
**PROBLEMS AFFECTING THE ASSESSMENT OF STUDENTS' PRACTICAL PROJECTS IN
VOCATIONAL AND TECHNICAL COLLEGES IN NIGERIA**

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Abstract

This paper examined the concept of practical projects, assessment in vocational and technical education, types and importance of assessment in vocational and technical education as well as problems associated with the assessment of students' practical project work in Nigerian technical colleges. These include lack of uniform criteria, dearth of workshops, obsolete tools/equipment and machines, inadequate experienced and qualified teachers which make objective and valid assessment of students' practical work cumbersome. The paper recommended among others, that employment and retaining of qualified and experienced teachers, provision of well equip workshops in schools, combination of process and product assessment techniques, etc, will go along way in helping vocational and technical education teachers in making objective assessment of individual student's achievement or to certify mastery of certain learning competency and skills.

Introduction

Vocational and Technical Education is the type of education that requires the inculcation of practical skills to learners with the hope that the learners will become self-reliant if not employed by other people. In essence, Vocational and Technical Education programmes are meant to train students upon graduation to become employers of labour instead of becoming job seekers. As such, Vocational and Technical Education programmes are geared toward imparting knowledge, skills, competencies and attitudes to the learners. It prepares individual to be gainfully employed or set up his venture.

However, the imparting of knowledge, skills, competencies and attitudes in Vocational and Technical Education are basically attained in classroom and workshops through effective assessment of students' practical projects since practical project is an essential component of Vocational and Technical Education programmes.

According to Federal Government of Nigeria (2004), the product of the Nigerian Vocational and Technical Education programme should be able to:

- Secure employment in industry.
- Set up their own business, become self-employed and employ others.
- Pursue further education in post secondary technical institutions such as Polytechnics,

Colleges of Education (Technical), and Universities of Technologies.

In view of the above, it is imperative to create learning situations where students' skills, knowledge and competence in performing complex tasks and solving real life problems would be assessed practically.

Practical project work in Vocational and Technical Education

Practical work is an essential component of teaching Vocational and Technical subjects, and it is therefore important to assess students on their mastery of skills required for practical work. Therefore, practical project in Vocational and Technical Education require teachers and or instructors to guide the students properly. The subject teacher is required to assess the students' work as it progress using appropriate assessment techniques. This fact is obvious because assessment is the process of identifying and examining about what and how well students are learning.

Assessment

Assessment plays crucial role in education because it aid instruction, and there can not be effective instruction without proper assessment. Thus, assessment helps the teacher to find out the

extent to which instructional objectives have been achieved. Equally important, it enables the teacher to identify students' area of strength and weakness.

In general term, assessment refers to the process of gathering and documenting information about the achievement, skills, abilities and personality characteristics of an individual or group of individuals (Nworgu, 2010). In the same vein, Anikweze (2005) describes assessment as the process of investigating the status or standard of a learner attainment or the attainment of a group of learners, where group instruction prevails, with reference to expected outcomes which must have been specified as objectives.

According to Ekpenyong and Igbinedon (1999), assessment is the process of observing, describing, collecting, recording, scoring and interpreting information about student. To Cecil, Ronald & Victor (2006), assessment is any systematic procedure for collecting information that can be used to make inferences about the characteristic of people or object.

Assessment therefore, is the systematic process of collecting information normally in measurable terms about the knowledge, skills and attitudes of a student or group of students for making a particular educational decision.

Assessment in Vocational and Technical Education

In Vocational and Technical Education, assessment is a process of identifying knowledge, skills and attitudes possessed by a learner or group of learners especially in psycho-motor domain with a view to improve any form of deficiency by the teacher or instructor.

Enemali (2010) described assessment in Vocational and Technical Education as a systematic process of determining how well a learner carries out a task and in what ways the learner is making progress towards stated objectives of instruction.

Types of assessment in Vocational and Technical Education

Assessment in Vocational and Technical Education programmes is of two types namely:

Process Assessment

This involves assessing students practical projects while they are executing the work and rating the level of performance. With this method, all steps, procedures followed to arrived at the final product(s) are observed, marked or graded by the teacher and or instructor.

Enemali (2010) argued that process assessment is intended to provide feedback to the teacher concerning learning that is in progress, so that its strong points can be preserved and its weak points

eliminated. Thus, process assessment focuses on the ability of the learner to demonstrate practical skills while carrying out practical project or tasks.

