Innovations

Improving Quality Assurance in Nigerian Vocational Education Trade Subjects: a case of Public Secondary Schools in Ekiti State

Clever O. Igberaharha PhD[1]
Utoware, Jude Daniel Amakaino PhD[2]
Shaibu Leonard PhD[3]

Department of Business Education, Delta State University, Abraka[1]
Department of Educational Management and Business Studies[2]
Federal University Oye-Ekiti, Ekiti State, Nigeria[3]

Abstract

Problem: *The study identified strategic measures for improving quality assurance in Nigerian vocational education trade subjects using public secondary schools in Ekiti State as a case study.* ***Methodology:*** *A descriptive research design was used to carry out the study. Multistage random sampling was adopted to select 341 respondents. The instrument was a close-ended, structured questionnaire titled: "Quality Assurance in Vocational Education Trade Subjects Questionnaire. The questionnaire was face-validated by three experts. The reliability of the instrument yielded a coefficient of 0.837. Out of the 341 copies of the questionnaire administered, 330 copies were completely filled and returned. Data were analysed with mean and t-test statistics.* ***Findings:*** *From the result, the study identified 12 measures for improving teachers' competencies, 10 measures for improving instructional materials and practices and 10 measures for improving funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. The result of the hypotheses tested showed that there were no significant ($p<0.05$) differences in the mean ratings of vocational subjects teachers and school principals on measures for improving teachers' competencies and funding for quality assurance of vocational education trade subjects. However, there was a significant ($p<0.05$) difference on measures for improving instructional materials and practices.* ***Conclusion:*** *Based on the above findings, quality assurance in terms of enhanced teachers' competencies, instructional materials and practices and funding will guarantee the effectiveness and*

quality of vocational education in secondary schools. Based on the conclusion, the study among others recommended the capacity building of vocational subject teachers as improved quality assurance to the achievement of stated objectives of vocational trade subjects in secondary schools in Ekiti State.

***Keywords**: 1.Quality assurance, 2.vocational education, 3.secondary schools, 4.Ekiti* State

1. Introduction

Education is the oldest of all fields of endeavour of mankind for acquiring knowledge both in formal and informal settings. Education is paramount to development; hence, all nations of the world are in the race to improve their educational system for the development and sustenance of a meaningful society. Vijay (2017) viewed education as an instrument that improves purposeful and logical capability and thus opens up opportunities for persons and groups to attain superior access to labour markets and livelihoods. In Nigeria, the system of education is separated into Kindergarten, primary, secondary and tertiary institutions (UNESCO, 2011). Secondary school education comes immediately after primary education and before tertiary education. In the opinion of Fabunmi (2005), education at the secondary school level is the form of education that learners acquire immediately after primary school education and before tertiary education. Secondary education is received upon the completion of primary education and before gaining entry into tertiary institutions (the Federal Republic of Nigeria, 2014). In Nigeria, secondary school education began in 1859 when the Christ Mission Schools (CMS) in Lagos was officially opened (Mbayuav, 2017).

Secondary schools have some objectives which according to Biswalo (1996) include an effort to: (i) nurture students who have varying abilities, capacities, interests and unlimited potential and (ii) prepare those individuals to become effective functioning members of their changing societies. Comprehensive objectives of Nigerian education at secondary school level as stated by Federal Republic of Nigeria (2014) are to (i) offer all primary school leavers with the prospect for further learning in higher institution, (ii) provide robust curriculum to care for the differences in gifts, opportunities and future roles, (iii) offers trained manpower in applied science, technology and commerce at sub-professional grades, (iv) build up and promote Nigerian languages, art and culture in the context of world's cultural heritage, (v) encourage students with a aspiration for self enhancement and accomplishment of excellence, (vi) promote national unity with emphasis on the universal ties that join us in our diversity, (vii) develop a generation of young Nigerians who can think for themselves, respect the views and feeling of others, value the dignity of labour, appreciate those values highlighted under our wide national goals and live as charitable citizens; (viii) offer technical and vocational skills needed for economic development. The aforementioned objectives are essential to the advancement of

the country and cannot be achieved without paying adequate attention to vocational education in secondary schools.

