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Technology Skill Needs Of Business Lecturers for Effective Teaching in Colleges of Education in Enugu, Nigeria

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Abstract: *This study sought to determine the technology skill improvement needs of lecturers of business education for effective teaching of students in colleges of education in Enugu State, Nigeria. To achieve these objectives, four research questions were answered by the study while four null hypotheses were tested at 0. 05 level of significance. The study made use of action group design approved by the function of industry model. The population for the study was 88 respondents comprising: Lecturers from the Departments of Business and Computer Education from tertiary institutions and hi-tech bankers from marketing units of commercial banks in Enugu State. The instrument for data collection is questionnaire. The instrument was validated by three experts: The reliability coefficient of 0.83 was obtained through Cronbach Alpha method. The data collected was analysed using weighted mean, and improvement need index (INI) to answer the research questions while ANOVA was used to test the null hypotheses. It was found from the study that lecturers of business education from the colleges of education in Enugu State needed improvement in 21 computing skills, 28 online commerce skills, 9 e-collaboration skills and 14 online security skills. This revealed a wide skill needs gap, suggesting that lecturers of business education have not been effectively imparting the necessary knowledge, skills and attitudes to students in the area of digital technologies for office jobs. It was therefore, recommended that the identified technology competency skill items be utilized to retrain the lecturers through workshops and in-service training.*

Keywords: Technology, skill, improvement, lecturers, business education, effective teaching

Introduction

Business Education is one of the programmes offered in Colleges of Education in Nigeria. Edokpolor and Owenvbiugie (2017) defined it as a programme of instruction that equips recipients with requisite attributes for job creation and further education. Udo (2008) overviewed the programme as a comprehensive activity-based education that is concerned with the acquisition of practical skills, understandings, attitudes, work habits and competencies that are requisite to success in a chosen business career. In the context of this study, Business Education is a programme of study or training given to participants in its components so that he becomes relevant citizen in the society. The objectives of Business Education, according to National Commission for Colleges of Education Minimum Standard (NCCE MS, (2020), are: to produce competent NCE graduates in business subjects, who will be able to teach business subjects in secondary schools and other related educational institutions; to produce NCE business teachers who will be able to inculcate the vocational aspects of Business Education into the society; to produce NCE Business Teachers who will be involved in the much desired revolution for vocational development right from the Primary and Secondary schools; to equip students with necessary competencies so as to qualify them for a post-NCE degree programme in Business Education; and to equip graduates with the right skills that will enable them to engage in a life of work in the office as well as for self-employment.

Competent lecturers with technological and pedagogical skills in Business education are required to achieve the above objectives. Lecturer according to Pearson (2009) is a teacher in a tertiary institution including the university or college of education. In this study, a lecturer is somebody who has received training in both technology and pedagogical skills, and is able to teach students effectively in colleges of education for employment in teaching and office jobs. The duties of lecturers in colleges of education in Nigeria are to teach and guide students for research in line with the objectives of NCCE Minimum Standard.

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Nigerians are worried that Business Education programme is no more effective to actualize the objectives and the dreams expected from the programme as stated in the NCCE Minimum Standard (2020). The researchers' interaction during the focus group discussion with NCE graduates in the area of study, found that lecturers of Business education have not being effectively imparting the necessary knowledge, skills and attitudes to students in the area of digital technologies for office jobs according to NCCE, Minimum Standard (2020). Edokpolor and Egbri (2017) therefore suggested that lecturers of business education should be able to expose students to the knowledge and skills about business, including a good blend of computer technology, which incorporates Information and Communication Technology (ICT) for the 21st Century skills. Since we are presently in knowledge economy and NCCE has introduced some ICT courses into the business education programme for Colleges of Education graduates for effectiveness (Azih & Igboke, 2017), rapid technological advancement in Nigeria requires that lecturers' technical competency improvement for effectiveness in their instructional delivery process (Olaitan in Asogwa, 2016).

Research Questions

1. What is the computing skill improvement needs of lecturers of business education for effective teaching in colleges of education in Nigeria?
2. What is the online commerce improvements needs of lecturers of business education for effective teaching in Colleges of Education in Nigeria?
3. What is the e-collaboration skills improvement needs of lecturers of the business education for effective teaching in colleges of education in Nigeria?
4. What is the online transaction security skills improvement needs of lecturers of business education for effective teaching in colleges of education in Nigeria?

