

## Effect of Fact Fluency Card Strategy Using Computational Fluency for Improvement of Achievement in Mathematics among Primary School Pupils in Jos Metropolis, Plateau State, Nigeria

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**Abstract.** The paper examined the effect of fact fluency card (FFC) strategy using computational fluency for improvement of pupils' achievement in primary school mathematics students in Jos metropolis, plateau state, Nigeria. The target population for the study is primary school pupils in Jos metropolis. A sample of ninety four (94) Primary five pupils was selected from Divine grace school, Jos, plateau State. The sample was divided into two groups, namely experimental and control groups. The experimental group consist 47 pupils who were taught by the use of fact fluency card (FFC) strategy and the control group comprising 47 pupils were taught by the conventional method of teaching. SPSS software was used to analyze the data collected. The statistical techniques used in analyzing the data were description and inferential statistics. Findings of the study showed statistically significant difference in the mean scores of the two groups. It was found that the post test scores of the experimental group is greater than that of the control group. Therefore, fact fluency card (FFC) strategy has effect on pupils' achievement in primary school mathematics in Jos metropolis, plateau state, Nigeria.

**Keywords:** Fact fluency card, computational fluency.

### 1. Introduction

All the subjects in primary school curriculum are important for the pupils. However, Mathematics is considered as one of the vital subjects for the pupils. This is a subject that learners cannot avoid. Some

pupils love to study mathematics, but most of them hate this subject. The pupils who do not like to study mathematics face some challenges and stresses at the time of doing homework, assignments, and especially on examination days. Many times pupils can get stuck when they are trying to solve the mathematics problems, and because of this, they are not able to move on the next level. Some pupils skip a question and continue the other one, but it is not the right way to solve mathematics problems. Akiri (2013), posit that skipping the mathematics problems, does not solve the questions. Mathematics always needs patience and time on the part of the learners to solve the problems. Mathematics is not a subject of only reading and listening. Rather, when it comes to mathematics, more and more practice is needed because when you practice or solve the problems of mathematics, it becomes easy to understand the principle. The more one practices or solves the mathematics problems, the better one can grab and understand it. Mathematics is all about formulae, identities, and calculations. So it is relevant to solve each problem of mathematics in numerous ways before exposure to examination. *To score good marks in mathematics*, the learners need to solve a lot of mathematics problems because mathematics needs more and more practice (Akiri, 2013) & Emefo, 2012).

The key to success is the ability to solve problems. This can be done through practice, as a popular saying that practice makes perfect. Thus it is believed that an appropriate way to learn mathematics at all

levels is to do it through practice rather than to use cramming the concept or rote learning. Practice improve curiosity and in the learner. The best strategy to develop pupils' interest in a subject is to make the pupils be actively involved in learning process. This can be done through fact fluency card (FFC) strategy using computational fluency.

Bethany (2016) sees Computational fluency as the ability to use strategies to figure out mathematics facts quickly and efficiently. A learner who has computational fluency would be able to use strategies together with the facts he or she knows to figure out a more challenging problem. Computational fluency is described as the ability to compute with **accuracy, flexibility,** and **efficiency,** Computational fluency for every individual is developed over time. Fluency is not a fixed ability. Rather, it grows and develops through ample opportunities to practice and discuss strategies. One demonstrates fluency by estimating solutions, use mental mathematics, use pencil and paper, and even when one decides to use calculators (Peoria, 2016),

The fact fluency card contains some mathematical problem such as addition, subtraction, multiplication and division. It features special number combinations and proven patterns for building basic mathematical operation such  $3+5=$ ,  $6 \times 2=$ ,  $10/2=$ . Each card is colour-coded to help one identifies areas of strength and weakness. learners at all levels are eager to learn mathematics during a play. One will easily create opportunities for targeted individualized and group instruction Painless drills: build mathematics fluency effortlessly "Practice makes perfect." learn mathematics concepts to lasting mastery. These cards offer children a fun way to practice their basic mathematical operation skills. The set features 50 cards with mathematical problems that have to do with four fundamental mathematical operations. The problems are on one side and the answers on the opposite side.

