

INSTITUTIONAL CAPACITY AND TEACHER EFFECTIVENESS IN TECHNICAL COLLEGES IN LAGOS STATE

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Abstract

Technical education requires both a substantial body of technical knowledge and a set of practical skills related to any trade and industry because the education system - especially the environment and teachers - determines the percentage of productively engaged youth population. This paper intends to assess current institutional capacity and teacher effectiveness in technical colleges in Lagos State thereby design an effective framework for development. Using descriptive survey design, research instruments were questionnaires, document review, in-depth interviews and classroom observation for both quantitative and qualitative data between May and June 2018. Purposive and stratified sampling techniques applied elicited responses from 1411 trainees, 108 instructors, 49 heads of sections, 12 heads of departments, 10 vice-principals and 4 principals. Pearson Product Moment Correlation measured relationship between the two variables. Institutional capacity indicators were measured using the Swedish International Development Cooperation Agency (SIDA) Octagon Model. Data analysis revealed coefficient of correlation was very high at 87%, indicating a uni-directional relationship between institutional capacity and teacher effectiveness thereby rejecting the null hypothesis. The Octagon shape reflects colleges' impressive profile yet indicated improvement opportunities in staffing, financial system, and its environment. Finally, existing functional technical college education framework in Nigeria requires intense awareness drive, diversified funding, facilities, equipment and adequate staffing for expansion.

Keywords: Institutional capacity, Teacher effectiveness, Technical college education, Teacher, Youth population.

Introduction

Due to emergence of new occupations and restructuring of some others, required human skills, knowledge and competencies for production processes are evolving and services demanded are rising. The increase in demand for education worldwide, because of global population expansion (now more than seven billion persons), has necessitated significantly more access to, high relevance and quality of Technical and Vocational Education Training (TVET) for the growing primary and secondary education leavers.

Yoloye (1980) defined education as weapon for combating ignorance, poverty

and disease; as a bridge between confusion and comprehension and as a rocket for transporting man from a state of intellectual subservience to a state of intellectual sovereignty. Fafunwa (1974) defined education as aggregate of all the processes by which a child or young adult develops the abilities, attitudes and other forces of behaviour, which are of positive value to the society in which he lives. These definitions, amongst others, provided a base for functional education where all aspects or domains of education - cognitive, social and psychomotor and vocational - are encapsulated. Therefore, Nigeria's philosophy of education as stated in the

National Policy on Education (NPE, 2013) seeks to maximise the creative potential and skills of the individual for self-fulfillment and general development of the society; prepare students for taking their places in various vocations and avenues of life and have an objective outlook towards all aspects and activities of life.

Various definitions TVET abound globally. Ayeni (2015) describes vocational education as Career and Technical Education (CTE) or Technical and Vocational Education and Training (TVET) which is education based on both learning and employment. Furthermore, Unwin (2015) discovered that the United States of America (USA) prefers 'career and technical education' whereas European countries employ the term 'vocational education'. This indirectly shows a lack of universal coherent understanding of what the terms mean. The UNEVOC, first used in 1992, is a made-up word which combines United Nations Educational, Scientific and Cultural Organisation (UNESCO) and Vocational Education to develop and strengthen TVET globally. UNESCO (2012) stated that TVET focuses on the acquisition of knowledge and skills for world of work premised on apprenticeship training, vocational education, technical education and workplace education and others. Thus, strategically positioned to train students in knowledge relating to diverse occupations in socio-economic sphere and also develop scientific attitude; which is why the focus of this study is on technical colleges even though TVET in Nigeria comprises vocational enterprise institutions and national vocational qualifications framework as well.

Pre-colonial Nigeria technical education training was informal but structured according to socio-cultural settings, demands and obligations. Each family was distinguished by a vocation, trade or craft which in turn determined their economic survival and social standing. Children had apprenticeship from childhood and "come of age" once training is completed, learnt the secrets of the trade and

entrepreneurship, initiated into the workforce group and can fend for himself or herself. Acquiring trade skills was considered a necessity for societal acceptance and human survival defining the foundations of education in Nigeria. The coming of Europeans from the fourteenth (14th) century further strengthened technical education due to semi-skilled labour requirement, in that way, encouraging skills-mastery. However, Industrial Revolution changed the tempo of technical education as societies moved from agrarian to factories and machines inducing drastic rural-urban migration. The urgent requirement for new skills in a competent workforce, replaced apprenticeship with schools and training programmes then birthing trade schools and centres.

