



THE EFFECT OF TESTING CONDITIONS ON THE STUDENTS' PERFORMANCE OF DISTANCE LEARNING SYSTEM (DLS) IN JIGAWA STATE

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ABSTRACT:

This research was carried out to investigate and ascertain the extent to which test administration affects performance of cycle three (3) NCE Distance Learning System (DLS) students in achievement test. Specifically, the study investigated whether type of sitting arrangement and ventilation affects performance of students in the examination. The population of the study was the cycle 3 NCE (DLS) students 2018/2019 session of study centres in Jigawa State comprising of 739 students. From the population, 248 students were sampled. The methodology use was ex-post-facto survey design and a checklist was used as an instrument for data collection where students were observed in order to ascertain the testing condition at the time of writing education examination. Moderated raw examination scores for the sampled students were collected and analyzed using T-test independent sample analysis tool. The findings of the study revealed that significant differences existed in performance of students by sitting arrangement and ventilation in the testing room. In view of the findings of the study, recommendations were made on ways of improving the quality and standard of test administration in the Distance Learning System. Students who wrote the examination with good sitting arrangement and in a ventilated examination site performed significantly higher than their counter parts who wrote in poor sitting arrangement and inadequate ventilation in the testing room.

Keywords: *Testing, Conditions, Students' Performance, Disatance, Learning.*

INTRODUCTION

A well planned assessment of students' achievement should provide valuable feedback to teachers, school administrators etc, which will help in the planning of the instructional programmes and enhance learning. However, the basic rationale of testing involves generalization from the behaviour sample observed in the testing situation to behaviour manifested in other test situation (Anastasi, 2008). A test score should therefore, be able to predict how the teaching and learning objectives are achieved. And any influences that are specific to test situation constitute error variance and reduce test validity. It is therefore, very essential for test administrators to identify any test related influences that may limit or impair the general ability of test results.

The guiding principle in administering any classroom test is that all students must be given a fair chance to demonstrate their achievement of the learning outcomes being measured. This guiding principle is referred to as standardized procedures of test administration. It implies not only verbal instruction, timing, materials and other aspects of test including the testing environment (Anastasi, 2008). Testing environment involves the selection of a suitable testing room which could be free from undue noise and distractions, and should provide adequate lighting, ventilation, seating facilities and working space for test takers.

A standardized test is one that is administered under standardized or controlled conditions that specify where, when, how and how long student may respond to the questions. Standardized test should meet acceptable standards for technical qualities of instruction, administration usability (Godwin & Driscoll, 2008).

The primary strengths of standardized tests if properly used are those that can eliminate bias in assessment of individual students and that they provide data that can be aggregated, permitting comparisons of groups etc.

Test administration procedures are developed for an examination programme in order to help to reduce measurement error and increase the likely hood of fair, valid and reliable assessment. Appropriate standardized procedures improved measurement by increasing consistency and test security. Consistently, standardized administration of the test enables the test administrators and examinees may have taken their tests on different dates, at different places and with different proctors (Usman, 2005).

Among the major importance of test administration is consistency. Standardized tests are designed to administer under consistent procedures so that test taking experience is as similar as possible across examinees. This similar experience increases the fairness of the test as well as making examinees' score more directly comparable. Typical guidelines related to test administration place state that all sites should be comfortable, and should have adequate spacing of seats, adequate number of desk and chairs, adequate ventilation, good lighting and handicap accessibility. Interruptions and distracters such as excessive noise should be prevented. The test should be administered by trained examiner who maintains a positive atmosphere and who carefully follow the administration procedures that have been developed (Buckler, 2009).

Another importance factor in test administration is test security. Test security refers to all methods designed to prevent cheating as well as to prevent the test items and contents from being exposed to future test takers (David & Rahab). Test administration procedures related begin as early as the registration procedures. Many examination programmes restrict examinees from registering for a test unless they meet certain eligibility criteria. When examinees arrive at the test site, there is need of additional provisions for test security which include verifying each examinee's identification and restricting materials (such as communication and photographic devices) that are not allowed during test administration. If the examination programmed uses multiple, parallel test forms, these may be distributed in spiral fashion, in order to prevent one examinee from being able to copy from another. For example form A is distributed to the first examinee, form B to the second examinee, also another form A to the third examinee etc. The test proctors should also

remain attentive throughout the test administration prevent cheating and other security breaches. When testing is completed, all test related materials should be carefully collected from examinees before they depart (Rhine, Pratt, Stuart, Smith & Greenwood, 2004).

