

The influence of Candidates' Items Responses Analysis on assessment practices in secondary schools in Zanzibar

ABSTRACT

The study aimed to assess the influence of Candidates' Item Responses Analysis (CIRA) on assessment practices in secondary schools in Zanzibar. It addressed one research question: in what ways candidates item responses analysis influences the assessment practices applied by secondary school teacher? Guided by Item Responses Theory, which emphasizes the design, development, and scoring of assessments, the study employed a descriptive cross-sectional survey design in Northern 'A' and Northern 'B' districts in Zanzibar, involving 80 respondents from six secondary schools. Data were collected through questionnaires and observations and analyzed descriptively. The finding shown that CIRA significantly influenced teachers in preparing students for national exams and evaluating instruction effectiveness but had less impact on methods like portfolios and peer assessments due to limited knowledge and resources. The study concluded that enhancing teachers' knowledge of CIRA could improve assessment practices, particularly in preparing high-quality test items and diversifying assessment methods.

Keywords: candidates' item responses analysis (CIRA); Assessment practices

1. INTRODUCTION

Assessment involves the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand and can do with their knowledge as a result of their educational experiences. This includes formal testing and examination and alternative practices such as in-class questions and answers, observation of classroom behavior, homework, classwork assignments, portfolios and students' involvement practices such as peer and self-assignments [1.]. Assessment enables teachers and students to draw inferences from the information obtained and act accordingly, such action may aid in making the necessary improvements to teaching and learning [2.].

[3], assert that classroom assessment should encompass with a range of activities that gathered about students' learning information and the factors that affect learning by taking into consideration the resources, time and expertise available for improving learning. These activities also known as classroom assessment practices, which involve all activities done in the classroom during the teaching and learning process, and it provides feedback to the students.

Assessment practices involve purpose, methods and procedures used for teaching and learning.

The purpose of classroom assessment practices is divided into three parts namely; diagnostic assessment (assessment *for* learning), formative assessment (assessment *of* learning) and summative assessment (assessment *as* learning). Diagnostic assessment (assessment *for* learning) is done at the beginning of the topic or a course to assess the knowledge, interest, lived experiences, strengths and weakness of a learner [4]. Formative assessment (assessment *of* learning) is an ongoing assessment process for learning that teacher use every day during teaching and learning process and understanding to identify learning needs and adjust learning appropriately [5]. Its primary goal is to provide feedback to learners and teachers by helping them to identify areas of strengths and weakness.

Formative assessment is used to inform teaching and learning decisions, allowing for adjustment and improvements to be made in real-time. Formative assessment includes, quizzes and tests, peer review, and self- assessment. Another purpose of assessment practice is summative assessment (assessment *as* learning)., is a one-time evaluation that take place at the end of learning cycle, such as course or program. The purpose of summative assessment is to measure a learner's overall understanding and to ensure that they have met required standards on the way to earning certification for school completion or enter certain occupation. Summative assessment includes final examination, portfolios and performance tasks [6].

Assessment methods are strategies, techniques, tools and instrument used to collect information about pupils' learning. These involves tradition assessment methods that based on paper-and pencil test made up by multiple choice, matching, true or false, short answer and essay questions. While modern methods, are portfolios, presentation, group discussion, individual assessment, observation, debate, performance task, checklist and group assessment. [7]. Assessment procedures divided into three parts. namely source of items and tasks, methods of providing feedback and reporting and time spend on assessment and evaluation. Sources of assessment items and task can be developed from different source, the sources of item can be made from teachers themselves or item made by others. Methods for providing feedback and reporting can be derived once the assessment method administered and scored, and the results needed to be communicating to the students' final report during the course.

In Tanzania assessment practices are crucial in determining the effectiveness of education system and overall development of the country. The assessment practices include various forms of evaluation such as diagnosis assessment, formative assessment and summative assessment. Teachers use various methods like questioning, observation, self-assessment, portfolios, assignment, practical test and written examination to measure students' achievement and to make decision about their progress [8].

