	100
8	1	2	14	28	0	0	20	40	15	30	50	100
9	0	0	2	4	21	42	10	20	17	34	50	100
10	3	6	6	12	23	46	9	18	9	18	50	100
11	1	2	5	10	11	22	18	36	15	30	50	100
12	8	16	23	46	8	16	9	18	2	4	50	100
13	0	0	3	6	10	20	27	54	10	20	50	100
14	0	0	1	2	5	10	11	22	33	66	50	100
15	2	4	7	14	3	6	14	28	24	48	50	100

Items focused on examination administration for candidates with deafness. Item six intended to find out whether candidates with profound hearing impairment were exposed to sign language interpreter. Only one participant disagreed, while the rest agreed that candidates with deafness were exposed to an interpreter.

Item seven assumed that all sign language interpreters were teachers of the deaf. Out of the 50 participants, 35 agreed to this assumption. Two were not sure and thirteen conceded it was not the teachers of the deaf who are signing interpreters were not legally licensed; one said they were licensed and the remainder 14 was not sure.

Items 9 and 10 focused on whether there are known ZIMSEC guidelines for sign language interpreters and whether these guidelines were being followed by interpreters respectively. Twenty-one and twenty-three

participants were not sure in items 9 and 10 respectively. Twenty-seven disagreed that there were guidelines and eighteen that teachers followed any guidelines during interpretation. Two and nine participants to say whether interpreters were specialists in the subjects concerned, revealed 16 participants agreeing and 33 who disagreed. The reminder was not sure. Item 12 showed that 31 participants agreed that schools are using more than one interpreter in an examination session. Eleven participants disagreed while eight were not sure.

Item 13 raised issues of rest periods for candidates with deafness during examinations. Only three participants agreed that they offer rest periods to these candidates, 10 were not sure while 37 disagreed.

Items 15 and 15 dealt with examination presentation format and alternative response format by candidates respectively. Forty-four participants disagreed that examinations were presented in sign language and on video tapes, 5 were not sure and only one agreed. Thirty-eight participants disagreed that there were other response format for candidates with profound hearing impairment, nine agreed and three were not sure.

ZIMSEC Subject and Regional Managers Responses

Table 5: Teachers Responses
(n=10)

Questionnaire Item	Strongly Agree		Agree		Not Sure		Disagree		Strongly disagree		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
6	4	40	4	40	2	20	0	0	0	0	10	100
7	0	0	1	10	7	70	0	0	2	20	10	100
8	0	0	1	10	6	60	1	10	2	20	10	100
9	0	0	0	0	3	60	1	10	2	20	10	100
10	0	0	0	0	4	40	4	40	2	20	10	100
11	0	0	0	0	7	70	1	10	2	20	10	100
12	0	0	0	0	8	80	0	0	2	20	10	100
13	0	0	1	10	5	50	1	10	3	30	10	100
14	0	0	0	0	1	10	5	50	4	40	10	100
15	0	0	0	0	2	20	6	60	2	20	10	100

Items in table 5 focused on examination administration for candidates with deafness. Item six intended to find out whether candidates with profound hearing impairment were exposed to sign language interpreter. Eight managers agreed, while the remainder was not sure if candidates with deafness were exposed to an interpreter.

Item seven assumed that all sign language interpreters were teachers of the deaf. Out of the 10 participants, only one agreed, the majority were not sure.

In item 8, the majority of the participants were not sure, 4 conceded that sign language interpreters were not legally licensed and only one said they were licensed.

Items 9 and 10 focused on whether there are known ZIMSEC guidelines for sign language interpreters and whether these guidelines were being followed by interpreters respectively. Seven and six mangers pointed out that they were disagreed with that was enshrined in items 9 and 10 respectively. Item 11 which required participants to say whether interpreters were specialists in the subjects concerned revealed that 7 participants were not sure and the remainder disagreed. Item 12 showed that 8 participants were again not sure that schools are using more than one interpreter in an examination session. Three participants disagreed.

Item 13 raised issues of rest periods for candidates with deafness during examinations. Only one manager agreed that rests periods were offered candidates with profound hearing impairment.

Item 14 and 15 dealt with examination presentation format and alternative response format by candidates respectively. Nine participants disagreed that examinations were presented in sign language and on video tapes and only one was not sure. Eight participants disagreed that there were other responses formats for candidates with profound hearing impairment and two were not sure.

Special School Heads Responses

Your centre is allowed to interpret question papers for candidates with deafness during examinations. What procedures are you using for interpretation?