Vocational and technical education at the secondary school level is structured as elements of common education and the attainment of practical skills, attitudes, understanding and facts relating to a career in diverse sectors of economic life. Awo (2016) affirmed that vocational education such as agricultural science, and home economics among others form an essential element of a broad education for preparing people for occupational fields for effective contribution in the world of work in order to promote sustainable development through employment generation and poverty alleviation. Nwosu and Micah (2017) noted that there is an array of vocational subjects in secondary schools that are compulsory for students to pick from in an attempt to place emphasis on entrepreneurship skill development of students. Hence, Unongu (2015) affirmed that vocational and technical education is receiving global attention because of its strategic position as a veritable tool for national development and a panacea for curbing unemployment amongst youths.

The second International Conference on vocational and technical education that took place in Korea in 1999 set the mission for all nations to use vocational and technical education from the secondary school level to address the employment and other socio-economic challenges of the 21st century. Unarguably, the Nigerian vocational and technical education faced some notable challenges undermining the attainment of objectives of a well-designed technical and vocational education and training. Okoye and Arimonu (2016) affirmed that Nigerian vocational and technical education cannot add significantly to the decrease of extreme poverty, food shortage and unemployment because it is handicapped by various challenges. This is because facilities and programmes of instruction of Nigerian technical and vocational education are grossly insufficient qualitatively and quantitatively. Oryem-Origa (2005) reported that less than 40% of schools in Nigeria have functional laboratories or workshops space for vocational and technical education subjects. Most Nigerian public secondary schools lack functional and equipped laboratories to teach agricultural science, home economics and other vocational and technical education subjects. Hence, the need for quality assurance of vocational education trade subjects in order to achieve its objectives at the secondary schools level.

As indicated by Obadara and Alaka (2013), quality assurance involves setting up standards and making sure that the standards established are kept and reviewed periodically. It involves a process for evaluating quality factors, quality benchmarks, regular quality appraisal, and intermittent re-examination of set standards and appraisal (Arikewuyo (2004). It is a global term used to incorporate the quality policy, quality management and quality control functions, which combine to assure the client that the

product will be consistently manufactured to the required condition. According to Obadara and Alaka (2013), quality assurance is a method of assessing, enhancing, and sustaining the quality of any human endeavours that has worth. Odukoya, Chinedu, George, Olowookere and Agbude (2015) viewed quality assurance as a multidimensional concept embracing roles and activities such as the admission of students, promotion and students' certification procedure, personnel recruitment process and promotion criteria, programme development, learning, teaching, research, infrastructural advancement, equipment, facilities, society improvement and other associated matters. Similarly, the report of UNESCO (2016) showed that quality assurance in the educational system can be achieved via improved competency of personnel, adequacy of human and material resources and management of personnel. Hence, this study investigated enhancing quality assurance in Nigerian vocational education trade subjects in public secondary schools in Ekiti State.

1.1 Purpose of the Study

The main purpose of this study was to determine ways of improving quality assurance in Nigerian vocational education trade subjects using public secondary schools in Ekiti State as a case study. Specifically, the study determined:

1. Improved teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State.

2. Instructional materials and practices for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State.

3. Improved funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State.

1.2 Research Questions

The following research questions were answered:

1. What are the measures for improving teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State?

2. What are the measures for improving instructional materials and practices for quality assurance of vocational education trade subjects in secondary schools in Ekiti State?

3. What are the measures for improving funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State?

1.3 Research Hypotheses

The following null hypotheses were tested at a 0.05 level of significance

1. There is no significant difference in the mean ratings of the responses of vocational subjects teachers and school principals on measures for improving teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State.

2. There is no significant difference in the mean ratings of the responses of vocational subjects teachers and school principals on measures for improving instructional materials and practices for quality assurance of vocational education subjects in secondary schools in Ekiti State.

3. There is no significant difference in the mean ratings of the responses of vocational subjects teachers and school principals on the measures for improving funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State.

2. Research Methodology

This section examined the procedures for investigating the problem of the study. These procedures include research design, area of the study, population of the study, sample and sampling technique, instrument for data collection, reliability of the instrument, validation of the instrument, method data analysis and method of data analysis.