David and Rahab (2006), opined that the use of orderly standardized test administration procedures is beneficial to examinees. In particular, administration procedures designed to promote consistent conditions for all examinees and increase examination fairness. Test administration procedures related to security protect the integrity of the test items. In both the cases, the standardization of test administration procedures prevents some examinees from being unfairly advantage over other examinees.

Furthermore, departure from prescribed test administration procedures particularly the testing conditions may result in bias and thus affect test validity (APA, 1999). Standardization of test involves maintaining a constant testing environment and conducting the test according to detailed rule and specifications, so that testing conditions are the same for all test takers (Wargocki, Wyon, Matysiak and Irgens 2005).

This paper therefore, investigated specifically the effect of sitting arrangement, spaciousness of the testing room and ventilation on students test performance.

Statement of the Problem

Effective administration and performance of students in achievement test has relation with testing conditions, quality of test instrument, nature of examinee and examiner. The problem under consideration in this study is investigation the nature and types of testing conditions and their effects on performance of students in achievement test.

Student may be prepare well for the test, spent enough time studying his lecture note and other materials needed for test taking, come to the test early and possessed all the strategies for test taking. But test conditions such as good ventilation, good sitting arrangement and good spaciousness of test venue may really affect his performance in the test and lead to get low score.

These and other factors encourage the researcher to investigate whether students of distance learning system in Jigawa state have such problems and to find out the nature of the problems.

Research Methodology

The designed employed in this study was ex-post factor design. While the population comprises of all the cycle three (3) NCE (DLS) students of all the study centres across the Jigawa State 2016/2017 session. The number of the students was 739. A sample of 248 students was selected using Kreycie and Morgan (1970) as the basis for determining sample size. Stratified random sampling technique was used in order to ensure that all the centers were represented in the sample. A check list on the availability or otherwise of essential requirements in testing environment was used as instrument for data collection to ascertain the conditions under which students were examined. The instrument was validated by the expert in Tests and measurement and officers of the examination division of the NTI as well as the examination officers of the study centers. Students were also observed in order to ascertain the testing condition at the time of writing education examination and moderated raw scores for the sampled students were collected and analyzed using descriptive statistic and t-test independent sample analysis tool.

Objectives of the Study

The purposes of the study are to:

1. Find out as how differences in the level of sitting arrangement in the testing room affect students' test performance.
2. Find out as how differences in the amount of ventilation in the testing room affect students' test performance.

Hypothesis

The following hypotheses were formulated for the study:

1. There is no significant difference in the test performance of students who sat in class with good sitting arrangement and those with poor sitting arrangement.

2. There is no significant difference in the test performance of students who sat in a room with adequate ventilation and those with inadequate ventilation.

Results

Table 1 Descriptive Statistic of achievement of students with good and poor sitting arrangement of NCE DLS Students

| Aca. Achieve. by GSA and PSA | N | Mean | SD |
|------------------------------|-----|-------|-------|
| GSA | 169 | 68.67 | 10.53 |
| PSA | 79 | 49.80 | 5.39 |

The descriptive statistics tables above shows the descriptive statistics of hypothesis one. The hypothesis one which was on academic achievement of NCE students of DLS, students with good sitting arrangement were 169 with mean of 68.67 and standard deviation of 10.53, while students with poor sitting arrangement were 79 with mean of 49.80 and standard deviation of 5.39. Means there is significance differences between the mean score of the students.

Test of Hypothesis one

There is no significant difference in the achievement of NCE students with good sitting arrangement and those with poor sitting arrangement of DLS in Jigawa State.