According to Lagos State Technical and Vocational Board (LASTVEB) (2015), the clear vision to be a national leader for jobs and self-employment birthed LASTVEB through Lagos State Law No.1 of 2009 effective 3rd May 2010 as an agency to direct the affairs of the state-owned technical colleges and all TVET activities with major focus on providing programmes in basic skills development; technical, vocational and occupational training; community outreach and partnerships. LASTVEB was borne by The Lagos Chamber of Commerce and Industry (the prime mover of technical education in Lagos State), Manufacturers Association of Nigeria (MAN) and the Lagos State Ministry of Education need-awareness for state-owned technical colleges due to the increasing number of industries. This led to establishing Industrial Manpower Development Centre now Government Technical College, Odomola-Epe in 1984, and other colleges in the mid-1980s to produce indigenous craftsmen and technicians in manufacturing, building, engineering, business and distributive trades.

Headed by an executive secretary, LASTVEB is a board under the State Ministry of Education comprising of directorates led by directors of education,

units led by unit heads. Its five colleges are headed by principals -seasoned and experienced educationists - who report to the executive secretary. Furthermore, the principals as the administrative and academic managers of the colleges implement National Board for Technical Education (NBTE) policies with other key officers. To enrich and update its competency-based curriculum, periodic curriculum reviews are done through Technical Action Groups comprising instructors, industry representatives, relevant professionals and artisans in the informal economy in each college. Assessing existing skills of trainable artisans from the informal sector for certification is based on Assess Train Assess (ATA) model. There exist nationally unified and recognised awards of National Technical Certificate (NTC) or National Business Certificate (NBC), National Vocational Certificate (NVC) I and II, and Final NVC certificates, with an additional certification by LASTVEB to practice as an artisan/craftsman/tradesman in Lagos State.

In terms of funding, Akinwumi and Isuku (2007) showed that the Nigerian education system is largely funded by the government given the free education policy it operates. The Lagos State Government therefore provides funding for its technical colleges but extensively open to donations from local and international private entities and donor agencies evident from Public-Private Partnership (PPP) enjoyed especially in terms of equipment, internship and workplace placements, to mention a few. In addition, the Business Unit exists to generate income for the colleges as well as train trainees in the colleges. Upon completion and award of certificates, technicians can seek employment, become business owners and/or pursue higher education.

The terms institution and organisation are used interchangeably to mean the designations, hierarchies, relations, responsibilities and modes of interaction that make up a structured grouping of

individuals, and on the other hand, the rules, values and behaviour that obtain within the given structure. The latter is categorised as a subset of a larger set that constitutes the institutional framework (SIDA 2001) implying that an institution's framework is made up of formal rules, regulations, policies, and informal norms and values for its governance. Institutional capacity though considered a vague concept refers to specific features as capacity stems more from the interrelationships within an entity's institutional system, rather than from elements of that system. Israel (1987) cited in Forss (2001) argued that the importance of institutional capacity has long attracted development theorists and practitioners, and different arguments regarding the importance of institutions as international development donors and agencies, including the World Bank since 1950s. However, a wave of interest in institutional development followed Douglas North's Nobel prize award for his contributions to economic history.

The concept of institutional capacity as conceived in the international development assistance sphere has evolved from building and strengthening individual organisations and providing technical and management training to supporting integrated planning and decision-making processes between institutions. Segnestam, Persson, Nilsson and Arvidsson (2002) together with Willems and Baumert (2003) submitted that institutional capacity often implies a broader focus of empowerment, social capital, and an enabling environment, as well as the culture, values and power relations to focus on the broad institutional context in which individual policies are pursued to support the principles of good governance and social capital. Since the late 1990s, the United Nations Development Programme (UNDP) applies a three-level conceptual approach - individual, entity and the system levels - to analyse public institutions' capacity systematically recognizing and considering the inter-play and interconnectedness of factors within

these three levels especially in developing nations (UNDP 1997, 1998). Therefore, strengthening technical college systems can only succeed in the long term if it is consistent with existing sustainable national institutions and practices.

Amongst many available models, the Octagon Model developed by SIDA serves as an excellent measurement of institutional capacity particularly in Low-and Middle-Income Countries (LMIC). The Model assesses an organisation along the octagon based on the notion that it is possible to

obtain its comprehensive picture and development profile through systematic reviews and assessments of four basic aspects such as management/administrative structures or organisational base, organisation's activities/output, capacity to succeed in its work, and relations - internal and external. The four aspects of the Octagon Model comprise of eight domains rated on a 7-point scale, where 1 is lowest and 7 is the highest score. Below is a framework for technical colleges.