Literature Review

The present global economy requires the use of technology (computer, internet and human interface) in offices. Goodman in Saylor, Alexander and Lewis (1980) forecasted that time will come when the major activities of people will focus on searching, processing and storing of information with the help of electronic technologies. Europa (nd) estimated that 85–90 per cent of future jobs will require ICT skills by 2020 and beyond. Unfortunately, the lecturers have focused on teaching theory without corresponding practical steps in digital economy due to insufficient technology skills of utilizing computer and the internet. Finding by UK Commission for Employment and Skills (2015) reveals that many young people are leaving education without the skills that employers are looking for and are unable to progress within the labour market.

Similarly, Edokpolor and Owenvbiugie (2017) reported that business education programme is currently delivered theoretically, and as such, cannot equip recipients with the requisite competencies for the world of work. Furthermore, Grand-Clement (2017) acknowledged that technology in classrooms is still not used symbiotically in the teaching environment, and more still needs to be done to achieve the symbiosis. Higher Education Funding Council for England (2016); Obunadik (2015); Nigeria Strategic Plan (2015); Olaitan, Nwachukwu, Igbo, Onyemachi and Ekong (1999) noted that lack of competent lecturers to inculcate the required competency in modern technological facilities skills that can ensure effectiveness and efficiency in students' productivity is a major setback. The consequence is that the graduates are turned out half-baked and unproductive. In order to avoid or alleviate the above consequences and for the lecturers to add value to the students in this 21st Century, technology competency of lecturers of business education must be unlocked through retraining in relevant technology skills like computing, online commerce, e-collaboration, and online transaction security. The retraining of the lecturers in technological skills to unlock their potentials will become effective if the skill areas where the lecturers need improvement are identified from industries and employers.

Improving the technology skills of business education lecturers will require certain methods and collaboration in the relevant industries or businesses where business education students will work after graduation; hence, this will make students acquire the relevant and sustainable technology skills required in digital economy for effectiveness. National Training Organizations (2018) observed that there is a need by teachers to improve on teaching ICT courses in higher education curricula in order to keep up to date with ICT in work places through exchanges of staff, sharing of equipment, joint project development among others; linking ICT learning in schools more to ICT in work. This becomes

necessary because ICT skills are becoming an important entry ticket to the job market of graduates (Leahy & Dolan, 2011). In order to provide digital skills in vocational education programmes, including business education, Future Learning (2019); United Nations (2018); Higher Education Funding Council for England (2016) stipulated that schools should work closely with industry to update the content of curricula and courses, partner in assessment and accreditation, and in providing work experience opportunities and careers advice, improve the competencies of the teachers since technologies advance at a rapid pace, and workers need to up skill continuously. As digital skills increasingly become the foundation of a competitive economy, Higher Education Funding Council for England (2016); Leahy and Dolan (2011) are of the opinions that businesses and tertiary institutions need to invest in digital training of staff to increase productivity and stimulate innovation, or we risk the societies being left behind.

As suggested by National Training Organization (2018); Grand-Clement (2017), it is the duty of tertiary institutions to partner with the industries and business to clearly identify and articulate the skills that are needed to avoid mis-match of skills possessed by graduates and the requirement of industries. Azih and Elemchi (2018) stated that lecturers of Business Education should be improved in order to equip the students with the knowledge and skills that will enable them compete with their counterparts at the national and international levels. Besides, Higher Education Funding Council for England (2016) found that employers are looking for 'work-ready' graduates, who can apply their academic studies and skills in commercial activities of organizations. The effectiveness and efficiency in the dissemination of appropriate instruction from the lecturers to students will add impact for their relevance in the society after graduation.

This study is anchored on theory of vocational education by Charles Prosser as viewed by Ikeoji (2017); Olaitan, et al (1999); Olaitan and Ali (1997) in which among others, the theory states that: vocational education programmes will be effective in proportion to the instructors'/lecturers' quality and experience in successful application of knowledge and skills to the operations and processes they undertake to teach. This means that vocational education programmes, including business education should be taught by Business education lecturers who have had successful experience and skills of applying technology (computer and internet) for teaching business education. Hence, this study involved collaborative strategies using the responses from industry to build into the lecturers of business education in order to add mega value to students for effectiveness in computing, online commerce, e-collaboration and online transaction security skills.