In order to effectively implement assessment practices and help teachers on assessing students, the National Examination Council of Tanzania (NECTA), introduce Candidates' Item Responses Analysis (CIRA) in 2012 onwards. as the way of giving performance examination feedback to the teachers and students about the examination done by the students. This involves all the examination and assessment that administered by the council namely, Standard Four National Assessment (SFNA), Primary School Leaving Examination (PSLE), Form Two National Assessment (FTNA), Certificate of Secondary Education Examination (CSEE) and Advance Certificate of Secondary Education Examination (ACSEE).

Candidates' Item Response Analysis enables teachers to gain deeper insights into students' learning processes, identify misconceptions, and tailor instructional strategies to meet individual

needs. The analysis report is intended to contribute towards understanding of possible reasons behind the candidate response performance and the factors that made the candidate fail to score high marks in the questions provided. The analysis is organized in such a way that the candidate performance in individual item presented by indicating the percentage of candidate who scores various marks based on their responses [9].

1.2 Statement of the Problem.

Candidate item response analysis is one among the renovative assessment tool that introduced by National Examination Council of Tanzania on 2012 to help teachers in performing their daily classroom assessment practices. Every year all secondary schools in Tanzania receive Candidate item response analysis of Form Two National Assessment (FTNA) and Certificate of Secondary Education Examination (CSEE) in order to help teachers in performing their daily classroom assessment practices and improve academic performance in the national examination administered by National Examination Council of Tanzania. Though Candidate item response analysis reached to the respected secondary schools, still there is poor academic performance in secondary schools in Zanzibar. Therefore, this study aimed to assess the influence of Candidate item response analysis on assessment practices in secondary schools. The study will employ quantitative research approach to gather information on the influence of Candidates' item responses analysis on assessment practices in secondary school in Zanzibar.

2. MATERIAL AND METHODS

The study is based on Item Responses Theory. The theory used to analyze the relationship between individual's performance on a test and the test items themselves. It takes into account the characteristics of both the items and individuals being assessed. The theory is vital for this study because it conceptualizes the design, development, and scoring of assessments. The study was conducted in Northern region of Zanzibar and involved two districts, namely Northern 'A' district and Northern 'B' district. The study area was selected purposely, because of poor performance of some secondary schools in the National examination of CSEE for several years

2.1 Research Approach and Design

The study employed quantitative research approach in collecting, analyzing and interpreting data. The approach was preferred than other approach because the nature of data collected on the influence of candidates' item responses analysis report on assessment practices in secondary school. And cross-sectional descriptive design was also employed. Because it allowed the collection of data within limited timeframe, making it feasible to conduct without disrupting school activities extensively.

2.2 Population and Sampling

The study population was secondary school teachers of Northern region in Zanzibar which consisted 80 respondents from six (6) selected secondary schools whereas both the higher performance schools and the lower performance schools were involved. The study used Non probability sampling specifically convenience sampling. [10] asserted, that convenience sampling is the Non probability sampling whereas the researchers utilize a sample which is readily available and accessible to them. Convenience sampling was useful in this study because it allowed the researcher to quickly and easily gather data from respondents who are

readily available and cover logistical challenges or access restrictions, ensuring that the study proceeded without significant delay.

2.3 Data Collection

The study used questionnaires and observation instrument as tools of data collection. The Likert scale questionnaires with five points categories was used to assess the influence of candidates' item responses analysis on assessment practices in secondary schools in Zanzibar. And n on participant observation was used to examine on going classroom assessment practices. the researcher used 10 minutes classroom observation with rating from 1-3 scale to quantify the intensity of observed assessment practices.

2.4 Data Analysis

The quantitative data were collected using the questionnaire and observation were analyzed by using the descriptive statistics (frequencies, mean, standard deviation and percentages) with the help of Statistical Package for Social Sciences (SPSS) version 20.0. The statistics helped the researcher to examine the influence of Candidates' Item Responses Analysis on assessment practices applied by secondary school teachers.