Table 1: The Octagon Framework Applied to Institutional Capacity of Technical Colleges in Lagos State

S/N	Domain	Components	Description	Highest points are awarded
1	Basic values and Identity	<ul style="list-style-type: none"> • Formulation of organization's vision and mission 	Documents that describe reasons for the establishment of the college; objectives it wishes to achieve in technical education in the future (vision); strategies (courses of action) and contribution the college wishes to make in technical education (mission).	<ul style="list-style-type: none"> • College's vision and mission are documented in writing, are known and accepted by all members of staff. • College has devised strategies that have been documented and which are clearly linked to its vision.
2	Structure and organisation of Activities	<ul style="list-style-type: none"> • Application of a clear division of duties and responsibilities for technical college staff. • Application of democratic rules. 	Duties and responsibilities are allocated and coordinated; democratic rules are applied and these rules manifest in the college's constitution or strategic plan or rules and regulations; decision-makers can be held responsible and accountable.	<ul style="list-style-type: none"> • Management and staff know the duties, responsibilities and powers they have for technical education. • Existence of an organisational chart. • Transparent routines and systems for approval of accounts and reports and for scrutiny of decisions made. • These systems include equal gender participation irrespective of other

<p>3 Implementation of activities</p>	<ul style="list-style-type: none"> • Planning for the Implementation of activities for technical education. • Follow-up and learning from work done. 	<p>What are the technical education Outputs the college has identified and can its technical education activities be described in the form of operational plans?</p> <p>Are the plans useful for the implementation of technical education activities?</p>	<ul style="list-style-type: none"> • Operational plans that are Actually usedby Management and results achieved can be traced back to operational plans and have been documented. • Systems for regular follow-up, discussions and review for incorporating deviations in the course of work as well as feedback /
<p>4 Relevance</p>	<ul style="list-style-type: none"> • Content of technical education activities corresponds with the vision/mission. • Working methods correspond with the vision/mission. 	<p>Whether the college’s technical education activities in their content and methods correspond to its goal and vision.</p>	<ul style="list-style-type: none"> • Activities of the college actually correspond to its vision/mission. • Full staff awareness of working methods and can be found in policy or strategy documents.
<p>5 Right skills in relation to activities/ competence</p>	<ul style="list-style-type: none"> • Professional qualifications and experience of the staff. • Ability of management. 	<p>Whether the college has a recruitment strategy and selects personnel in accordance with existing, documented criteria for technical education staff.</p>	<ul style="list-style-type: none"> • Job descriptions for all posts, and staff in place that fully meet the criteria of the job descriptions. • Planned and implemented recruitment strategy. • Regular presence at staff meetings. Implemented staff working conditions such as welfare packages and relevant development plans. • The staff regards management as legitimate and gives management its active support.
<p>6 Systems for Financing and administration</p>	<ul style="list-style-type: none"> • Administration of financial resources. • Administrative routines 	<p>Sources of finance for technical education, whether financial resources are sufficient for planned activities and whether there are plans to secure more sources of funds to reduce dependence on a source.</p> <p>Examine routines for systematic documentation of activities.</p>	<ul style="list-style-type: none"> • Guaranteed financing and several sources of funds for technical education. • Transparent and efficient financial management system • Efficient administrative systems in which Documents arefiled Systematically e.g. manuals, reports, contracts, plans, trainees and staff information, stakeholder data, e.t.c.

7	Target groups	<ul style="list-style-type: none"> • Support and acceptance by target groups; dialogue with target groups on technical education. • Legitimacy for its work, and active participation in networks. 	Whether college encourages the continuous and broad participation of the target groups in its technical education activities.	<ul style="list-style-type: none"> • College has documented how the target groups are defined and admitted. • Trainee welfare management. • Parents/Guardians are actively engaged in the technical education activities of target groups. • Target groups are clearly involved in college activities.
8	Working Environment	<ul style="list-style-type: none"> • Government rules/regulatory environment for technical colleges. • Influence on national labour force. • Communication and information strategy. 	What is the legal context in which the college operates, and what rules or framework does the government have regarding technical colleges?	<ul style="list-style-type: none"> • Activities are in line with the government's vision and policy statements of multilateral organisations e.g. UNEVOC. • Plays a leadership role at national level. <ul style="list-style-type: none"> • Clearly defined Communication and information strategy with its stakeholders and community. • Involvement with other relevant networks.