On computing skills, United Kingdom Government Publication (2019); Future learning (2019); Sahni (2016) findings and submissions revealed that individuals particularly teachers of commercial courses needed improvement in order to teach with ICT in classes. Furthermore, on online commerce and e-security, a study by United Kingdom Government publication (2019); United Nations Economic and Social Council (2018); Sahni (2016) reported that commercial teachers at all level needed re-training programme in ICT in the following areas: latest happenings of ICT in commerce be it online-shopping, banking and payments among others for the effectiveness of students.

On e-collaboration, the submission of Future Learning (2019); Santosoi (2019); World Bank Trade Organization (2017) study on improvement, found that e-collaboration through the use of e-mail and social media among others enable effective collaboration. Similarly, study was carried out by Illanes, Lund, Mourshed, Rutherford and Tyreman (2018) on retraining and reskilling of companies' executives, trainers and workers in the age of automation or digitization in United States and Europe and it was found that executives, trainers and workers needed retraining and reskilling in order to address potential skills gaps in digital economy. The studies of Onu, Omeje, Onah, Onah, Ikehi, Emeka, Azunku, Ekenta, Nwankwo, Okereke, Ezebuiro and Ezhim (2020); Olaitan, Onipede and Lawal (2012); Olaitan, Lawal and Onipede (2011); Olaitan, Amusa and Asouzu (2010); Miller (2006) centered on competency improvement needs for lecturers and served as a conceptual framework and guide to the instrument used for this study. The purpose of this study, therefore, is to identify technology skills improvement needs of lecturers of business education for effective teaching in colleges of education in Enugu State. Specifically, the study sought to identify technology skills improvement needs of lecturers of business education in computing, online commerce, e-collaboration and online transaction security.

Methodology

The study adopted an action group design supported by the function of the industry model. Action group design, according to Kufur (2011), is a participatory design in which the practitioners or professionals critically study the existing problems affecting phenomena, in order to evaluate, improve and steer decision-making based on their practices in the industries. This design is suitable for this study because it involves only the professionals or practitioners in the field such as hi-tech bank officials, lecturers of business education who had studied e-commerce and lecturers of computer education to carefully identify the technology skill improvements needed by the lecturers of business education in colleges of education through the questionnaire developed by the researchers for data collection. The function of industry model, in the opinion of Olaitan et al. (1999), is an approach that can be utilized to train relevant individuals based on the practices of the industry where no such programme existed before. The function of the industry model is relevant because it contributes to the identification of skills used in the industries that could be utilized to assist business education lecturers on relevant skills in computing, online commerce, e-collaboration, and online transaction security (Olaitan et al., 1999).

The study was carried out in Enugu State, Southeast Nigeria. The population for the study was 88 respondents comprising: 33 lecturers from departments of business education of colleges of education, 21 hi-tech bank officials from marketing units of commercial banks, 17 lecturers from department of business education and 17 lecturers from department of computer education of universities, all in Enugu State, Nigeria. The respondents were selected by purposive sampling technique because the study design is action research that allows for the selection of respondents who are relevant to the research questions.

Four research questions and four hypotheses tested at 0.05 level of significance guided the study. The instrument for data collection was a structured questionnaire consisting 72 technology improvement skill items developed from relevant literature reviewed and the practices or functions of the industry approach. The questionnaire was a bi-polar instrument with two categories, one for skills needed and the other for skills performance. The needed skills category was assigned a four-response scale of highly needed (4), averagely needed (3), slightly needed (2) and not needed (1), and responded to by the professionals such as: hi-tech (e-bank officials) and lecturers of business and computer education from university and from colleges of education. The skills performance category was also assigned a four-point response scale of high performance (HP), average performance (AP), low performance (LP) and no performance (NP) with value of 4, 3, 2, and 1, and responded to by the lecturers from colleges of education. The strategy of involving professionals and lecturers from colleges of education in needed category is supported by Management Sciences for Health (2012) which submitted that professionals and lecturers from colleges of education can determine where performance gaps might exist and the technology skills needed to be improved; and that training needs analyses can be conducted using professionals and beneficiaries (lecturers) to identify technology skills needed for improvement. The questionnaire had four (4) sections comprising (i) computing skills (ii) online commerce skills and (iii) e-collaboration skills and (iv) online transaction security skills.