Heads showed that they employed varying procedures for sign language interpretation of question papers. One head (25%) reported that their school allows for question by question signing from a question paper. Another head confessed that they wrote questions on the chalkboard and sign from there a few questions at a time. The remainder (50%) concurred that they sign section by section and allow fast candidates to go on while those who require repletion to do so without prejudice. They all except one head (75%) use two interpreters who alternate in each examination.

What challenges are you facing in the application of this concession?

All heads (100%) reported that very few teachers of the deaf are knowledgeable and profiencient in sign language and consequently there are problems when it comes to signing examinations. They agreed that sign language does not have all the vocabulary required in tests, for example words like oxygen and sound words like rumpling. Sign language interpreters need time to study or familiarize with the examination paper before singing to candidates. Another head (25%) observed that the hidden meaning if idioms and proverbs do not come out clearly during signing. There is a danger of selling out the answers during signing through facial expressions and other body language indicators.

Suggest ways of improving the concession?

The heads (100%) suggested that there should be laid out guidelines to govern sign language interpretation for candidates with hearing impairment. One head (25%) suggested use of overhead projectors and use of pictures to augment sign language interpretation. One head (25%) recommended unification of sign language to facilitate a standard way of signing. Sign language must be on the timetable and be taught in schools for candidates with hearing impairment.

V. Discussion

The discussion is influenced greatly by a conceptual framework drawn from Marxism which argued that candidates with deafness are a marginalized and disadvantaged minority group. Societal barriers, in this case assessment procedures used by ZIMSEC could be disadvantaging candidates with hearing impairment. Aspects of access, equity and fairness were key motivators of the research so that assessment builds bridges and not barriers in the lives of candidates with deafness. The discussion followed a thematic approach based on the objectives and sub-=problems of the study.

The demographic data revealed that while twenty-eight teachers of the deaf were qualified to teach the deaf, the number of teachers who lacked the right qualification was very significant as a result of inappropriate deployment by the Ministry of Education Art Sport and Culture. At face value one would be tempted to conclude that teachers who lacked the right qualifications also lacked the theory of handicap, the learning styles, the skills and the adequate knowledge of handling students with deafness, especially the teaching of sign language which is central to examination taking. Observations, in some cases proved that due to experience non-specialist teachers performed better than some teachers with appropriate qualifications and they were always on influential positions. Like with any other disability, a component of passion is critical in the teaching of students with profound hearing impairment. This is evidenced in Zimbabwe by the successful teaching observed in the way special schools were established and the teaching results realized in special schools during the early eras of special education by untrained missionaries and well wishers.

From among ZIMSEC staff, the majority had no qualification to set examination for candidates with deafness. They lacked knowledge of the characteristics of the consumers of their question papers and consequently set papers with the mainstream candidates in mind. It is therefore critical that they included teachers who were knowledgeable about the deaf at every stage of assessment. Observations and interview results revealed that some teachers and ZIMSEC managers lacked knowledge and this was more evident when they indicated that they were not sure in most questionnaire items for example in items 9, 10 and 11 which recorded 42%, 46% and 22% of the teachers who were not sure about whether ZIMSEC had known guidelines. For managers the same happened with items 11, 12 and 13 which recorded 70%, 80% and 50% not sure respectively.

The majority of teachers had adequate experience to warrant effective teaching and possession of adequate knowledge of what students with profound hearing impairment required to benchmark their performance. This was observed during focus group discussions where some teachers without appropriate qualifications showed they possessed experience that propelled them to contribute effectively. Experience with the deaf was critical in this regard and that experience could still be tapped through their involvement in term development for candidates with deafness.

Test Development

The majority of teachers, heads and ZIMSEC managers showed that ZIMSEC question papers were not modified for candidates with hearing impairment, teachers of the deaf were not involved in the development of tests, there were no fairness review guidelines and consequently the language used in question papers was difficult for candidates. This was echoed by heads during their interviews who said the question papers were developed by hearing people with hearing people in mind. The analysis of question papers by the researchers also revealed that the presence of idioms, long comprehension passages, and compositions were handicapping to candidates with deafness. From these results it became evident that test development impacted negatively on the performance of candidates with deafness since it condoned a lot of barriers. Test developers must ensure

that there are no unnecessary physical barriers in items or stimulus material that cause serious construct-irrelevant score variance for people with profound hearing impairment. (Zieky, 2006). NEBOSH Policy and Procedures (2012) advocated for modification of question papers to make it user-friendly to the deaf so as to maximize their ability to demonstrate what they know. This is in agreement with what heads and teachers of the deaf alluded to above. Marschark (2001) hinted that language to the deaf can create insurmountable hurdles and impede learning as well as present inaccurate assessment of what candidates with deafness know. Assessment Guidelines Final August (2010) advised that tests must be presented to the deaf in their primary or preferred language. The researchers agrees totally to the involvement of specialist teachers at the primary stage of test development so that tests are set with candidates with deafness in mind. ZIMSEC should not just pick on anyone who purported to have qualification; rather a thorough assessment of the individual to find out his/her proficiency in sign language and theory of deafness is imperative.