Source: The Octagon Model modified from Swedish International Development Cooperation Agency (SIDA), Sweden 2002.

Effective educational institutions require the right combination of trained and talented personnel, appropriate curriculum, adequate facilities and motivated students who are ready to learn. Teaching effectiveness as relates to models of instruction defines effective teachers as having a set of behaviours that are incorporated into their daily professional practice. These involve a deep understanding of subject matter, learning theory and student differences, planning, classroom instructional strategies, knowing individual students, and assessment of student understanding and proficiency with learning outcomes, ability to reflect, collaborate with colleagues and continue ongoing professional development.

Teachers Registration Council of Nigeria (TRCN), the teaching profession regulatory body in Nigeria, defines a teacher as a person who had undergone approved professional training in education at appropriate levels capable of imparting

knowledge, attitudes and skills to the learner. For this study, teacher effectiveness indicators are subject matter mastery, knowledge of trainee abilities and relationship, skills and strategies, models and methods, licensure and experience, reflection, and finally context depends to a large extent on a technical college institutional capacity. System Theory propounded by Ludwig von Bertalanffy served as theoretical model for this research work.

Research shows the quality of teacher education and teaching to be more strongly related to student achievement than class sizes, overall spending levels or teacher salaries (Ko, Sammons & Bakkum 2013).

Therefore, instructor as a human resource is required to have necessary regulatory qualifications together with experience to produce quality technicians. Imarhiagbe and Obierika (2011) submitted that TVET brings about technological

advancement, prepares new manpower or employment and provides continuous training for those already qualified so that they can keep abreast with modern working methods. TVET can therefore be a specialized type of education that equips the individual learner/trainee with all the necessary skills, abilities and scientific knowledge for self-reliance, contributor to national economic development thereby reduce unemployment in the society.

Statement of Problem

Technical education has a more direct impact on the nation's development more than other sub-sectors yet seems confronted with challenges requiring immediate attention in Nigeria ranging from negative public perception to government's lack of commitment and notably to inadequate funding in Nigeria. According to Okoye and Arimonu (2016), staffing is generally inadequate because of poor funding where experienced and skillful teachers may not be employed, and if employed, exit the teaching profession to other more lucrative jobs due to poor remuneration. This leads to engaging inexperienced and unqualified technical instructors who invariably lower curriculum standards through ineffective teaching, retrenchment of teachers and/or retirement of teachers at an early age. This substantiates Okebukola (2012) who identified many challenges with the educational system to include teachers' inadequacies; funding inadequacies for both staff and students' welfare; gross inadequacies in facilities and gross shortage of relevant equipment. The inevitable results are poor academic and technical skill achievements among the college trainees, high drop-out rate, high rate of examination malpractices, poor reading and writing cultures, and low work morale among staff and other factors. Lagos State is Nigeria's and Western Africa's socio-economic hub, home to over seventeen (17) million active population and owns five (5) out of the one hundred and twenty-nine (129) public

technical colleges in Nigeria. Despite this background, it seems increasingly difficult to engage the services of indigenous technicians as skilled technicians are mostly sourced from neighbouring countries and are usually very scarce. Hence, this Study intends to assess the existing condition of institutional capacity and effectiveness of instructors in technical colleges in Lagos State to better position our current technical education system for national prosperity.

Objectives

The Study aims at assessing the following:

1. to examine existing technical education practices in public technical colleges;
2. to develop a framework for effective technical education and training to offer guidance for practitioners and other relevant stakeholders;
3. to identify the implications for policy and further areas for development;
4. to promote possible partnerships with both private and non-governmental organisations.

Research Questions

The research questions of this Study include:

1. What are the existing technical education practices in public technical colleges in Lagos State?
2. How does institutional capacity impact on teacher effectiveness in Lagos State in achieving technical education goals?
3. Which institutional capacity indicators and teacher effectiveness factors are pointers to monitoring progress in technical education goals?
4. How can existing institutional capacity and stakeholders' participation enhance productive partnerships to achieve technical education objectives?

Hypothesis

The hypothesis for testing this Study includes:

H01: There is no significant relationship between institutional capacity (composite) and teacher effectiveness.