The questionnaire items were face-validated by three experts: a staff of management information services and a computer scientist, both from the University of Nigeria, Nsukka; and one hi-tech banker from the e-marketing section of First Bank Plc., Nsukka, Enugu State. Their suggestions were used to improve the quality of the questionnaire items. To ascertain the internal consistency of the questionnaire items, 20 copies of the questionnaire were administered to hi-tech bank officials from the e-marketing units of commercial banks; and lecturers of business education and computer education in a federal university, all in Anambra State, Nigeria in a 6:7:7 ratio. Cronbach Alpha method was used to determine the reliability and the alpha for each table is: 0.81, 0.85, 0.79 and 0.87 where the overall coefficient is 0.83 coefficient of 0.83 was obtained, which means that the questionnaire was highly reliable. This is congruent with Hinton, Brownlow, Mcmurray and Cozens, (2004) who listed the acceptable coefficients as: excellent reliability (0.90 and above), high reliability (0.70-0.90), moderate reliability (0.50-0.70) and low reliability (0.50 and below). A total of 88 copies of the questionnaire were then administered to the respondents. However, 81 copies of the questionnaire were retrieved and analyzed using weighted mean and Improvement Need Index (INI) to determine the need gaps while analysis of variance (ANOVA) was used to test the null hypotheses at $p \leq 0.05$ level of significance. The IBM

SPSS Statistics software (version 20) was utilized for the data analysis. The performance gap index ($\overline{X}_n - \overline{X}_P$) was utilized for decision making in the identification of essential technology skills improvement needs of the lecturers for success in the digital economy as follows:

i. $\overline{X}_n$ = mean of responses on skill needs of the lecturers;
ii. $\overline{X}_P$ = mean of responses on skill performance of the lecturers;
iii. $\overline{X}_n - \overline{X}_p$ = performance gap of the lecturers;
iv. Where $\overline{X}_n - \overline{X}_p$ is positive it indicates that improvement is needed by the lecturers; and
v. Where $\overline{X}_n - \overline{X}_p$ is negative or zero (0) it indicates that improvement is not needed by the lecturers.

Results

The results revealed that the performance gap values of all 21 computing skill items were positive ranging from 0.03 to 2.49 (Table 1). This indicates that the lecturers of business education needed computing skills improvement in all the items. The p-values of the twenty-one items ranged from 0.08-0.99 and each is greater than 0.05 level of significance. This indicates that there is no significant difference in the mean ratings of the three groups of respondents on computing skill improvement needs of lecturers of business education in colleges of education. The e^2 (correlation ratio) ranged from 0.99-1.00 indicating that the relationships among the respondents rating is high implying that the respondents were very close to one another in their judgments on each item.

Table 1: Performance Gap Analysis of Mean Ratings and ANOVA of the Responses on Computing Skills Improvement Needs Of Business Education Lecturers for Effective Teaching in Colleges of Education

S/N	Computing skills Items	$\overline{X}_n$	$\overline{X}_P$	PG	p-value	e^2
	Ability to:					
1	Procure functioning computer	3.64	2.25	1.39	0.16	0.99
2	Set functioning computer on desk	3.85	2.51	1.34	0.51	1.00
3	Connect means (stabilizer) to source of power through the cable	3.60	2.55	1.05	0.35	0.99
4	Fix the mouse, scanning machine and other hardware to the computer where applicable	3.66	2.91	0.75	0.16	0.99
5	Sit comfortable behind the computer	3.67	3.02	0.65	0.95	0.99
6	Recognize the position and function of each part of computer e.g. keyboard, mouse etc.	3.65	3.42	0.23	0.45	0.99
7	Boot the computer	3.72	3.38	0.34	0.70	0.99
8	Check the computer for functionality	3.81	2.19	1.62	0.24	0.99
9	Key in username and password	3.68	2.17	1.51	0.51	0.99
10	Move cursor to the start menu	3.71	2.68	1.03	0.08	0.99
11	Click to open window programmed	3.84	2.51	1.33	0.19	0.99
12	Click all programme	3.75	2.64	1.11	0.57	0.99
13	Click MS word	3.71	2.49	1.22	0.57	0.99
14	Create file name	3.66	2.49	1.17	0.99	0.99
15	Create folder for records	3.80	2.58	1.22	0.58	0.99
16	Save typed document in a recognized file name	3.73	2.51	1.22	0.97	0.99
17	Retrieved saved document	3.87	2.94	0.93	0.99	0.99
18	Operate scanner machine	3.71	2.40	1.31	0.74	0.99
19	Edit scanned document	3.75	2.04	1.71	0.34	0.99
20	Use anti-virus to scan document before saving or etc.	3.68	2.02	1.66	0.64	0.99
21	Close the programme after use	3.70	2.43	1.27	0.45	0.99

