

## Criterion-Referenced assessment in relation to the learning of differently abled children in Zambia

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### Abstract

This manuscript is a research carried out in Lusaka province at two special schools on the use of criterion-referenced assessment on how it has been of benefit to the children who are differently abled in the school system. The research on criterion-referenced assessment was done in relation to their learning. It was discovered that criterion-referenced assessment is of great benefit to learners who are differently disabled in Zambia in various ways. For instance through this assessment level of performance can be known, there is instruction and behavior modification, needs are addressed early, remedial work can be given, appropriate placement and individual differences are considered. It was also noted that criterion-referenced assessment had some pitfalls such as interpretation being subjective. Despite these failures criterion-referenced assessment is vital in order for a curriculum to meet the needs of differently abled learners in Zambia.

The work was an attempt to understand the importance of assessment to learners who are differently abled in Zambia.

**Keywords:** Criterion-reference assessment, differently abled learners.

### Introduction

Education is a broad field which is designed to impart knowledge and skills in order for an individual to survive successfully. Special education is under this umbrella of this same education but before being offered this kind of education children need to undergo identification process and assessment and thereafter be given educational interventional measures. This paper discusses one form of assessment out of many called criterion-referenced assessment in relation to the learning of differently abled and thereby how it has benefited such children in Zambia.

### Assessment

Assessment is defined as ongoing multifaceted process of observing, measuring, recording and documenting of assessed information in educational setting (Glasenapp, 2006). The information about assessment serves as a basis for revealing the individual and program strength and weaknesses for the purpose of planning the relevant activities for addressing the needs and considers making the necessary changes.

### Differently abled children

Differently abled children are learners with visual impairment, hearing impairment, those who are intellectually challenged, those with physical disabilities and gifted abilities as well as emotional and behavioral disorder (Smith, 1998) [7]. The needs of differently abled are identified and assessed with a view of addressing them through intervention measures in order to equip them with necessary skills and knowledge for survival and independent life.

### Criterion-referenced assessment

Criterion-referenced assessment is defined as a test or the assessment designed to provide a measure of performance that is interpretable in terms of clearly defined and delimited domain of learning task (Valensuela, 2006) [8]. In other words, this assessment measure student knowledge and understanding in relation to specific standards or performance objectives and

not in relation to others. All children have to meet the same established performance criterion or goals of the curriculum for them to move to next higher grade or new learning situation.

### Literature review

The argument about criterion-referenced assessment in relation to the learning of differently abled of children is as follows;

The assessment provide necessary information which is of benefit to the education of differently abled children. The assessment is not based on comparison or variability because it flow directly between item and criterion (Popham, 1971) [6]. Differently abled children need this assessment because it can measure or show their level of competence attained not in reference to other's performance thereby revealing individual darkness necessary to offer effective education at individual level of ability and competencies.

Another argument is that, information obtained ascertain an individual's status with respect to some criterion or performance standards and are reliable (Lewis and Doorlag, 1987) [4]. In other words, children can be assessed as being visually impaired, hearing impaired, having reading, writing, speech problem and the like as their status according to the criterion used which is reliable.

The other argument is that, criterion reference assessment also provide information of current performance of an individual as a true reflection of the criterion (Lewis and Doorlag, 1987) [4]. This is when assessment is applied and it can bring out the current performance of an individual. Thereafter, individualized education program can be drawn for the individual who are differently basing on current performance such as the strengths and weaknesses discovered by the assessment activities.

Another argument is that the assessment is administered in order to know and provide explicit information of what individuals can and cannot do (Popham 1971) [6]. Explicit information can help teachers to give differently abled learners

instructions according to their level of mastery in criterion continuum. For instance if the criterion for passing a test is 50%, then those who gets fifty percent may not need further instructions unlike those who may get below fifty percent will need further instructions in order to address their weak areas in line with the set objective or standard.

The other argument is that, prior testing influence learning and determines specific contribution of the program being administered in order to have differences between entering and terminal behavior (Popham 1971) [6]. In this case the assessed information will show the progress that will be reflected before and after the instructions for skills such as gross and fine motor, self-help, cognitive, communication, social and pre-vocational skills which is administered in order to address their needs. The skills have to be in line with the objective or criterion set.

According to Linn and Gronlund (2000) [5] criterion reference assessment provide report and interpretation. Interpretation can be made in various ways such as the percentage of tasks a student can perform correctly; it can be a description of the specific learning task a child can perform such as washing. It can also be a comparison of the test performance to a set of performance standard and decide whether the child meets the standard or not. These types of scores or measurements can be recorded and reported such as the child’s performance being 50, the child performed at proficient level in the activity or task of washing. This type of information is very necessary to the differently abled children because decision regarding placement can be based on this information. For instance the child can be placed at any of the following the institutions depending on the child’s disability such as special school, inclusive school, units, a school with a resource room, specialized facilities such hospital units and Cheshire homes. The assessment report can help professionals and parents to take care of these learners better and address their needs they may have.