Mathematics fact fluency is the ability to recall the answers to basic mathematics facts automatically and without hesitation. Fact fluency is gained through significant practice, with mastery of fundamental mathematics facts being a goal of both teachers and parents.

To play fact fluency card, the pupil A holds 50 cards that contains some problems on one side and the answers on the opposite side, pupils A holds the card facing pupils B. The pupil B reads the problem aloud and gives the answer at once. If the answer is not correct then pupils A shares a possible answer since

the answers are on the side facing pupils A. (National Council of Teachers of Mathematics, 2000).

Prior studies (Akiri, 2013 Asante, 2013, Idris, 2015 & Okeke, 2016) have examined the relationships between various instructional practices and pupils' achievement, but uncertainty remains about which practices teachers should use (Yakubu, 2019). Mathematics is supposed to be one of the best subjects that learner should like most. The achievement of pupils in Mathematics is supposed to be higher than any other subject. This is because of the vital role which the subject plays in the life of individuals and the nation at large. The subject has been described as a precision tool used by all scientists in the search for a clear understanding of the physical world. Unfortunately, over the years achievement of learners at pre-tertiary Mathematics has not been encouraging (Attah, 2016). Poor achievement of students in mathematics has been continued at successive years, especially Senior School Certificate Examination (SSCE), conducted by WAC and NECO examining bodies. The reason for this poor achievement in mathematics may vary, but this could be related to the poor method of teaching method. This study therefore attempts to examine the effect of fact fluency card (FFC) strategy using computational fluency for improvement in achievement of primary school mathematics among pupils in Jos metropolis, plateau state, Nigeria.

## 2. Aim and Objectives of the Study

The aim of this study is to determine the effect of fact fluency card (FFC) strategy using computational fluency for improvement of pupils' achievement in primary school mathematics in Jos metropolis, plateau state, Nigeria

The specific objectives of the study are:

- To examine whether or not there is differences between mean achievement scores of primary 5 pupils in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional Method.
- To determine whether there are variations in achievement of male and female pupils in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional Method.

## 3. Research Questions

- What is the difference between post-test mean achievement scores of primary 5 pupils in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional Method?
- What is the difference between Male and Female post-test mean achievement scores primary 5 pupils in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional approach?

**4. Hypotheses**

- There is no significant difference between post-test mean achievement scores of primary 5 pupils in the experimental and control group when taught using fact fluency card (FFC) strategy.
- There is no significant difference between Male and Female post-test mean achievement scores of primary 5 pupils in the experimental and control group when taught using fact fluency card (FFC) strategy.

**5. Research Methodology**

Quasi-experiment research design was used in this study. The Quasi experimental design makes use of two groups drawn from the same population. The assignment of the respondents to groups is not through randomization, one of the group (experimental group) will be exposed to a treatment

**6. Result of the Analysis**

**Research Question One:** What is the difference between post-test mean achievement scores of primary 5 pupils in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional Method?

**Table 1:** Summary of mean, Standard Deviation and Mean Difference of post-test mean achievement scores of primary 5 pupils in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional Method

<b>Group Statistics</b>					
	Groups	N	Mean	Std. Deviation	Mean Differece
POST-TEST	Experimental	47	28.7660	3.50287	19.72340.
	Control	47	9.0426	2.02116	.

Descriptive statistics in Table 1 shows the mean, Standard Deviation and Mean Difference of post-test mean achievement scores of primary 5 pupils in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional Method. It indicates that the post-test mean scores of experimental group is 28.7660 with standard deviation 3.50287, while the post-test mean scores in the control group is 9.0426 with standard deviation of 2.02116. The Post-test Mean difference between Experimental and Control groups is 19.72340 in favor of Experimental group.

and the other group (control group) is not exposed to the treatment.