Note: $\bar{x}_n$ *= mean of skill needs category;* $\bar{x}_p$ *= mean of performance category; PG = Performance Gap (* $\bar{x}_n - \bar{x}_p$*); e2 = correlation coefficient.*

The performance gap value of all the items (except item 2) of online commerce skills ranged from 0.52 to 2.21 (Table 2). This indicates that the lecturers of business education need online commerce skills improvement in these items, while item 2 with -0.08 is negative, indicating that improvement is not needed in that item by the lecturers. The p-values of the 28 items ranged from 0.05-0.86 and each is > 0.05 level of significance. This indicates that there is no significant difference in the mean ratings of the three groups of respondents on online commerce skills improvement needs of the lecturers of business education for effective teaching in colleges of education. The correlation ratio (e^2) of all the

items was 0.99 indicating that the relationships among the respondents rating is high, implying that is the respondents were very close to one another in their judgments on each item.

Table 2: Performance gap analysis of mean ratings and ANOVA of the responses on online commerce skills improvement needs of business education lecturers for effective teaching in colleges of education

S/N	Online Commerce Skills	$\overline{X}_n$	$\overline{X}_P$	PG	p-value	e^2
	Ability to:					
1	Subscribe Modem to preferred network provider e.g. MTN, Glo, Airtel, Etisalat etc.	3.89	2.26	1.63	0.50	0.99
2	Connect means (stabilizer) to the source of power through the cable	3.52	3.60	-0.08	0.86	0.99
3	Boot the computer	3.75	2.98	0.77	0.11	0.99
4	Check the computer system for functionality	3.78	2.81	0.97	0.15	0.99
5	Click the installed browser e.g. Mozilla, Opera etc.	3.71	2.74	0.97	0.27	0.99
6	Key in preferred search engine/ go to browser e.g. google or yahoo and etc.	3.81	2.43	1.38	0.88	0.99
7	Key in URL/ the market information to be achieved	3.87	2.74	1.13	0.61	0.99
8	Recognized the company's website	3.78	2.78	1	0.53	0.99
9	Key in company username and password	3.69	2.85	0.84	0.17	0.99
10	Carry out online sales of goods or services to individual customers	3.92	2.30	1.62	0.76	0.99
11	Process orders from online stores and individual customers	3.70	2.21	1.49	0.62	0.99
12	Establish a policy for payment	3.88	2.30	1.58	0.15	0.99
13	Access online and offline payments	3.76	2.58	1.58	0.57	0.99
14	Manage online store by stock taking and pricing of goods	3.72	2.47	2.21	0.40	0.99
15	Update business partners and customers with price list and stock available using the online platform	3.64	2.47	1.17	0.10	0.99
16	Interact with online partners and individual customers	3.67	2.55	1.12	0.16	0.99
17	Compile payment advice for funds received from online payments	3.77	2.38	1.39	0.14	0.99
18	Submit to the account department the detail of funds from the sales	3.89	2.10	1.79	0.68	0.99
19	Act as a middleman between online partners, customers and management	3.55	2.43	1.12	0.63	0.99
20	Acquire goods of high quality from the suppliers	3.82	2.28	1.54	0.52	0.99
21	Carry out home retrieval of goods from unsuccessful and rejected orders	3.75	2.32	1.43	0.53	0.99
22	Handle business partners and individual customers' information for security purposes	3.71	2.28	1.43	0.13	0.99
23	Relate with online customers' using social media, SMS among others	3.64	2.72	0.92	0.13	0.99
24	Monitoring sale representative activities through the company's social media, email to protect the image of the organization	3.75	2.83	0.92	0.05	0.99
25	Establish efficient and effective policy digitally for shipping/ delivery company's products through e.g. DHL, Fedex where applicable	3.78	2.64	1.14	0.48	0.99
26	Log out after every transaction	3.96	3.17	0.79	0.13	0.99
27	Shut down the computer	3.88	3.36	0.52	0.07	0.99
28	Establish local routes and distribution point for delivery company's products through digital platforms	3.90	2.60	1.3	0.07	0.99