2.5 The influence of candidates' item responses analysis on assessment practices

The objective was to examine the influence of Candidates' Item Response Analysis on assessment practices applied by secondary school teachers. The table below showed the results of questionnaire from the respondents

Table 1. Teachers' responses on the influence of candidates' item responses analysis on assessment practices.

Description	1	2	3	4	5	Mean	S. D
Influence in the purpose of assessment							
CIRA influence you in planning for instructions (objective, strengths & weakness, grouping)	18	14	14	18	16	3.00	1.458
CIRA influence you in monitoring students' progress and provide feedback to the students	12	17	14	16	21	3.21	1.429
CIRA influence you in preparing students for national examination	10	12	15	16	27	3.47	1.414
CIRA influence you in determining the effectiveness of instructions	13	10	14	25	18	3.31	1.383
Index in purpose of assessment	3.247						
Influence in the methods of assessment							
CIRA influence you in assessing students through classroom observation	17	16	14	18	15	2.98	1.432
CIRA influence you in assessing students through group discussion	14	12	17	22	15	3.15	1.370
CIRA influence you in assessing students through classroom exercises	13	13	12	18	24	3.34	1.466
CIRA influence you in assessing students through home work	11	13	16	16	24	3.36	1.416
CIRA influence you in assessing students through quizzes	14	13	16	16	21	3.21	1.447

CIRA influence you in assessing students through oral questions	15	11	15	18	21	3.24	1.460
CIRA influence you in assessing student multiple-choice questions	15	11	16	17	20	3.22	1.458
CIRA influence you in assessing students writing true/ false questions	20	13	18	15	16	2.87	1.435
CIRA influence you in assessing students fill in the blanks or short answers	17	16	21	12	14	2.87	1.381
CIRA influence you in assessing students writing matching items	13	17	16	20	14	3.06	1.353
CIRA influence you in assessing students individual class participation	13	13	19	21	14	3.11	1.322
CIRA influence you in assessing student portfolios	21	17	13	18	11	2.76	1.416
CIRA influence you in assessing students peer assessment	19	20	14	15	12	2.76	1.398
CIRA influence you in assessing students project-based assessment	20	13	14	15	18	2.98	1.509
Index in methods of assessment	3.065						
Influence in the procedures of assessment							
CIRA influence you in preparing your own assessment items, questions/ materials	14	13	15	19	19	3.20	1.427
CIRA influence you in finding sources of your assessment items/questions.	14	16	14	18	18	3.13	1.426
CIRA influence you in grading your students' scores.	10	12	18	17	23	3.39	1.373
CIRA influence you in preparing students feedback and reporting.	15	12	17	18	18	3.15	1.424
Index of procedures of assessment	3.217						

Note: 1=somehow,2=Occasionally, 3= Regularly, 4= Frequently, 5= Always

3. DISCUSION

Table 1, showed the influence of Candidates' Item Response Analysis on assessment practices applied by secondary school teachers. The results indicated that, regarding the purpose of assessment, Candidates' item responses analysis had played a significant role in influencing secondary school teachers to "prepare students for national examinations," with a mean score of (M=3.47). This was followed by the statement "determining the effectiveness of instructions," which had a mean score of (M=3.31). The statement "Influence in planning for instructions (objective, strengths & weakness, grouping)" received the lowest reaction, with a mean score of (M=3.00). However, the overall mean index for the purpose of the assessment was (M=3.247). The results indicated that Candidates' Item Responses Analysis had more influence secondary school teachers on preparing students for the national examination.

In relation to the current study, [11]. on distractor analysis in multiple-choice of instructors written multiple-choice found that knowledge of item responses analyses helps teachers in preparing test items. Also,[12]. on their study about fundamental thinking and skills test using item responses theory, found that the item responses theory helps teachers to develop good test items. Therefore, the study shown that the knowledge of item responses analysis help teachers in improving the assessment practices in preparing good test items.