Methodology

The descriptive survey design was used for the study. Both the qualitative and quantitative approaches known as mixed methods design were applied. Pearson Product Moment Correlation was used to establish the relationship between the two variables. The population of the study comprised all the 5 principals, 18 vice-principals (VPs), 19 heads of departments (HODs), 69 heads of sections (HOSs), 249 teachers or instructors and 5,264 trainees (excluding Tech III trainees) in the technical colleges located in Ado-Soba, Epe, Ikeja, Ikorodu, and Ikotun areas in Lagos State, Nigeria.

The sampling techniques are purposive and stratified sampling techniques. Purposive sampling method was used to select Lagos State technical colleges due to the State’s socio-economic prominence, recent reforms in the technical college education and proximity to the researcher. Thereafter, stratified sampling technique was applied to select the sample population from five (5) public technical colleges who were divided into different subgroups or strata as principal, VP, HOD, HOS, instructor and trainee. Subsequently, the researcher sampled all the principals, VPs, HODs, HOSs and 60% of all instructors and 60% of trainees in Tech I and Tech II only.

Instructors excluded HOSs, HODs, VPs and principals who as supervisors assessed teacher effectiveness.

Table 2: Population Sample for the Study

Principal		VP	HOD	HOS	Instructor
		Trainees	Total		
Total Population	5	18	20	66	271
	5264	5644			
60% of Total Population	N/A	N/A	N/A	163	3158
Population sampled	5	18	20	66	163
	3158	3430			

*N/A - not applicable.

Research Instruments

Questionnaires administered were self-developed for trainees and instructors, adapted from Organisation for Economic Cooperation and Development (OECD) Teaching and Learning International Survey (TALIS) Principal Questionnaire (MS-11-01) for administrators and heads of sections and departments; In-Depth Interviews (IDI) was carried out using the semi-structured

method where questions were self-developed; observation was non-participatory and measured by observing instructors in classroom settings using an adapted Compass Observation Workbook (COW) by Louisiana Department of Education, USA: and official document review. A pilot study was carried out to confirm the reliability of the research instruments.

Table 3: Research Instrument by Respondent for the Study

Instrument	Trainee	Instructor	HOS	HOD	VP
Principal					
TIASQ	“				
IEEFQ		“			
COW			“		
IEEFQ-HOD			“	“	“
INCAQ				“	“
Interview					“

The ticked boxes indicate the respondent group for each research Instrument.

To elicit positive responses, the purpose of the study was carefully explained to the respondents before filling appropriate

research instruments. The Octagon Model by the SIDA was adapted to measure institutional capacity of technical colleges

Findings

Table 4: Overall Rating of Institutional Capacity Indicators

Reasonable score	Good	Very Good	Excellent	Mid
Basic Values and Identity	5 (21.7%) (21.7%)	7 (30.4%)	5 (21.7%)	5 6
Structure and Organization of Activities	1 (4.3%)	11 (47.8%)	11 (47.8%)	6
Implementation of Activities	7 (30.4%)	10 (43.5%)	6 (26.1%)	6
Relevance	3 (13%)	8 (34.8%)	12 (52.2%)	6
Professional Skill	1 (4.3%) (21.7%)	4 (17.4%)	13 (56.5%)	5 6
System	1 (4.3%) (30.4%)	9 (39.1%)	6 (26.1%)	7 6
Target Group	1 (4.3%) (13%)	8 (34.8%)	11 (47.8%)	3 6
External Relationship	4 (17.4%)	13 (56.5%)	6 (26.1%)	6