**5.1 Population**

The target population for this study consists of primary five pupils in Jos metropolis. The total population of primary five pupils in Jos metropolis is Eight thousand seven hundred and six (8,706).

**5.2 Sample**

A sample of ninety four (94) Primary five pupils was selected from Divine Grace School, Jos Plateau State. The sample was divided into two groups, namely experiment and control groups. The experimental group consists 47 pupils who were taught by the use of fact fluency card (FFC) strategy and the control group comprising 47 taught by the conventional method.

**5.3 Method of Data Analysis**

Inferential statistics were employed in this study, The Data collected from pre-test and post-test items, were analyzed using t-test for the hypotheses raised in the study. The null hypotheses were tested using 0.05 level of significance. The software used for data analysis was SPSS in order to find out whether there was any significant difference before and after the treatment. The result of the analysis determines the significant of difference of treatment on achievement of pupils.

**Research Question Two:** What is the difference between Male and Female post-test mean achievement scores of primary 5 students in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional approach?

**Table 2:** Summary of mean, Standard Deviation and Mean Difference of post-test mean achievement scores of primary 5 pupils in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional approach

Group Statistics					
	public	N	Mean	Std. Deviation	Mean difference
POST-TEST	Boys	15	30.0667	5.03511	5.81667
	Girls	12	24.2500	5.78595	

Descriptive statistics in Table 2 shows the mean, Standard Deviation and Mean Difference of post-test mean achievement scores of primary 5 pupils in Mathematics when taught Mathematics using fact fluency card (FFC) strategy and conventional approach. It indicates that the post-test mean scores of male is 30.0667 with standard deviation 5.03511, while the post-test mean scores of female is 24.2500 with standard deviation of 5.78595. The Post-test Mean difference of male and female is 5.81667 in favour of male pupils.

**Answering Hypotheses**

**Hypothesis One:** There is no significant difference between post-test mean achievement scores of primary 5 pupils in the experimental and control group when taught using fact fluency card (FFC) strategy and conventional approach.

**Table 3:** t – test Analysis of difference between post-test mean achievement scores of primary 5 pupils in the experimental and control group when taught using fact fluency card (FFC) strategy and conventional approach.

	Groups	N	Mean	Std. Deviation	df	t-value	p-value	Remarks
Post-test	Experimental	47	28.7660	3.50287	73.573	33.435	0.028	sig
	Control	47	9.0426	2.02116				

The t – test analysis in table 3 revealed that There is significant difference between post-test mean achievement scores of primary 5 pupils in the experimental and control groups when taught using fact fluency card (FFC) strategy and conventional approach [ $t_{(73.573)} = 33.435, p < 0.05$ ] since the  $p=0.028$  is less than the chosen significance level of  $\alpha=0.05$ . The null hypothesis was rejected. Therefore, There is significant difference between post-test mean achievement scores of primary 5 pupils in the experimental and control group when taught using fact fluency card (FFC) strategy and conventional approach.

**Hypothesis Two:** There is no significant difference between Male and Female post-test mean achievement scores of primary 5 pupils in the experimental and control groups when taught using fact fluency card (FFC) strategy and conventional approach.

**Table 4:** t – test Analysis of difference between Male and Female post-test mean achievement scores of primary 5 pupils in the experimental and control group when taught using fact fluency card (FFC) strategy and conventional approach.

	Groups	N	Mean	Std. Deviation	df	t-value	p-value	Remarks
Post-test	Male	15	30.0667	5.03511	25	2.792	0.010	sig
	Females	12	24.2500	5.78595				

The t – test analysis in Table 4 revealed that there is significant difference between Male and Female post-test mean achievement scores of primary 5 pupils in the experimental and control groups when taught using fact fluency card (FFC) strategy and conventional approach [ $t_{(25)} = 2.792, p < 0.05$ ] since the  $p=0.010$  is greater than the chosen significance level of  $\alpha=0.05$ . The null hypothesis was rejected. Therefore, there is significant difference between Male and Female post-test mean achievement scores of primary 5 pupils in the experimental and control groups when taught using fact fluency card (FFC) strategy and conventional approach.