2.1 Research Design

A descriptive survey research design was adopted for the study. Descriptive survey research design, according to Rouse (2019) is the compilation of data achieved by asking respondents questions either in person, on paper, by phone or online using a structured questionnaire via primary research which is the collection of first-hand data from its source. The choice of this design is based on the fact that this study is descriptive in nature.

2.2 Area of Study

Ekiti State is the study area. Ekiti State has 16 administrative local government areas with its headquarters at Ado Ekiti. The state has an estimated population of 2,801,887 (National Bureau of Statistics, 2012) and is academically blessed with outstanding primary, secondary and tertiary institutions such as Unity Secondary school, Oye Ekiti; Christ School, Ado Ekiti; Federal Government College, Ikole Ekiti; College of Education, Ikere Ekiti; Federal Polytechnics, Ado Ekiti, Ekiti State University, Ado Ekiti

and Federal University, Oye Ekiti (Ekiti State Government, 2019). The choice of Ekiti state is based on the noticeable level of deterioration and poor performance of students in the areas of vocational education trade subjects in public secondary schools in Ekiti State. There is an urgent need to carry out an investigation on school principals on the measures for improving funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State.

2.3 Population of the Study

The population of study comprised 1056 staff including 352 principals and 704 Business Education Teachers from 352 public secondary schools in Ekiti State (Ekiti State Ministry of Education Office Ado Ekiti (2019). The decision of these staff depended on the way that these staff members are in the best situation to supply the information required for the study.

2.4 Sample and Sampling Technique

The sample for the study was comprised of 317 (30%) teaching staff from the whole population of 1056 staff. 105 principals of public secondary schools addressing 30% of the 352 and 212 school personnel addressing 30% of the 704 from TSC and STEB in Ekiti state were purposively tested. Nworgu (2006) thought that a 10 to 40 per cent delegate test of a populace of over 1,000 is viewed as great. 317 scholastic staff of different public secondary schools in Ekiti state (addressing 30%) was inspected out of the 1056 scholarly staff nearby under review. The justification for the purposive determination was to guarantee that private secondary schools are not inspected in the review.

2.5 Instrument for Data Collection

The instrument for data collection for the study was a close-ended, structured questionnaire titled: “Quality Assurance in Vocational Education Trade Subjects Questionnaire (QAVETSQ). The questionnaire was structured into three sections in line with the three specific purposes of the study. Section one of the questionnaire focused on measures for improving teachers’ competencies for quality assurance of vocational education trade subjects. Section two bothered with approaches for enhancing instructional facilities and materials for quality assurance of vocational education trade subjects. Section three focused on ways for enhancing funding for quality assurance of vocational education trade subjects in public secondary schools. The response options to the three sections of the questionnaire were: Strongly Agree (SA) = 4; Agree (A) = 3; Disagree (D) = 2 and Strongly Disagree (SD) = 1.

2.6 Validation of Instrument

The instrument was face-validated by three senior lecturers of vocational-technical education at Ekiti State University, Ado Ekiti. The reliability of the instrument was achieved by trial testing 15 copies of the validated instrument on 10 vocational trade subjects teachers and 5 principals in public secondary schools in Ado Local Government Area. The choice of Ado LGA was informed by the fact that it is not part of the sample but shares a similar educational system with the rest of the LGAs selected within the state.

2.7 Reliability of the Instrument

The dependability of the instrument was accomplished by preliminary testing of 15 duplicates of the approved instrument on 10 vocational trade subjects' teachers and 5 principals of private secondary schools in the Ado Local Government Area. The decision of Ado LGA was educated by the way that it is not important for the sample yet shares a comparable schooling system with the remainder of the LGAs chosen inside the state. Data gathered was exposed to the Cronbach Alpha dependability strategy which yielded a coefficient of 0.837. This suggested that the instrument is 84% dependable for use.

2.8 Method of Data Collection

Data for the study were collected with the help of three research assistants who are from each of the local government areas selected. The research assistants administered 341 copies of the questionnaire and retrieved it after one week. The researchers monitored and collated the retrieved copies of the questionnaire from the assistants. Out of the 341 questionnaires administered, 330 copies were completely filled and returned which constituted about a 95.4% rate of return.