Fig 1: The Octagonal Institutional Capacity of Technical Colleges in Lagos State

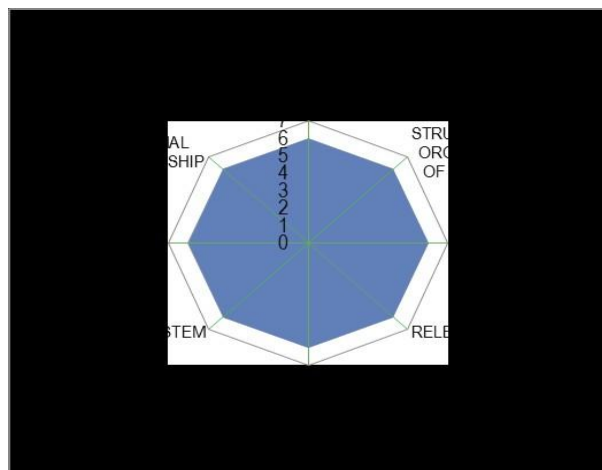
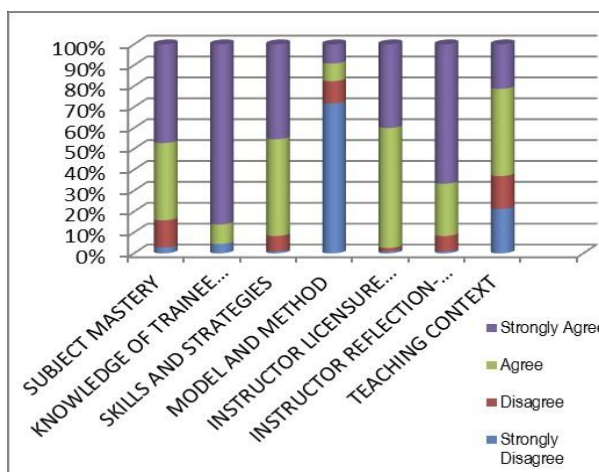


Fig 2: Scaled Indicators of Teacher Effectiveness



Discussions

- i. Basic Values and Identity: Rated between reasonable to excellent, the appraisal was largely positive. At least 40% rated devise of strategies and how they are related to the organisation’s vision and mission, and their acceptance by all members. These are visibly displayed in the premises.
- ii. Structure and Organisation of Activities: About half of the respondents rated the existence of organisational chart as excellent, at least 30% ranked other indicators of the structure scale as excellent. Gender participation is equal although data show the presence of more male instructors than the female in the technical colleges with 4 principals out of 5 as male.
- iii. Implementation of Activities: Similarly, 50% of the respondents rated this as positive. The indicators were management operational plans, its traceability as well as the regular follow up, discussions, reviews and feedback. 70% ranked activities implementation as at least very good.
- iv. Relevance: Relevance indicators were rated excellent by half of the respondents while 34.8% ranked the second indicator as excellent. No weak rating was observed.
- v. Professional Skill: Professional skills of the staff members also had a positive rating, 70% rated job description as excellent. Planned and implemented recruitment strategies, regular staff meeting, minutes of staff meetings, regular staff meetings were rated excellent by at least 40%.
- vi. System: The technical college system had an average excellent rating by at least 18% respondents while about 60% rated this as at least good or very good, the least rating was reasonable although only one major source of funding exists.
- vii. Target Group: Target group indicators were positively rated from reasonable to excellent by all the respondents. 82.6% and 17% rated as either good or very good and excellent respectively.
- viii. External Relationship: The overall external relationship of the technical college from the management’s activities was rated from good by 17.4% to excellent by 26.1% while 56.5% rated it very good. About half of them rated this measure as excellent.

Findings showed instructor subject mastery was rated by 37% as good, 47.2% as very good, while 15.8% are between poor and very poor. 86.1% instructors have very good

knowledge of trainee ability and relationship while 4.5% of them very poor trainee knowledge. This finding validates Anderson (2004) on teaching in a classroom where shared values and beliefs exist greatly facilitates learning as it moves classes from rule-driven to relationship-driven classroom management. Similarly, 91.7% of instructors were found to have skill and strategies for effective teaching with 8.3% having from poor to very poor. Model and method were ranked very poor by majority of the instructors, while only 17.6% were found to be good and very good with applying method and models during teaching. This finding substantiates Faraday, Overton and Cooper (2011) on the use of teaching models being a valuable potential in vocational education as a means of improving practice. 97% Instructors indicated having good and very good licensure and work experience required for the job. While 91.7% revealed that they engage in reflection as self-assessment for effective teaching, 63% of the instructors revealed they had good and very good teaching context while 37% of the instructors judged it as poor to very poor seeking better teaching context.