Examinations Administration

Examinations administration hinged greatly on sign language interpreters, their presence during examinations, the number of interpreters in an examination session, whether they were licensed or not, whether they had subject specialization or not and whether they followed any guidelines during interpretation of examinations. The majority of teachers for the deaf and ZIMSEC staff revealed that interpreters were there in schools and the assumption is that all candidates with deafness were being signed to during examination taking. The participants professed ignorance of the sign language guidelines for interpretation. They also indicated that interpreters were not licensed. The researchers observed that due to lack of guidelines, schools differed in procedures employed for signing. Some schools used one interpreter throughout the examination and the interpreter was likely to suffer from fatigue. If the sign language interpreter were a teacher for the deaf, there arose a question of impartiality since he/she would be an interested part. Selling out answers became deliberate. This contradicts the prescription made by UcLan Statement Assessment Procedures and BSL (2012) that there must be a second interpreter who samples the translation made by the first interpreter to ascertain that there was no prejudice or undue advantage to the candidate.

The comments by teachers on the questionnaires and focus group discussion had alarming revelations. They said that sign language had limited vocabulary so they explained and demonstrated certain concepts of which by so doing there were chances of selling out answers to test wise candidates. The other revelation was that some schools used deaf adults to sign. ZIMSEC therefore depended on the good will of these adults because they do not have means of punishing them in the event of malpractice. Such interpreters do not feel obligated to do what they do to any organization because they are not professionals. One wonders how these deaf adults would sign for a candidate when they themselves would have failed the tests at that level. The likely scenario is that this kind of signing would prejudice candidates with deafness.

Interpreters were not (licensed), they did not have any professional board to affiliate to and no one could take them to task in cases of eventualities. Teachers of the deaf could be sued for inability to sign. Their competences were not the same since they were vetted at school level and candidates exposed to an effective interpreter were likely to perform better than the ones exposed to a poor interpreter. Observations were that all the schools practiced mass signing which did not measure up to the needs of individual candidates. One of the heads revealed that question by question signing dragged the fast students while section by section signing rushed slow learners. Observations made by the researchers were that in some schools the examination was opened earlier than normal and questions wrote on the chalkboard so that one who signs captured the attention of all candidates.

The system of mass signing contradicts UcLan Statement Assessment Procedures and BSL (2012) who believed that candidates with deafness should enjoy the privilege hearing candidates are enjoying of flapping back and forth the question papers at will as they either choose questions to respond to or trying to further understand questions more. They recommended presentation of question papers on videos for individual candidates with deafness. The challenge was that given the present scenario of load shading in Zimbabwe, anything powered by electricity cannot be relied upon. Again most of the special schools are dependent on donations and may not be able to afford. Most rural schools have problems with technology. On question paper presentation on videos, heads and teachers lamented over the different sign languages in Zimbabwe. They called for unification of the language. Unification of sign language is likely to promote innovations in the manner the question paper is presented for example the use of videos suggested above will be very viable when the language will be understood by every candidate sitting for that examination.

VI. Recommendations

The researchers made the recommendations below towards the development of fair, flexible, reliable and valid assessment procedures that measure performance for candidates with profound hearing impairment accurately.

- Zimbabwe School Examinations Council should modify assessment instruments for candidates with profound hearing impairment.
- Zimbabwe School Examinations Council should involve teachers of candidates with profound hearing impairment during test development from the initial stages through item writing workshops so that tests are set with candidates with hearing impairment, not to be treated as an append ache.
- Zimbabwe School Examinations Council must hold workshops on fairness review guidelines with all item writers focusing on the needs of candidates with profound hearing impairment.
- Zimbabwe School Examinations Council must consider alternative formats of presenting question papers to candidates with profound hearing impairment for example use of videos and overhead projectors.
- Zimbabwe School Examinations Council must develop guidelines governing sign language interpreters during interpretation of examinations.

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