Criterion referenced assessment is valid in terms of objectives for the test item (Popham 1971) [6]. For example the objective can be to name the instrument used for writing braille. Then the test item would be as follows; “The instrument used for

writing braille is called -----.” In this case the item is valid or will measure what it is supposed to measure because it corresponds to a particular objective of criteria appropriately. Validity is vital in relation to differently abled children’s learning because the child’s abilities and disabilities can easily be marked out and intervention can be done in order to address the child’s need being experienced.

Criterion referenced assessment promotes mastery learning (Dambo, 1994) [3]. This is because this assessment is part of or integral part of learning process and a guide to learning. It helps learners to know the skills they have mastered and those they need to know and master. In this way learning becomes more meaningful to the learners who are differently abled and are encouraged to do intellectual tasks upon knowing the skills they have mastered and become eager to learn new skills and to improve the skills which are not mastered. This qualifies it to be an authentic assessment which is holistic and valued professionally because learning outcome, teaching and learning activities match to their description, content, depth and curriculum goals. In this way mastery learning proves to be helpful to learners who are differently abled.

The criteria for student performance can be expressed differently in line with the objective (Angelo and Cross 1993) [1]. For instance criteria can be in percentage, raw scores, a set of scores of various kinds and standards. As a result the criterion is vital to differently abled learners because it acts as a yard stick on which one would know the learning outcome of both individuals and treatments or instructional objectives.

Instructional objectives are said to be achieved if student’s performance demonstrate mastery of skills according to determined criteria (Angelo and Cross 1993) [1]. If the child is successful she can progress to the next skill or unit in sequence. The argument is that, differently abled need instructional objectives which are task analyzed for them to master the skills well and in which students’ major academic and behavioral deficits are transformed into suggested instructional needs to which this assessment offers.

**Presentation of the Findings**

1: Teachers

**Table 1:** Descriptive Statistics for teachers

Subtopics	N	Minimum	Maximum	Mean	Std. Deviation
Partial Results	50	1.0	2.0	1.100	.3030
Benefits Of Criterion Reference Assessment	50	1.0	8.0	4.140	1.9796
Classroom Benefits Of Criterion Reference Assessment	50	1.0	7.0	3.840	2.2978
Benefits Of The Change Of Teaching Procedure Or Method	50	1.0	2.0	1.040	.1979
Benefits By Learners With Visual Impairment	50	1.0	6.0	3.460	1.5935
Benefits By Learners With Hearing Impairment	50	1.0	5.0	2.540	1.2811
Benefits By Gifted And Talented	50	1.0	3.0	1.440	.5771
Benefits By Mentally Challenged	50	1.0	3.0	1.340	.5573
Benefits By Learners Who Are Phycally Disabled	50	1.0	4.0	1.840	.8418
Negatives In Terms Of Criterion Reference Assessment	50	1.0	3.0	1.520	.7887
Valid N (listwise)	50				

**Table 1 shows the average responses from teachers concerning subtopics.**

The subtopics are (a) partial results (b) benefits of criterion reference to learners (c) classroom benefits of criterion reference assessment (d) benefits of the change of procedure or method (e) benefits by learners with visual impairment (f) benefits by learners with hearing impairment (g) benefits by

learners who are talented and gifted (h) benefits by learners who are mentally challenged (i) benefits by learners who are physically impaired (j) negatives in terms of criterion reference assessment.

The mean score in all categories were between 1.040 and 4.140. The lowest mean score was the benefits of the change of teaching procedure or method (1.040) and the highest was

the benefits of criterion reference assessment (4,140). It is worth noting that high scores were also under the following subtopics; classroom benefits of criterion reference assessment (3.840) and benefits by learners who are physically impaired (3.460).