2.9 Method of Data Analysis

Data collected were analysed with mean and t-test statistics. To answer the research questions, cut-off point value of 2.50 was used and computed thus:

$$\frac{4+3+2+1}{4} = \frac{10}{4} \quad = \mathbf{2.50}\ (cut-off\ point)$$

Based on the obtained cut-off point value, any item with a mean value of 2.50 and above was interpreted as “Agreed” while items with mean values less than 2.50 were interpreted as “Disagreed”. On the null hypotheses tested, the hypothesis of no significant difference was accepted when the t-calculated (t-cal) value was less than the t-critical (t-tab) value of 1.96 at a 0.05 level of significance while the hypothesis of no significant difference was rejected when the t-calculated (t-cal) value was greater than the t-critical (t-tab) value of 1.96 at 0.05 level of significance.

3 Results

3.1 Research Question One

Improving teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State?

Table 1: Mean ratings of the respondents on measures for improving teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools

SN	Item statements	$\overline{X}$	SD	Rmks
1	Recruitment of professionally trained vocational teachers who are well grounded in knowledge of subjects matter.	3.57	0.61	**Agreed**
2	Giving adequate orientation to newly recruited vocational teachers for quality teaching and learning.	3.62	0.54	**Agreed**
3	Regular in-service training of vocational subjects teachers for skill update in teaching and learning.	3.64	0.52	**Agreed**
4	Capacity building of vocational subjects teachers in the use of modern instructional techniques for quality assurance.	3.56	0.59	**Agreed**
5	Recruitment of computer literate teachers for quality instruction and quality assurance.	3.41	0.62	**Agreed**
6	Regular conferences, workshop and seminars for vocational teachers for improved skills and teaching competencies.	3.36	0.64	**Agreed**
7	Acquisition of higher degrees by vocational subjects teachers in their core vocational trade disciplines.	3.27	0.61	**Agreed**
8	Ensuring efficient management and inspection of vocational subjects teachers for quality assurance.	3.59	0.56	**Agreed**
9	Recommending teachers for foreign studies for quality teaching and learning in secondary school system.	3.72	0.67	**Agreed**
10	Recognition and record of excellent performance on competent school teachers.	3.28	0.71	**Agreed**
11	Create avenue for teachers in the school to access useful and relevant materials for quality assurance.	3.26	0.68	**Agreed**
12	Ability of teachers to continuously meet instructional needs of students at all times	3.67	0.52	**Agreed**
	Pooled Mean	**3.50**	**0.61**	**Agreed**

Note: ***X*** *= Mean;* ***SD*** *= Standard Deviation;* ***n*** *= number of respondents.*

The mean ratings of the responses of the respondents in Table 1 ranged from 3.26 to 3.72 which are all greater than the cut-off point value of 2.50 on the 4-point rating scale. This indicates that the 12 items in the table are regarded by the respondents as measures for improving teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. The overall pooled value was 3.50 which was greater than the cut-off point indicating that improved vocational subjects teachers' competencies are a sure way to guarantee the quality assurance of vocational education trade subjects at the secondary school level.

3.2 Hypothesis One

There is no significant difference in the mean ratings of the responses of vocational subjects teachers and school principals on measures for improving teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State.

Table 2: Result of t-test statistics of no significant difference in the mean ratings of vocational subjects teachers and school principals on measures for improving teachers' competencies for quality assurance of vocational subjects

Variables	**N**	$\overline{X}$	**SD**	**DF**	**Std. Error**	**t-cal**	**t-tab**	**Level of sig.**	**Rmks**
Vocational Teachers	231	3.47	0.58						
School Principals	99	3.53	0.47	328	0.042	0.38	1.96	0.05	**NS**

Note: NS = Not Significant at 0.05.

The data presented on the t-test statistics in Table 2 revealed that the t-calculated (t-cal) value of 0.38 was less than the t-table (t-tab) value of 1.96 at a 0.05 level of significance and 328 degrees of freedom. This indicates that there was no significant ($p<0.05$) difference in the mean ratings of the responses of vocational subjects teachers and school principals on measures for improving teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. Hence, the

null hypothesis of no significant ($p<0.05$) difference in the mean ratings of the responses of the vocational subjects teachers and principals is accepted in hypothesis one.

3.3 Research Question Two

What are the measures for improving instructional materials and practices for quality assurance of vocational education trade subjects in secondary schools in Ekiti State?