## 7. Result of findings

The result showed that fact fluency card (FFC) strategy has effect on achievement in mathematics of primary 5 pupils in Jos metropolis, plateau state, Nigeria. Furthermore, the result showed that male perform higher than female pupils when taught using fact fluency card (FFC) strategy.

## 8. Recommendations

The researchers recommended the use of fact fluency card (FFC) strategy in teaching primary five pupils in Plateau State Nigeria. The findings revealed that fact fluency card (FFC) strategy has effect on achievement of primary 5 pupils in Jos metropolis, plateau state, Nigeria

## 9. Conclusion

Therefore it is evident that fact fluency card (FFC) strategy improves the achievement of primary 5 pupils in mathematics in Jos metropolis. Besides, the result shows that male perform higher than female pupils when taught using fact fluency card (FFC) strategy.

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## Assessment of Skills and Attitude Competencies Required of Business Education Teachers in Secondary Schools, South-West Nigeria

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**Abstract.** The current work place is full of complexities and dynamism and so Business Education graduates are expected to acquire high level of skills and attitudinal competencies in all aspects of human endeavour. However, this expectation seems to be lacking in the job performances of these graduates in the world of work. This study, therefore, assessed the attitude and skill competencies of Business Education teachers in public secondary schools in South-West Nigeria. The study adopted descriptive survey research design. The population of the study comprised all Business Education teachers in public secondary schools in South-West, Nigeria. Multi-stage sampling technique was used to select 420 Business Education teachers as the study sample. Three research questions were raised and answered while two hypotheses were formulated and tested at 0.05 level of significance. Structured Questionnaire was used to collect data for the study. The data generated were analyzed using descriptive statistics such as mean and standard deviation. Furthermore, t-test was used to test the hypotheses. Findings showed that teachers' acquired skills and attitude competencies from Business Education programme were lower than secondary school required skills and attitude competencies. The contents of Business Education programme do not provide students with adequate skill and attitude competencies for them to perform at the level expected of them after graduation. The study, therefore, recommends that the curriculum of Business Education programme should be reviewed and restructured so as to enable the graduates respond to social goals, economic realities and future life challenges.

**Keywords:** Business Education; Business Education teachers; Business Education Programme; Job performance.

### 1. Introduction

#### 1.1 Background Information

The 21<sup>st</sup> century work place is now full of complexities and dynamism and has also ushered in changes cutting across human spheres and boundaries. This has led to the invasion and intrusion of Information and Communication Technology (ICT), whose emergence has turned the society into a knowledge society (Bongotons & Onyenwe, 2010). This has revolutionized the way of life with global massive change and transformation. This becomes imperative for higher institutions to prepare graduates with adequate attitude and skills competencies that will enable them to find job as well as cope with the unpredictable labour market changes. According to the International Labour Organisation (ILO, 2002). Developing young people's employability is a key policy issue for ensuring their successful transition to the labour market and their access to carrier-oriented employment.

One major reason why youths invest their time to acquire university education is to position them to gain the returns in form of either to create or gain well paid employment. The realization of this aspiration over the years has gradually become more difficult to attain. There is growing army of unemployed youth, the heaviest burden of which falls on young people, university graduates inclusive and this has enormous social and economic consequences and it poses serious threats to the cohesion and stability of democratic societies (Adegoke, 2003). These youths, if they had acquired the right competencies, would have been job creators instead of roaming about the streets seeking white collar job. More so, where these graduates are working, evidence has shown that employers of labour

complain that the skills of Nigerian graduates had steadily declined, and also, that these graduates have become increasingly performed poorly on the job, and so are heavily re-trained (Ekpenyong & Janet, 2005). The competencies acquired from school should be fostered in order to meet the aspirations of the youths and work-place.