Table 2 Differences in the sitting arrangement among NCE DLS students.

| Sitting Arrang. | N | Mean | SD | t-value | df | p-value |
|-----------------|-----|-------|-------|---------|-----|---------|
| GSA | 169 | 68.67 | 10.53 | .518 | 246 | .000 |
| PSA | 79 | 49.80 | 5.39 | | | |

In order to test the null hypothesis that there is no significant difference in the academic achievement of NCE students with good sitting arrangement and those with poor sitting arrangement DLS in Jigawa State, an

independent sample t-test was performed. From table the mean on sitting arrangement for each group was $M=68.67$ for students with good sitting arrangement and $M=49.80$ for students with poor sitting arrangement. The results revealed that the mean score of students with good sitting arrangement ($M = 68.67, SD = 10.53$) is significantly different from that of the mean of students with poor sitting arrangement ($M = 49.80, SD = 5.39$) at t-value ($t = .518, df = 246, p = .000$). Thus, our P value .000 is less than .05.

Based on the obtained result, the stated null hypothesis that there is no significant difference in the achievement possessed by students with good and poor sitting arrangement of NCE DLS in Jigawa State was rejected. The result revealed that was statistically significant difference existed in the achievement due to sitting arrangement among students of NCE DLS in Jigawa State.

Table 3 Descriptive Statistic of academic achievement of students with adequate ventilation and those with inadequate ventilation of NCE DLS Students

| Ventilation | N | Mean | SD |
|-------------|-----|-------|------|
| AV | 169 | 64.67 | 9.53 |
| IAV | 79 | 47.80 | 5.39 |

The descriptive statistics tables above shows the descriptive statistics of hypothesis two. The hypothesis two which was on academic achievement of NCE students of DLS, students with adequate ventilation were 169 with mean of 64.67 and standard deviation of 9.53, while students with inadequate ventilation were 79 with mean of 47.80 and standard deviation of 5.39.

Test of Hypothesis two

There is no significant difference in the academic achievement of NCE students with adequate ventilation and those with inadequate ventilation of DLS in Jigawa State.

Table 2 Differences in the ventilation among NCE DLS students.

| Ventilation | N | Mean | S D | t-value | df | p-value |
|-------------|-----|-------|------|---------|-----|---------|
| AV | 169 | 64.67 | 9.53 | .418 | 246 | .000 |
| IAV | 79 | 47.80 | 5.39 | | | |

In order to test the null hypothesis that there is no significant difference in the academic achievement of NCE students with good sitting arrangement and those with poor sitting arrangement DLS in Jigawa State, a t-test independent sample was performed. From table the mean on ventilation for each group was $M = 46.67$ for students with adequate ventilation and $M=47.80$ for students with inadequate ventilation. The results revealed that the mean score of students with adequate ventilation ($M = 64.67$, $SD = 9.53$) is significantly different from that of the mean of students in adequate ventilation ($M = 47.80$, $SD = 5.39$) at t-value ($t = .418$, $df = 246$, $p = .000$). Thus, our P value .000 is less than .05.

Based on the obtained result, the stated null hypothesis that there is no significant difference in the academic achievement possessed by students with adequate ventilation and those with inadequate of NCE DLS in Jigawa State was rejected. The result revealed that there is statistically significant difference in the achievement of students due to ventilation among students of NCE DLS in Jigawa State.

Discussion of Findings

This section discussed the finding of two hypotheses. There is significant difference in test performance between students who wrote examination on different sitting arrangement. Students who wrote their examination on good sitting arrangement recorded higher mean score than their counterpart who wrote the examination on poor sitting arrangement. This finding corroborates with the findings of Balademaj (2016). Who supported that there is significant difference in the effect of test conditions between students who wrote test on different sitting arrangement i.e. good and bad sitting arrangement among the sample of 200 science secondary students in Osun State. Also this result is in line with the majority of the

previous studies, like that of Olubadewa (2008), where he conducted research to investigate the difference in the effect of test-taking condition on academic performance of under graduate students in Trinidad and Tobago. The result indicated that students that conducted their test on good sitting arrangement scored higher than students who conducted their test on bad sitting arrangement.

There is significant difference between students who wrote their examination in a room with adequate ventilation and those who wrote the examination in a room with inadequate or poor ventilation. The mean score of students with adequate ventilation is higher than students with inadequate or poor ventilation. This finding corroborates with finding of Musa (2003), where he conducted a research on testing conditions among NCE 3 Mathematics students of Sa'adatu Rimi College of education Kano. The students that wrote test in a room with good ventilation scored higher than students that wrote their test in inadequate ventilation. In another study conducted by Abdussalam (2017) among the students of senior secondary school of Katsina metropolitan, the students that conducted their test with adequate ventilation testing room scored good result, while students that conducted their test in inadequate ventilation of testing room scored poor results.