Table 3: Mean ratings of the respondents on measures for improving instructional materials and practices for quality assurance of vocational education trade subjects in secondary schools

SN	Item Statements	$\overline{X}$	SD	Rmks
1	Well equipped ICT laboratory for quality assurance in public secondary schools for vocational education instruction.	3.29	0.78	**Agreed**
2	Personal computer (laptops) to all teachers in school for effective instructional planning and delivery.	3.24	0.78	**Agreed**
3	Provision of vehicles in public secondary schools for service delivery of teachers.	3.15	0.98	**Agreed**
4	Well equipped libraries with modern vocational subjects textbooks for instructional planning and use of teachers and students.	3.51	0.63	**Agreed**
5	White boards and makers should be provided for quality assurance in vocational subjects.	3.73	0.62	**Agreed**
6	Good and standard sporting field and equipment to stimulate students interest in other extra-curricula activities.	3.49	0.61	**Agreed**
7	Well equipped vocational subjects laboratories in public secondary schools for quality assurance.	3.42	0.64	**Agreed**
8	Provision of well furnished staff and principals offices guarantee quality assurance of instruction in public secondary schools.	3.63	0.55	**Agreed**
9	A conducive learning and classroom environment for vocational subjects instruction.	3.24	0.87	**Agreed**
10	Establishment of school farm and vocational workshops for practical teaching of vocational subjects.	3.66	0.54	**Agreed**
	Pooled Mean	**3.44**	**0.70**	**Agreed**

Note: $\overline{X}$ = *Mean;* ***SD*** = *Standard Deviation;* ***n*** = *number of respondents.*

The mean ratings of the responses of the respondents in Table 3 ranged from 3.15 to 3.73 which are all greater than the cut-off point value of 2.50 on the 4-point rating scale. This

suggests that the 10 items in the table are regarded by the respondents as measures for improving instructional materials and practices for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. The pooled value was 3.44 which was greater than the cut-off point indicating that improved instructional materials and practices are a guarantee to quality assurance of vocational education trade subjects at the secondary school level.

3.4 Hypothesis Two

There is no significant difference in the mean ratings of the responses of vocational subjects teachers and school principals on measures for improving instructional materials and practices for quality assurance of vocational education subjects in secondary schools in Ekiti State.

Table 4: Result of t-test statistics of no significant difference in the mean ratings of vocational subjects teachers and school principals on measures for improving instructional practices for quality assurance of vocational subjects

Variables	**N**	$\overline{\mathbf{X}}$	**SD**	**DF**	**Std. Error**	**t-cal**	**t-tab**	**Level of sig.**	**Rmk**
Vocational Teachers	231	3.57	0.54						
School Principals	99	3.31	0.72	328	0.061	2.17	1.96	0.05	**Sig.**

Note: Sig = Significant at 0.05.

From the data presented on the t-test statistics in Table 4 above, it was shown that the t-calculated (t-cal) value of 2.17 was greater than the t-table (t-tab) value of 1.96 at a 0.05 level of significance and 328 degrees of freedom. This implies that there was a significant ($p<0.05$) difference in the mean ratings of the responses of vocational subjects teachers and school principals on measures for improving instructional materials and practices for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. Therefore, the null hypothesis of no significant ($p<0.05$) difference in the mean ratings of the responses of the vocational subjects teachers and principals is rejected in hypothesis two.

3.5 **Research Question Three**

What are the measures for improving funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State?

Table 5: Mean ratings of the respondents on measures for improving funding for quality assurance of vocational education trade subjects in secondary schools

SN	Item Statements	$\overline{X}$	SD	Rmks
1	Vocational departments in public secondary schools should be adequately funded for quality assurance.	3.59	0.55	**Agreed**
2	The management of the school should seek for alternative sources of finance for effective funding of vocational subjects.	3.43	0.56	**Agreed**
3	Ensure judicious spending and accountability of available funds meant for vocational education	3.36	0.59	**Agreed**
4	Relevant financial incentives should be provided to vocational education subjects for motivation of teachers for quality service.	3.45	0.59	**Agreed**
5	Professional development of vocational subjects teachers should be adequately funded by the school authority.	3.69	0.52	**Agreed**
6	Timely release of fund for vocational subjects procurement of textbooks for instructional planning and learning	3.35	0.63	**Agreed**
7	Monthly impress be timely released for effective running of activities of vocational subjects departments for quality assurance.	3.39	0.68	**Agreed**
8	Funding for procurement of relevant office materials for quality assurance and service delivery.	3.64	0.53	**Agreed**
9	Provision of intervention fund for upgrading technologies and replacement of obsolete technologies for quality assurance	3.66	0.55	**Agreed**
10	Encouraging private investors for improved funding of vocational education in secondary schools for quality assurance.	3.31	0.62	**Agreed**
	Pooled Mean	**3.49**	**0.58**	**Agreed**