Competency, commonly referred to as job competencies, refer to the core skills, knowledge, abilities and attitudes (behaviours) that contribute to high performance in a given position in an organization. Competencies help business achieve the productivity, innovation and profitability needed to compete effectively (Imeokparia, 2012). They help public services to provide the quality and choice that people want. They help individuals raise their employability and achieve their ambitions for themselves, their families and their communities. Competencies underpin labour market flexibility. Sustaining a competitive productive economy, which delivers prosperity for all, requires an ever growing proportion of skilled qualified people (UK Secretary of State for Education and Skills, 2003).

Business Education programme falls under the purview of Technical and Vocational Education which prepares its recipients to earn a living in an occupation where success depends largely on technical information and understanding of the laws of sciences as applied to modern designs, production, distribution and services (Osuala, 2004). Technical and Vocational Education and Training (TVET) is a comprehensive term. It refers to those aspects of the educational process involving, in addition to general education, the study of technological and related sciences. Other relevant aspects include the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life.

Business Education curriculum programme is aimed at providing six components such as accounting education, office/secretarial education, marketing/distribution education as well as teaching practice and industrial work experience. The programme, also, provides its recipients with teaching mastery in business subjects; necessary components in professional education; functional general education for life, skill to undertake research and afford additional learning experiences through in-service programme. The graduate should be able to design facilities to record, report, analyse and interpret as well as teach financial information.: typing skills, shorthand skills, word processing, marketing Knowledge, Office technology management, basics of personal finance, management skill, the decision-making techniques needed to be

wise consumers, the economic principles of an increasingly international marketplace, the processes by which businesses operate solid educational foundation and attitudes.

As an integral part of vocational and technical education, Business Education is subject to constant economic and social changes, technical development and organisational demands. The increased use of new information and communication technologies and the changing perspective on employees is flexible (Achtenhagen, Grub & Richardson (2001). As a response to these changing professional demands, a competence-based qualification structure has been adopted in Vocational Education in the Netherlands, Germany, France, Great Britain and Australia. (Achtenhagen et al. 2001) However, this same has not been practiced in Nigeria, going by the literature reviewed and the constant call for retraining of Business Education teachers by various employers of labours in Nigeria. It is on these premises that the researcher assessed the attitude and skill competencies of Business Education teachers in order to be acquainted with the reasons for their poor performances in their work places.

## 1.2 Statement of the Problem

Business Education programme is concerned with developing individuals and students with skills and competencies required for effective participation in the business world. These competencies are made available either for enabling the individuals to be good consumers of products of the business enterprise and entry into business community as employers or employee and also as Business teachers and lecturers. Despite these laudable objectives, Graduates of Business Education perform below expectations in their work places (Robert, 2016). As the society is becoming mobile and globalised, the pace in which the labour market is accelerating seems to be making work-place, increasingly, a high-technology and service-oriented arena Continuing with this poor performance in their work places would lead to low output and subsequently, termination of employment. This situation, if not checked, may lead to folding up of companies and total collapse of the economy (Caird, 1992). Thus, there is a need to assess the attitude and skill competencies of Business Education teachers.

## 1.3 Purpose of the Study

The purpose of the study is to assess the attitude and skill competencies of Business Education teachers in secondary schools, South-West, Nigeria.

The specific objectives are to:

- Identify the secondary school competencies (skills and attitude) required of Business Education teachers;
- Determine the differences between secondary schools required skills and Business Education teachers acquired skills;
- Assess how secondary schools required attitude differ from Business Education teacher developed attitude;

#### 1.4 Research Questions

The following research questions were raised:

- What are the secondary schools' competencies (skill and attitudes) required of Business Education teachers?
- What are the differences between the secondary schools required skills and Business Education teachers' acquired skills?
- What are the differences between secondary schools required attitude and Business Education teachers' developed attitude?