More than half of the instructors are adequately licensed and experienced to teach as professional teachers with professional affiliations. This result corroborates Goldhaber and Brewer (2000) on the effects of teacher licensure on student achievement being greater than that of a content major in the field, suggesting that what licensed teachers learn in methods, education coursework and practice adds to their abilities in the classroom. More than half of the instructors have a relatively positive trainee abilities knowledge and relationship although trainees feedback or appraisal do not have a significant impact instructor's work appraisals, skills and strategies application, with HOS/HOD/VP/Principal and more than half trainees indicating methods and models application used on the average; although most trainees wanted more in this

regard from the instructors. With a little above average overall observation rating, there are improvement opportunities for managing classroom procedure, engaging the trainees, using questioning and discussion techniques and using assessment in instruction. Most instructors showed subject mastery and reflection which do not influence instructor performance appraisal except their professional development of which they are enthusiastic about; same as parent appraisal of instructors' appraisal although HOS/HOD/VP/Principal indicated it does. This finding reaffirms Anderson (2004) which described courses, workshops and seminars as the most likely vehicles by which teachers acquire the necessary knowledge and skills. In addition, results showed that periodic appraisals do not in any way influence recruitment or welfare, and respondents requested better finance structure, more equipment and consumables given the growing number of trainees, despite steady supplies from the LASTVEB.

The overall COW assessment was good while the average rating was 62%. Setting of instructional objectives was rated highest while use of questioning and discussion techniques and engagement of students in learning had average overall rating. The use of assessment in instruction was also rated as good in performance level. This finding supports Anderson (2004) on the relevance of objectives as being most likely to produce higher levels of learner involvement or engagement in learning.

Observed classes though interesting and practical were sometimes lined by inadequate procedures and instructional materials, and trainee distractions. 49% of instructors, have a minimum of 41 trainees per class -way above the NPE student-teacher ratio of one teacher to twenty students (1:20) for effectiveness - and about 52% have more than 21 lesson periods in a week; aside time for duties as assigned.

Fig 3: Observational Variable

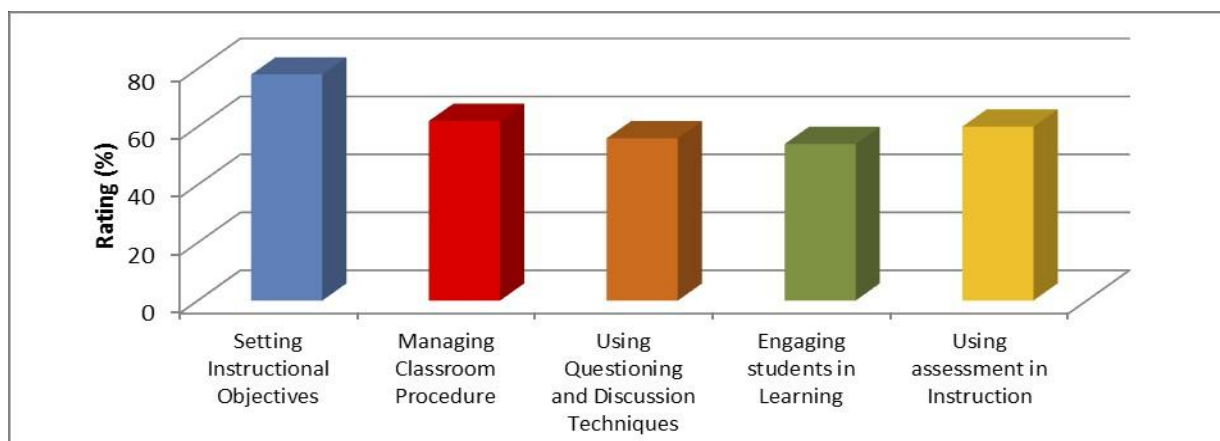


Table 5: Trainee-Instructor Ratio and Weekly Lesson Load

Frequency	Percent (%)	
Trainees per instructor's class		
1-20	24	22.2
21-40	31	28.7
41-60	43	39.8
61-80	10	9.3
Weekly lesson period		
1-5	5	4.6
6-10	15	13.9
11-20	31	28.7
More than 21	56	51.9

Hypothesis

Table 6: Relationship between Institutional Capacity and Teacher Effectiveness

Joint correlation Effectiveness	Overall Teacher
Correlation Coefficient Overall Institution Capacity	0.871

Sig. (2-tailed)

As shown in table above, the outcome of the joint correlation revealed that there was a high positive correlation ($p < 0.05$) between the institutional capacity and the effectiveness of teachers. The coefficient of correlation was very high (0.87), being 87% of the responses and ratings, showing a direct or uni-directional between the two variables. Hence, null hypothesis rejected since the $p < 0.05$ at error probability of 0.05.

The Implication of Joint Correlation Relationship on Technical College Education

The positive correlation also implies that any major change to the overall capacity of the technical college may be used to predict how effective the teachers are. In other words, if the management of the technical college has a goal of improving the overall effectiveness of the instructors, the decisions of the Board should be focused on the joint institutional capacity enhancement.