**One-Sample Statistics- t test**

**Table 2:** One-Sample Statistics- t test for criterion reference assessment

Test Value = 0					
t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
14.788	49	.000	4.1400	3.577	4.703
11.817	49	.000	3.8400	3.187	4.493
37.151	49	.000	1.0400	.984	1.096
15.354	49	.000	3.4600	3.007	3.913
14.020	49	.000	2.5400	2.176	2.904
17.644	49	.000	1.4400	1.276	1.604
17.001	49	.000	1.3400	1.182	1.498
15.456	49	.000	1.8400	1.601	2.079
20.004	49	.000	1.4000	1.259	1.541
25.667	49	.000	1.1000	1.014	1.186
13.628	49	.000	1.5200	1.296	1.744

Note: denotes significant value (< .05)

The one sample t test was run to compare the mean difference in the 11 subtopics concerning the use of criterion reference assessment. The statistics were significant in all situations, for instance the difference between the two means was less than 0.05. Benefits of the change of teaching procedure or method ( $t=37.151$ ;  $DF = 49$ ; sig. (2-tailed) = .000  $\alpha=0.05$ ) and the benefits of criterion reference assessment ( $t=14.788$ ;  $DF = 49$ ; sig. (2-tailed) = .000  $\alpha=0.05$ )

**Discussion of the Findings**

It was reported that, the benefit of differently abled learners in Zambia in relation to Criterion referenced assessment is partial because this type of assessment is partly done because at times pupils are only identified and placed in schools without being assessed.

However, the other response was that, Criterion referenced assessment is done indirectly to few pupils who even benefit from individualized education program which is developed based on the assessed information. For these children, the benefits according to the respondents are that the presence of disability is assessed and they are placed appropriately. Further response was that, criterion reference assessment is of benefit to learners who are differently abled because intervention is done early enough in the early years of a child's life and this is supported by (Dambo 1994) [3].

The other response was that, children who are differently abled benefit from Criterion referenced assessment because their individual differences are considered during the learning process. The respondents also stated that, Criterion referenced assessment is of benefit to learners who are differently abled because they receive remedial work.

Another response was that, some learners benefit from using Criterion referenced assessment because there is behavior

modification which is noticed among some learners such as those with behavioral problems.

Then another response was that, Criterion referenced assessment confirms the presence or absence of the disability and the progress can be measured and quantified. As Lewis and Doorlag (1987) [4] had put it that, progress can be seen through positive learning outcome.

The study also reviewed as stated by respondents that, Criterion referenced assessment is of benefit to learners who are differently abled because the current level of performance both positive and negative can be noticed. The other response was that, criterion referenced assessment can also be used for analyzing the reason for failure and clarity of task direction. Through criterion reference test, specific errors are noticed, where necessary criteria can also be changed for much better successful performance. According to Dambo (1994) [3] this can be termed as curriculum task analysis.

The respondents narrated that, the learners who are differently abled benefit from Criterion referenced assessment because there is change of teaching procedure or method or there is modification of the instructions in order to address their needs such as reading problems. For instance the visually impaired are made to use visual aids and identify through touch, improve listening skills, mobility and academic skills are enhanced by developing braille reading and writing skills. Another example is that, because of changing the procedure learners with hearing impairment are made to use speech board, finger spelling, sign language or total communication. The other example is that, changing the procedure makes the gifted and talented learners to be exposed to teachers who are able to monitor their progress. Then those who are mentally challenged are taught life skills such as bathing, washing, brushing of the teeth, dressing and toileting. Lastly, those who are physically disabled receive education in regular class with modification of the infrastructure if necessary, the learners use calipers, braces to help them move around during the learning period. Doorlag (1984) confirmed that learners with special needs require modified instructional procedures or methods in order to address their needs. Change of procedure can make learners who are differently abled develop ability skills to the fullest level (Dambo, 1994) [3].

On the other hand the response was in terms of the pitfalls of criterion-referenced assessment and it was reported that, majority of the learners who are differently abled do not benefit from this type of assessment in Zambia because learners make no academic transition, they learn without any clear and agreed criteria. When criterion-referenced assessment is administered there is subjectivity of interpretation of information and there is a problem of writing clear and appropriate criteria and this finding is supported by (Braine 1991) [2].

The lowest benefits of criterion reference assessment was discovered to be under the sub-topic called change of teaching procedure or method and the highest was under the subtopic called benefits of criterion reference assessment. It is worth noting that high benefits were also under the following subtopics; classroom benefits of criterion reference assessment and benefits by learners who are physically impaired. The statistics were significant in all situations because the difference between the two means was less than 0.05.

Despite its failures criterion-referenced assessment is vital in order for a curriculum to meet the needs of differently abled

learners. According to the researcher these pitfalls can be addressed or corrected through the setting of correct instructional objectives.

### Conclusion

Based on discussion the paper concludes that, criterion-referenced assessment is not an end in itself thus it is a service which is between identification and intervention measures. It is of great benefit to learners who are differently disabled in Zambia in various ways. To mention a few for instance level of performance can be known, there is instruction and behavior modification, needs are addressed early, remedial work can be given, appropriate placement and individual differences are considered. The assessment has some pitfalls such as interpretation being subjective. Despite of its failures criterion-referenced assessment is vital in order for a curriculum to meet the needs of differently abled learners in Zambia.

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