#### 1.5 Research Hypothesis

- There is no significant difference between the secondary school required skills and Business Education teachers' acquired skill.
- There is no significant difference between the secondary school required attitude and Business Education teachers' acquired attitude.

### 2. Methodology

Descriptive Survey research design was used for the study. The population of the study consisted all Business Education teachers teaching Business Education subjects in public secondary schools in South-West, Nigeria. Sample size of 420 Business Education Teachers were used for the study, adopting multi-stage Sampling Techniques as follows:

**Stage 1:** Purposive sampling technique was applied to select Lagos, Ogun and Ekiti States as the study

sample. This is because these three states have enough statistics.

**Stage 2:** Simple random sampling technique was used to select four local government areas each from the three selected States to obtain 12 Local Government Areas

**Stage 3:** Systematic sampling method was adopted to select 7 schools from each of the selected Local Government Areas, resulting to a total of 84 public secondary schools.

**Stage 4:** Finally, from each of the selected schools, proportionate stratified sampling method was applied to select 5 Business Education teachers to arrive at a sample size of 420. The stratification was based on the sex of the respondents. Yamane (1967) was used to determine the sample size.

The data for the study were generated using Structured Questionnaire tagged Required and Acquired Competency Assessment Questionnaire for Teachers (RACAQT). The questionnaire contained 9 items on the Competencies Acquired and Required of Business Education teachers, (CARAQ). The second questionnaire contained 56 items which assessed the skill competence and 10 items which assessed the attitude competencies of Business Education teachers. Respondent were required to respond on four-Likert scale of Highly Required (HR) =4, Averagely Required (AR) =3, Least required (LR) =2, Not required (NR) =1 and Highly Acquired (HR) =4, Averagely Acquired (AA) =3, Least Acquired (LA) =2, Not Acquired (NA) =1.

Three research assistants administered the questionnaire to the respondents on one-to one basis and collected on the spot as they were filled out and so there were 100% return.

The content and face validity of the instruments were determined by the experts in the field of Business Education. The reliability of the instruments was 0.805, determined using Cronbach's Alpha and Guttman Split half coefficient test of reliability, at alpha level of 0.05. Descriptive and inferential statistical methods were used to analyse all the data generated from the study. Research questions were analysed using descriptive statistical tools such as mean, standard deviation and t-test inferential statistical tool was used to test the formulated hypothesis.

3. Results

**Research Questions 1:** What are the Secondary schools required competencies of Business Education Teachers?

**Table 1:** Ranking of Respondents’ Opinions on the Required Secondary School Competencies

S/N	Secondary School Competencies Required of Business Education Teachers	Mean	Standard Deviations.	Coeff. of Variation	Remarks	Rank
1	Teaching Skills	3.839	0.267	6.95	Required	1 <sup>st</sup>
2	ICT Skill Competencies	3.808	0.334	8.77	Required	2 <sup>nd</sup>
3	Communication Skills competencies	3.796	0.341	8.98	Required	4 <sup>th</sup>
4	Interpersonal Skill Competencies	3.700	0.329	8.89	Required	3 <sup>th</sup>
5	Knowledge of Marketing Competencies (course content)	3.661	0.439	11.99	Required	8 <sup>th</sup>
6	Office Technology Management Competencies (course content)	3.435	0.375	10.92	Required	6 <sup>th</sup>
7	Knowledge of Accounting Competencies (course content)	3.333	0.311	9.33	Required	5 <sup>th</sup>
8	Managerial Skills Competencies	3.001	0.355	11.82	Required	7 <sup>th</sup>
9	Attitude (Commitments)	2.909	0.379	13.03	Required	9 <sup>th</sup>

The result (Table 1) shows that the respondents are of the opinion that all statement items 1 to 9 with mean scores ranging from 2.909 to 3.839 reveal that all the competencies listed are considered highly required by the respondents.