The effectiveness of the teacher may in turn boost the institutional capacity because its overall optimum function is crucial to the organisational development. Therefore, as determinants of efficient productivity of technical training in the colleges, the institutional capacity and teacher effectiveness are interrelated or correlates to a significant.

In addition, National Board for Technical Education (NBTE) provides the framework for college activities and each college had well spelt out vision and mission in line with the national and state vision. Examples are the re-introduction of Basic Electricity and Introduction to Building and Concreting subject courses to the curriculum when it was expunged. Community is involved especially in security for the college. College works in collaboration with industry partners who provide Student Industrial Work Experience Scheme (SIWES) and Teacher Industrial Work Experience Scheme (TIWES) spaces, donate learning facilities as well as employ trainees upon graduation. MTN Youth Foundation had donated facilities in the electrical and construction trade departments, World Bank input in the Lagos Skipper Engineering Academy (LSEA) in Ikotun, Festo Authorised and Certified Training (FACT) centre by a partnership with a renowned German industrial automation company, Samsung Engineering Academy (SEA) in partnership with Samsung Electronics ITF-NECA/LASTVEB partnership in the construction trade department and finally The Auto-Mechatronics Academy in partnership with public private partnership (PPP). All of these partnerships have ensured continued learning not just for the trainees, but for the instructors and the college as well further increasing effectiveness teaching.

Conclusions

This study examined institutional capacity and teacher effectiveness of technical colleges in Lagos State as well as perused

existing literature in TVET, institutional capacity and teacher effectiveness, with emphasis on finding the relationship between institutional capacity and teacher effectiveness in the technical colleges and how to enhance stakeholder participation in technical education progress.

Technical college practices discovered were intense skills acquisition in addition to academic training by trainees and instructors in form of SIWES and TIWES respectively; provision of alternative power source and practical consumable items by LASTVEB; field trips especially for engineering and construction trainees to industry; recruitment of required staff with adequate qualification, and prompt salary payment; admission requirements; uninterrupted academic calendar by mid-term breaks as part of world-of-work preparation; standardised and duly recognised training certifications; partnerships with industry for work placements and procurement or replacement of some expensive equipment; parents' involvement in the college activities; and existence of extra-curricular activities like inter-house sports, club and society to mention a few. These findings point to a significant role played by technical college institutional capacity in instructors' delivery quality.

The research findings provided clarity on the institutional capacity of technical colleges and the quality of instructors, as very good and that instructors available engage in effective teaching despite class sizes. The research further highlighted the need for more capacity improvement, more instructors and modern teaching practices to increase teacher effectiveness, and ultimately quality technicians.

Recommendations

- i. Intense awareness: Government and industry should consistently create awareness about technical education benefits, re-orient and portray technical colleges as an engine room for economic development. Additionally,

- to encourage enrolment, there should be policies that have industry and/or corporations' award scholarships, grants or a portion of their revenue/income to sponsor or support a number of trainees annually.
- ii. Teacher training - There is an urgent need to train and recruit more instructors in the technical colleges because research findings show highest trainee-instructor class size at 41-60 trainees being 39.8% which is above student-teacher ratio 1:20 NPE (2013) stipulation. Also, the weekly work load of at least 11 periods indicated by 84.6% of instructors showed the urgent need for more instructors and support instructors.
 - iii. Funding: Economic principles encourages that the costs for services with public and private benefits should be shared between public and private funding, or else too little training will be provided or taken up. Diverse funding avenues to accommodate more enrolment and sustainability given that public TVET colleges have to compete with other government departments to access funding.
 - iv. Trainee learning history: More information on trainee learning history apart from academic record should be gathered. Information such as parental background, learning disabilities or medical conditions will better inform instructor skills and strategies as well as method and models.
 - v. Forecasting and Planning: Tracer studies should be conducted on past technical college trainees to measure relevance of the curriculum with industry standard and forecasting and planning for technicians. The success stories can also serve as awareness tools and change negative public perception of the technical college.
 - vi. Public-Private Partnerships: More public-private partnerships in resource generation and sustainability because industry support and involvement in the TVET college sector is a critical

contributing factor to curriculum improvement, student employability and industry knowledge. For instance, customer service firms could partner with secretarial studies trade to provide global customer management skills.

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