Note: ***X*** *= Mean;* ***SD*** *= Standard Deviation;* ***n*** *= number of respondents.*

From the data shown in Table 5 above, it was clearly shown that the mean values of the respondents ranged from 3.31 to 3.66 which are all greater than the 2.50 cut-off point on the 4-point rating scale. This implies that the 10 items in the table are regarded by the respondents as measures for improved funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. The pooled value was

3.49 which was greater than the cut-off point suggesting that improved funding is essential for quality assurance of vocational education trade subjects at the secondary school level.

3.6 Hypothesis Three

There is no significant difference in the mean ratings of the responses of vocational subject's teachers and school principals on the measures for improving funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State.

Table 6: Result of t-test statistics of no significant difference in the mean ratings of vocational subjects teachers and school principals on measures for improving funding for quality assurance of vocational subjects

Variables	**N**	$\overline{X}$	**SD**	**DF**	**Std. Error**	**t-cal**	**t-tab**	**Level of sig.**	**Rmks**
Vocational Teachers	231	3.47	0.64						
School Principals	99	3.51	0.60	328	0.029	0.34	1.96	0.05	**NS**

Note: NS = Not Significant at 0.05.

The data presented on the t-test statistics in Table 6 revealed that the t-calculated (t-cal) value of 0.34 was less than the t-table (t-tab) value of 1.96 at a 0.05 level of significance and 328 degrees of freedom. This shows that there was no significant ($p<0.05$) difference in the mean ratings of the responses of vocational subjects teachers and school principals on measures for improving funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. Consequently, the null hypothesis of no significant ($p<0.05$) difference in the mean ratings of the responses of the vocational subjects teachers and principals is accepted in hypothesis three.

4 Discussion

The first findings of this study on research question one on the measures for improving teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State identified 12 measures for improving teachers' competencies for quality assurance of vocational education trade subjects in public secondary schools some of which include: the recruitment of professionally trained vocational teachers who are well grounded in knowledge of subjects matter, giving

adequate orientation to newly recruited vocational teachers for quality teaching and learning, regular in-service training of vocational subjects teachers for skill update in teaching and learning, capacity building of vocational subjects teachers in the use of modern instructional techniques for quality assurance and regular conferences, workshop and seminars for vocational teachers for improved skills and teaching competencies among others. Obadara and Alaka (2013) found that human abilities should be developed in the area of quality assurance in order to ensure quality in Nigerian tertiary institutions of learning. The findings agreed with that of Akinbobola and Ikitde (2008) who found out that quality teachers should be trained and employed in schools, quality supervision, and there should be increased provision for instructional materials, facilities and equipment necessary for improving school instructions.

The second finding on measures for improving instructional materials and practices for quality assurance of vocational education trade subjects in secondary schools in Ekiti State identified 10 ways of enhancing instructional materials and practices for superior assurance of vocational education trade subjects in secondary schools some of which include: the provision of a well-equipped ICT laboratory for quality assurance in public secondary schools for vocational education instruction, vehicles in public secondary schools for service delivery of teachers, personal computer (laptops) to all teachers in school for effective instructional planning and delivery, libraries with modern vocational subjects textbooks for instructional planning and use of teachers and students and well equipped vocational subjects laboratories in public secondary schools for quality assurance among others. Hypothesis one of the very factor uncovered that the t-determined (t-cal) worth of 0.38 was not exactly the t-table (t-tab) worth of 1.96 at 0.05 degree of importance and 328 level of freedom. This shows that there was no significant ($p<0.05$) difference in the mean ratings of the responses of vocational subjects teachers and school principals on measures for working on teachers' skills for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. This finding is buttressed by Obadara and Alaka (2013) when observed that human capacities ought to be created in the space of value assurance to guarantee quality in Nigerian tertiary organizations of learning. Hypothesis two of the very factor uncovered that the t-determined (t-cal) worth of 2.17 was more prominent than the t-table (t-tab) worth of 1.96 at 0.05 degree of importance and 328 level of opportunity. This suggests that there was a critical ($p<0.05$) difference in the mean ratings of the responses of vocational subjects instructors and school principals on measures for working on informative materials and practices for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. In concurrence with the discoveries of this review, Akinbobola and Ikitde (2008) observed