**Research Questions 2:** What are the differences between the secondary schools’ required skills and Business Education teachers’ acquired skills?

**Table 2:** Mean and Standard Deviation of the Opinion of the Respondents on Secondary Schools’ Required and Acquired Interpersonal Relationship Skill Competencies of Business Education Teachers.

S/N	Items	Interpersonal Relationship Skills Competencies		Secondary Schools Required competencies	Bus. Graduates Acquired competencies	Mean Diff
		Mean	Std. Dev.	Mean	Std. Dev.	
1	Ability to pass information pleasantly	3.967	0.277	2.478	0.644	1.489
2	Ability to manage subordinates	3.221	0.298	2.292	0.337	0.929
3	Ability to handle visitors	3.207	0.261	2.341	0.489	0.866
4	Good humours	3.214	0.318	2.041	0.363	1.173
5	Group membership skill	3.206	0.297	2.585	0.346	0.621
6	Ability to project integrity	3.200	0.418	2.375	0.325	0.825
7	Ability to handle clients	3.195	0.397	2.185	0.593	1.010
8	Ability to follow protocol	3.186	0.389	2.658	0.403	0.528
9	Ability to relate with contemporaries	3.165	0.551	2.481	0.572	0.684
10	Emotional control	3.121	0.344	2.02	0.315	1.101
11	Ability to project a good image	3.070	0.356	2.505	0.433	0.565
12	Courtesy	3.004	0.464	1.382	0.462	1.622
13	Ability to choose right media of communication	2.924	0.337	2.765	0.462	0.159
14	Ability to engender trust	2.824	0.409	2.098	0.382	0.726
15	Ability to communicate with gestures	2.789	0.0446	2.831	0.47	-0.042
16	Conflict resolution skill	2.786	0.524	1.964	0.42	0.822
17	Ability to understand body language	2.755	0.533	1.821	0.601	0.934
	<b>Average</b>	<b>2.685</b>	<b>0.332</b>	<b>2.004</b>	<b>0.390</b>	<b>0.682</b>

**Table 3:** Mean and Standard Deviation of the Opinion of the Respondents on secondary school Required and Business Education Graduates Acquired ICT Skills Competencies

S/N	Items	Secondary school Required Competencies		Business Education Teachers Acquired Competencies		
		Mean	Std. dev.	Mean	Std. dev.	Mean Diff
	Ability to:					
1	use the telephone effectively	3.958	0.200	3.258	0.895	0.700
2	use technological tools in result computation	3.906	0.357	3.193	0.594	0.712
3	use fax machine	3.770	0.640	1.720	0.889	2.050
4	Photocopy	3.843	0.418	3.161	0.680	0.682
5	use basic Microsoft office essentials	3.947	0.223	3.397	0.753	0.550
6	typeset and format computer	3.916	0.313	2.580	0.863	1.336
7	send and retrieve text messages	3.875	0.362	3.826	0.434	0.048
8	send and Retrieve email	3.895	0.339	3.301	0.621	0.594
9	scan documents into computer	3.906	0.386	2.010	0.972	1.895
10	save documents in computer	3.895	0.339	3.311	0.967	0.584
11	recall documents from computer	3.927	0.298	2.989	0.616	0.937
12	print from computer	3.937	0.243	2.279	0.982	1.657
13	use different mobile applications for teaching and research	3.885	0.407	2.451	0.773	1.433
14	operate on-line banking	3.831	0.538	2.849	1.276	0.982
15	Operate e-commerce	3.750	0.680	1.784	1.071	1.965
16	format and save document	3.833	0.574	1.828	1.119	2.005
17	share information and instruction online	3.864	0.515	2.739	1.194	1.125
18	edit on computer	3.958	0.200	2.903	0.897	1.055
19	apply technology in the teaching of business studies	3.884	0.321	3.828	0.432	0.056
	<b>Average</b>	<b>3.884</b>	<b>0.384</b>	<b>2.854</b>	<b>0.828</b>	<b>1.030</b>

**Table 4:** Mean and Standard Deviation of the Opinion of the Respondents on Secondary Schools Required and Business Education teachers Acquired Communication Skills.