Conclusion

Based on the result generated from the analysis of the data, it was concluded that there is significant difference between students that conducted their test in good sitting arrangement and students that conducted their test in poor sitting arrangement among the NCE three students of DLS in Jigawa State. While in the difference in the performance of students that wrote their test in adequate and inadequate ventilation, the student that wrote their test in good ventilation have the highest mean score than the students that wrote their test in bad ventilation testing room.

Recommendations

In the light of these research findings, the researcher has made some recommendations from the study. The researcher hope that if the following

recommendations are taken into consideration, there will be much improvements in the provision of good sitting arrangement, enough and good ventilation to the students or any test taker, this will help in having valid and reliable assessment of students or any examinees. The recommendations are:

1. All test administrators who administer test in the pre-primary, primary, secondary and Tertiary Institutions as well as examination bodies must be adequately and well trained on standardized test administration procedures. This will help to reduce measurement error and to increase the likelihood of fair, valid and reliable assessment of students.
2. In essence, teachers and any test administrators should be cautious in selecting the type of seats to be used by students in writing a test or examination. Use of inappropriate seats during the test create discomfort and affect the output of students in an examination.
3. Test administrators must ensure selection of an examination room or hall that has adequate windows and doors with workable fan for free air flow throughout duration of the examination.

REFERENCES:

- Abdussalam, A. (2019). *Test taking conditions and Students achievement of Katsina Senior Secondary School Students Katsina State*. Athesis submitted to post graduate School ABU Zaria. In Partial Fulfillment for the award of Masters Degree in Educational Psychology.
- American Educational Research Association, American Psychological Association & National Council on Measurement in Education (1999). *Standards for Educational and Psychological Testing*. Washington D. C. American Psychological Association.
- Anastasi, A. (2008). *Psychological Testing (7th Edition)*, New York. Macmillan Publishing Company.
- Balademaj F. I. (2016). *Effects of Environmental Settings, Test Type and Gender on Cognitive Performance*. Retrieved January 11, 2017 from hamline. Edu/instech/honors Festina-Balademaj.pdf.
- Buckler, C. L. (2009). *The effects of Environmental Handedness on Writing Performance*. Retrieve September 25, 2018 from <http://clearinghouse.missouriwestern.edu/Manuscript/104.asp>.
- David A. R. and Rahab M. S. (2006). *Skills for Assessment of Student Growth in Skills and Effective Domain*. A paper presented at third country on ASEI and PDSI Approach. CEMASTE, Kenya 1st – 30th October, 2006.

- Godwin, A. and Driscoll, C. (2018). Standardized Tests North Central Regional Educational Laboratory. Retrieved December 2, 2019 from <http://www.nerel.org/sdrs/areas/issues/students/earlycld/ea51k3.htm>.
- Musa, A., S., (2013). *Test taking conditions and Mathematics achievement of NCE Students in Sa,adatu Rimi College of Education Kano State*. Athesis submitted to post graduate School Bayero University Kano, In partial Fulfillment for the award of Master Degree in Tests and Measurement.
- Olubadewa O. L. (2008). School Facility Condition and Student Academic Achievement: A Challenge to Educational Policy Makers. *Kano Journal of Educational Studies* Vol 3, No. 1, 50-56.
- Rhine, J., B., Pratt, J., G., Stuart, C., E., Smith, B., M., & Greenwood J., A., (2004). *Test Condition that Affect Performance*. Retrieve October 2, 2017 from <http://www.Survivalafterdeath.org/articles/duke/te-st.htm>.
- Usman, T., (2005). *Effects of Administration Procedures of Teacher Made Tests on the Performance of Students in Jigawa State College of Education, Gumel*. MastersDegree Thesis, Bayero University, Kano.
- Wargocki, P., Wyon D. P. Matysiak B., Irgens, S., (2015). *The Effects of Classroom Air Temperature and outdoor Air Supply rate on the performance of School work by Students*. Retrieved April 22, 2019 from www.ie.dtu.dk