Note: *$\overline{x}_n$ = mean of skill needs category; $\overline{x}_p$ = mean of performance category; PG = Performance Gap ($\overline{x}_n - \overline{x}_p$); e2 = correlation coefficient.*

The performance gap value of all 9 e-collaboration skill items (Table 3) ranged from 0.1 to 1.88. This indicates that the lecturers of business education need e-collaboration skills improvement in all the items. The p-values of the 9 items ranged from 0.17-0.99 and each is > 0.05 level of significance. This indicates that there is no significant difference in the mean ratings of the three groups of respondents on e-collaboration skills improvement needs of the lecturers of business education for effective teaching in colleges of education. The e^2 (correlation ratio) ranged from 0.98-0.99 indicating that the relationships among the respondents' ratings is high implying that is the respondents are very close to one another in their judgments on each item.

Table 3: Performance gap analysis of mean ratings and ANOVA of the responses on e-collaboration skills improvement needs of business education lecturers for effective teaching in colleges of education

S/N	e-Collaboration Skills	$\overline{X}_n$	$\overline{X}_P$	PG	p-value	e^2
	Ability to:					
1	Connect to the internet for online conference	3.66	2.85	0.81	0.72	0.99
2	Use google meet for collaboration	3.77	2.53	1.24	0.17	0.99
3	Use zoom platform for information sharing	3.22	2.36	0.86	0.94	0.99
4	Use modern translation technology for multiple audience	3.00	2.10	0.9	0.74	0.99
5	Use collaborative groupware to share information with people to achieve aims and objectives	3.80	2.11	1.69	0.99	0.99
6	networking electronic computer for business information sharing	3.98	2.21	1.77	0.42	0.99
7	Make use of email, LinkedIn, instant messaging, blogs, voice/ video web conferencing among others for sharing business information.	3.19	3.09	0.1	0.24	0.98
8	Make use of teleconference for sharing business information	3.58	1.70	1.88	0.65	0.99
9	Engage in conference call through the use of mobile phone	3.62	2.53	1.09	0.28	0.99

Note: *$\overline{x}_n$= mean of skill needs category; $\overline{x}_p$= mean of performance category; PG = Performance Gap ($\overline{x}_n - \overline{x}_p$); e2 = correlation coefficient.*

The performance gap value of all 14 online transaction security skills (Table 4) items ranged from 0.28 to 2.09. This indicates that the lecturers of business education needed online transaction security skills improvement in all the 14 skills items. The p-values of the 14 items ranged from 0. 15-0.95 and each is >0.05 level of significance. This indicates that there is no significant difference in the mean ratings of the three groups of respondents on online transaction security skills improvement needs of lecturers of business education on online transaction security skills for effective teaching in colleges of education. The e^2 (correlation ratio) ranged from 0.98-1.00 indicating that the relationships among the respondents rating is high implying that is the respondents are very close to one another in their judgments on each item.

Table 4: Performance gap analysis of mean ratings and ANOVA of the responses on online transaction security skills improvement needs of lecturers of business education lecturers for effective teaching in colleges of education

S/N	Online Transaction Security Skills	$\overline{X}_n$	$\overline{X}_P$	(PG)	p-value	e^2
	Ability to:					
1	Encrypt customer data and information	3.74	1.87	1.87	0.15	0.99
2	Create password for employees	3.60	2.40	1.2	0.51	1.00
3	create robust passwords for customers	3.64	2.25	1.39	0.95	0.99
4	install, verify patches and update applications	3.64	2.21	1.49	0.90	0.99
5	create backup information	3.70	2.79	0.91	0.74	0.99
6	install firewalls	3.64	2.10	1.54	0.53	0.99
7	install intrusion detection systems	3.71	2.15	1.02	0.28	0.98
8	maintain authentication in Smart Cards and cryptography	3.76	2.10	1.66	0.47	0.99
9	maintain file Encryption skills	3.71	1.81	1.9	0.14	0.99
10	Create an alphanumeric password that is difficult for others to guess	3.74	2.62	1.12	0.68	0.99
11	Carry out online auditing on transactions	3.74	1.81	1.93	0.61	0.99
12	Maintain privacy of business and customers	3.75	3.47	0.28	0.42	0.99
13	Update virus scanners	3.73	2.81	0.92	0.20	0.99
14	Undertake e-risk insurance	3.84	1.75	2.09	0.76	0.99