Moreover, regarding the influence on methods of assessment, the results showed that the statement "influence in assessing students through homework" had the highest mean score of (M=3.36), followed by

“influence in assessing students through classroom exercises” with a mean score of (M=3.34), and then “influence in assessing students through oral questions” with a mean score of (M=3.24). The lowest means were for “influence in assessing students through portfolios” and “influence in assessing students through peer assessment,” both having the same mean score of (M=2.76). The overall mean index for methods of assessment was (M=3.065). This implied that Candidates’ Item Responses Analysis had consistently influenced secondary school teachers in preparing students for national examinations, but it had little influence on assessing students through portfolios and peer assessment. In relation to the current study, [13] on her study about the effectiveness of teachers’ classroom assessment practice on providing pupils learning of English language in primary school revealed that teachers had little knowledge on the uses of portfolios as assessment tools since the method was less used by some teachers compared to other traditional assessment methods. And also, portfolio is not the easiest type of assessment to implement because it needs knowledge, time and resources to fulfil it.

In the last part concerning the procedure of assessment, the results showed that Candidates’ Item Responses Analysis influenced secondary school teachers in grading students’ scores with a mean score of (M=3.39), followed by “influence in preparing teachers’ own assessment items, questions/materials” with a mean score of (M=3.20). The lowest was “influence in finding sources of assessment items/questions,” with a mean score of (M=3.13). The overall mean index was (M=3.47), which implied that Candidates’ Item Responses Analysis influenced secondary school teachers in preparing students for national examinations.

In general, the results indicated that Candidates’ Item Responses Analysis influenced secondary school teachers in the purpose of assessment, with a mean score of (M=3.247), particularly in preparing students for national examinations, finding sources of assessment, and providing student feedback and reporting.

4. CONCLUSION

The results shown that on purpose of assessment Candidates’ item responses analysis played a significant role on influence secondary school teachers to prepare students for national examination and determining the effectiveness of instructions, whereby Influence in planning for instructions (objective, strengths & weakness, grouping) had the lowest influence reaction. This implies that Candidates’ Item Responses Analysis had more influence secondary school teachers on preparing students to pass national examination something which prompted that most of secondary school teachers usually base on the methods of preparing pupils for final examination as key reason for classroom assessment.

In general, the results indicated that Candidates’ Item Responses Analysis influences secondary school teachers on purpose of assessment especial on preparing students for national examination, finding source of assessment and giving student feedback and reporting while portfolios, peer assessment and project-base assessment were lowest influence something which led secondary school teachers not to applied them in assessment practices. Therefore, the government should Provide more trainings for secondary school teachers so as to help them in better understanding of the proper usage of candidates’ item responses analysis to adjust the assessment practices in secondary schools.

5. RECOMMENDATION

The following recommendations were derived from the findings and conclusions of the study;

1. Timely Delivery of Candidates Item Responses Analysis: The study recommends that the National Examination Council of Tanzania (NECTA) ensure timely delivery of candidates’ item response analysis reports to all secondary schools in Tanzania. These reports are currently not reaching schools in the expected timeframe, which hinders their effective use. Prompt distribution will facilitate better use of the analysis in improving educational outcomes.
2. Adequate Distribution of Candidates’ Item Response Analysis Copies; The study identified that many secondary schools in Zanzibar receive insufficient copies of candidates’ item response

analysis. This shortage leads to multiple teachers sharing a limited number of copies, thereby impeding effective assessment practices. NECTA should ensure that an adequate number of copies is distributed to each school to support teachers in implementing effective assessment practices.

3. Training for Modern Assessment Methods; The study found that many secondary school teachers do not utilize candidates' item response analysis to refine their assessment practices or incorporate modern methods such as portfolios and project-based assessments due to a lack of knowledge. It is recommended that the government provide additional training for teachers on these modern assessment practices to enhance their effectiveness and integration in the classroom

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