Product Assessment

This entails assessing the final project or product produced by student at the end of the practical work and marks or grades are awarded by the teacher. In product assessment, final product or completed project work produced by the learner is judged in order to determine the degree to which the objectives of the lessons are achieved. However, certain criteria are usually set on features to be assessed in the final product.

Importance of assessing students practical projects in Vocational and Technical Education

Practical projects assessment in Vocational and Technical Education is of paramount importance. As such, the following are some of the significance of assessing students practical work.

- ❖ To determine the extent a student possessed practical work skills.
- ❖ To determine student's level of mastery and accuracy.
- ❖ To ascertain the students manual dexterity.
- ❖ To find out student's level of achievement or to certify mastery of certain learning competency and skills.
- ❖ To ascertain student's work habits, attitude, interest and cooperation towards practical work.
- ❖ To find out students' strength and weakness in practical work.
- ❖ To determine the effectiveness of Vocational and Technical Education curricula, programmes or part thereof.
- ❖ To provide information to the school management which greatly helps in record keeping of students' academic progress.

Problems associated with the current practice of assessing students practical projects

The following are some of the problems of assessing students' practical projects in Vocational and Technical Education in Nigerian Technical Colleges.

1. **Lack of Uniform Criteria:-** The current practice of assessing students' practical work in Vocational and Technical Colleges lack uniformity and standardization upon which assessment of students' practical skills and competency could be based and or compared, and this could result into subjective assessment of students' practical work by their teachers and or instructors.
2. **Lack of experienced and qualified teachers/instructors:-** Lack of well trained and experienced teachers and or instructors that will

guide the students in their practical work posed a serious challenge for objective assessment of students' practical projects. This is because Okorie and Ezeji (1998) argued that a number of Vocational and Technical Education teachers trained in Nigeria are unable to assess the level of practical skills possessed by their students.

3. **Non-existence of well equipped workshops in the schools:-** There is the general problem of poor condition of workshops in the schools coupled with inadequate tools and equipment which make it difficult for teachers to teach and objectively assess students competency and skills required for practical project work.
4. **Use of Cognitive Tests:-** The emphasis often made by Vocational and Technical Education teachers on using written cognitive tests as a strategy for assessing students practical projects make learners to be deficient in the psycho-motor skills.
5. **Use of either process or product assessment technique instead of combining the two:-** The negligence of combining process and product assessment techniques by Vocational and Technical Education teachers or instructors lead to improper and unrealistic judgement of students work. Erickson and Wentling (2006) advocated that product assessment technique alone is not a complete measure of assessment. To them this method should be combined with the process assessment technique.
6. **Acceptance of ready-made product/project for assessment:-** Students often submit ready-made project for assessment as their practical work. Ma'aji (2002) criticizes this practice and argued that it is extremely poor. Poor in the sense that, in some cases students are encouraged to buy and present ready-made project or product for their grade in practical skills.

The way forward

Assessment of students' practical projects in Vocational and Technical Education involves comparing performance against set criteria with the aim of identifying areas of strength, weaknesses, differences, and offering solutions through appropriate ways. Therefore, for objective and valid assessment of students practical work to take place in Nigerian Technical Colleges, the following recommendations are forwarded.

1. Qualified and experienced Vocational and Technical Education teachers should be

employed that can teach and assess the level of practical skills possessed by their students.

2. That government should design a strategy of retaining experienced and qualified Vocational and Technical Education teachers by providing better condition of service to reduce the magnitude of their exit to other profession.
3. Adequate and modern training workshops should be provided in schools where students could conduct practical work under the supervision of their teachers.
4. That school workshops be equipped with kits, tools/equipment and machines which will enable teachers to measure students' abilities and skills rather than memorised theories.
5. A combination of process and product assessment techniques should be used by Vocational and Technical Education teachers when assessing students practical work. This is because for each practical project work, the student is expected to know the requisite tools, procedures and techniques involve in carrying out the practical work.
6. Competency-based assessment could be adopted by Vocational and Technical Education teachers as a better way of assessing student's practical project. This method of assessment uses one or more technique of observation, rating and recording of actual performance of student for demonstrating skills very well in a particular practical work.

Conclusion

Most often students in Vocational and Technical Education programmes are engaged in practical projects thereby producing different products using simple hand tools, light or heavy duty machines and or equipment under the supervision of their teachers. The paper has highlighted some of the problems associated with the current practice of assessing students' practical projects in Vocational and Technical Education.

As such, assessment being an integral and continuous part of the education process that serves as a measure of students' achievement and improve performance of the training system should be carefully used in Vocational and Technical Education programmes to determine student's mastery of skills and competency in carrying out practical projects.

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