Note: *$\overline{x}_n$= mean of skill needs category; $\overline{x}_p$= mean of performance category; PG = Performance Gap ($\overline{x}_n - \overline{x}_p$); e^2 = correlation coefficient*

Discussion

The result of this study revealed that the lecturers of Business Education in Colleges of Education in Enugu State needed technology competency improvement in: 21 in computing skill items; 27 out of 28 in online commerce skill items; 9 e-collaboration skill items and 14 online transaction security skill items. The result of this study was in agreement with the report of Future Learning (2019), that Vocational Educators needed continuous digital skills improvement to produce digital graduates in order to maximize their competitive potentials in job market. The result is also in line with Miller (2006) found that teachers of metal work needed improvement in one hundred and thirty (130) skill items for effective teaching of their students in metal work.

Similarly, the result is in conformity with the findings of Illanes, Lund, Mourshed, Rutherford and Tyreman (2018), who found that 62-82 percent of workers, trainers and executives needed retraining and reskilling in order to address potential skills gaps due to advance in automation and digitization in devices like point-of-sale machines, cash counting machine, computer, internet among others. In line with this study were the findings of Sahni (2016), who reported that commerce teachers needed re-training programme in latest happenings of ICT in commerce such as: online-shopping, online-banking, online-payment of bills of electricity, water, telephones, credit cards among others so that later on they can teach and inspire students to learn and utilize these upcoming new trends of online commerce in true sense.

The result of this study was in agreement with Santosoi (2019) who found that Polimarin lecturers need competency improvement on ability to collaborate with the main office, terminals and passengers during an emergency through phone calls, e-mail and social media for effectiveness. The results of the study were also in line with Future learning (2019) who submitted that vocational educators needed improvement in electronic collaboration in order to develop content collaboratively, sharing content and communicate online for the effectiveness of students.

Furthermore, United Kingdom Government Publication (2019) revealed that individuals include lecturers should have the ability to connect a computer to the internet using Wi-Fi or modem settings; insert the password when required; passwords and personal information need to be kept safely; update and change password when prompted to do so for security purposes. Also, United Nations Economic and Social Council (2018) study on building digital competencies improvement to benefit from existing and emerging technologies, with a special focus on gender and youth dimensions, found that digital competencies are needed by practitioners (lecturers) to exploit the development potential of existing and emerging digital technologies on: basic understanding of technologies; knowledge of digital rights, privacy and security.

The findings on the area where NCE business education lecturers did not need technology improvement is also in agreement with some findings of Asogwa (2013) on capacity building on needs of Lecturers in soil fertility and fertilizer management in colleges of education in South-East, Nigeria. Where he found out that the Lecturers do not require capacity building needs in all the items in the course but submitted that the findings did not suggest that those items where they do not require capacity building should be removed from the course during capacity building training because they are part of the logical arrangement of the skills in soil fertility and fertilizer management hence, removing them will create a gap during the training. Therefore, their inclusion is justified but the training should be placed on them little emphasis during training in order to obtain the necessary linkage between skills in the process. This is also in agreement findings on technology skill improvement needs of business education lecturers do not need improvement on item 2, Table 2 Connect means (stabilizer) to the source of power through the cable with PG -0.08. This item was integrated into the cluster but with little emphasis during the training process.

Conclusion and Recommendation

This study has provided information on the areas in technology competency where lecturers of Business education in Enugu State need improvement. These competency areas included 21 in computing skills, 27 in online commerce, 9 in e-collaboration and 14 in online transaction security. This shows that lecturers of business education have not been effectively imparting the necessary knowledge, skills and

attitudes to students in the area of digital technologies for office jobs. Without the upskilling of these lecturers, the kind of end products in the future will be worse. If the lecturers of business education are equipped in collaboration with industries and businesses it will enable the students to maximize the benefits of digital environments. It is therefore pertinent that all the business education lecturers must be continuously update in digital economy for the benefit of students. The fact that lecturers did not need improvement on items 2 in table 2 did not suggest that the item were not needed by the NCE business education lecturers. The item should be retained in its position in cluster but less time should be spent on them during the skill training.

Based on the findings of this study, it was therefore recommended that:

(1) Lecturers of business education should be trained on where they indicated need identified skill areas.
(2) Government should formulate policies that will help stakeholders and authorities of colleges of education to sponsor lecturers for training in those skill areas.
(3) Government should finding adequately provide electronic technology for the lecturers and students to practical zed the identify skills.

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