that there ought to be expanded arrangement for informative materials, offices and gear essential for upgrading educating and learning in schools.

The third findings of the study on the measures for improving funding for quality assurance of vocational education trade subjects in public secondary schools in Ekiti State identified 10 measures for improving funding for quality assurance of vocational education trade subjects in public secondary schools some of which include: encouraging private investors for improved funding of vocational education in secondary schools for quality assurance, judicious spending and accountability of available funds meant for vocational education, financial incentives should be provided to vocational education subjects for motivation of teachers for quality service, monthly impress is timely released for the effective running of activities of vocational subjects departments for quality assurance and provision of intervention fund for upgrading technologies and replacement of obsolete technologies for quality assurance among others. Hypothesis three of the very factor uncovered that the t-determined (t-cal) worth of 0.34 was not exactly the t-table (t-tab) worth of 1.96 at 0.05 degree of importance and 328 level of opportunity. This shows that there was no high ($p<0.05$) difference in the mean appraisals of the responses of vocational subjects educators and school principals on measures for further developing subsidizing for quality assurance of vocational instruction exchange subjects in public secondary schools in Ekiti State. The discoveries of this review concurred with the report of a review by UNESCO (2008) where it was likewise observed that sufficient financing for training work limits working in the schooling system.

5 Conclusion

The Nigerian vocational and technical education faced some notable challenges undermining the achievement of objectives of a functional technical and vocational education and training most especially at the secondary school level. For instance, most Nigerian public secondary schools lack functional and equipped laboratories to teach agricultural science, home economics and other vocational and technical education subjects. Hence, this study examined improving quality assurance in Nigerian vocational education trade subjects using public secondary schools in Ekiti State as a case study. The study identified 12 ways of enhancing teachers' competencies, 10 measures for improving instructional materials and practices and 10 approaches for increasing funding to ensure quality assurance of vocational education trade subjects in public secondary schools in Ekiti State. The result of the hypotheses tested showed no significant ($p<0.05$) differences in the responses of teachers and principals on ways for enhancing teachers' competencies and funding. However, there was a significant ($p<0.05$) difference in the responses of teachers and principals on ways for enhancing instructional materials and practices. Based

on the above findings, quality assurance in terms of enhanced teachers' competencies, instructional materials and practices and funding will guarantee the effectiveness and quality of vocational education in secondary schools.

6 Recommendations

The study made the following recommendations to policymakers for necessary action:

i. There should be capacity building of vocational subjects teachers as implementers of curriculum for quality assurance and achievement of stated objects of vocational subjects trades in secondary schools in Ekiti State.

ii. There should be the improved provision of relevant and modern instructional materials and facilities for effective teaching and learning of vocational subjects in secondary schools in Ekiti State.

iii. There should be improved funding of public secondary schools generally to ensure that standard is maintained for quality assurance and achievement of objectives of vocational subjects trade in the public school system.

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Competing interests

The authors have no relevant financial or non financial interests to disclose.

Data Availability Statements

The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

Declaration Statements

The authors have read and approved the final manuscript.

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Ethics Approval

In accordance with local legislation and institutional requirements, ethics approval was not required for this study.

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Authors' Contributions

This work was a collaborative effort of all the authors. Author COI designed the study, performed the statistical analysis. Author UJDA wrote the protocol and wrote the first draft of the manuscript. Author SL managed the analysis and literature searches of the study. All authors read and approved the final manuscript.

Corresponding Emails: ***igberaharhaoc@delsu.edu.ng***[1] ***Jude.utoware@fuoye.edu.ng***[2] ***&*** ***leonard.shaibu@fuoye.edu.ng***[3]