S/N	Items	Secondary School Required Competencies		Business Education Teachers Acquired Competencies		
		Mean	Std. dev.	Mean	Std. dev.	Mean dif.
	Ability to:					
1	read and comprehend	3.937	0.422	3.214	0.28	0.723
2	ability to ask right questions	3.935	0.423	2.842	0.394	1.093
3	write personal letters/memos and reports	3.934	0.423	2.815	0.369	1.119
4	listen attentively when people are taking	3.928	0.442	2.797	0.614	1.131
5	write reports/speeches	3.924	0.444	2.072	0.684	1.852
6	write minutes of meetings/circular letters	3.923	0.384	2.916	0.79	1.007
7	speaks in fluent English	3.917	0.261	2.31	0.595	1.607
8	summarize key points	3.915	0.476	2.925	0.513	0.99
9	ability to demonstrate when necessary	3.914	0.343	2.387	0.532	1.527
10	oral persuasion skill	3.911	0.325	2.558	1.082	1.342
	logically organize ideas in writing	3.910	0.293	2.406	0.553	1.504
11	offer eye contact while listening to others	3.90	0.497	3.074	0.445	0.826
12	write business letters/proposals	3.841	0.397	2.531	0.579	1.31
13	ability to answer question without being reactive	3.822	0.432	2.935	0.535	0.887
14	use dictionary and other reference materials	3.819	0.439	2.656	0.509	1.163
15	start a conversation	3.813	0.443	2.553	0.536	1.26
16	offer verbal signals while listening	3.73	0.427	2.797	0.727	0.933
17	ability to keep an open mind while listening	3.524	0.49	2.648	0.638	0.876
18	delay judgment until I have heard everything	3.422	0.488	2.573	0.703	0.849
19	bargaining skills	3.361	0.721	2.723	0.611	0.638
20	be silent when people are talking	3.818	0.428	2.686	0.5844	1.13185

The result (Tables 2, 3 and 4) indicates that the respondents are of the opinion that all statement items 1 to 17 in Interpersonal relationship, 1 to 19 in ICT and 1 to 20 in communication are highly required skills competencies. The study reveals that the Business Education curriculum did not provide adequate education for the challenges of the modern-day school work-place.

**Research Question 3:** Are there differences between secondary school required attitude and Business Education teachers' developed attitude?

**Table 5:** Mean and Standard Deviation of the Opinion of the Respondents on Secondary School Required and Acquired Attitude of Business Education Teachers

Items	Secondary Schools Required Competencies		Business Education Acquired Competencies		Teachers
	Mean	Std. dev.	Mean	Std. dev.	Mean dif.
Self-reliance	3.979	0.143	2.739	0.566	1.240
Perseverance	3.969	0.174	2.677	0.552	1.292
Honesty	3.968	0.174	2.541	0.663	1.427
Integrity	3.958	0.200	2.593	0.572	1.365
Showing respect	3.946	0.266	2.614	0.621	1.332
Adaptability	3.947	0.223	1.468	0.871	2.479
Open-mindedness	3.927	0.362	2.861	0.862	1.066
Showing initiative	3.927	0.362	2.739	0.528	1.188
Flexibility	3.895	0.339	1.833	0.829	2.062
Pragmatism	3.833	0.427	1.604	0.814	2.229
Grand Mean	3.934	0.267	2.366	0.687	1.568

From the responses it can be deduced that that there is a relatively highly level of mismatch between secondary school required Attitudes and Business Education graduates developed attitudes.

**Research Hypotheses**

**Hypotheses 1:** In order to test the hypothesis one which states that there is no significant difference between the secondary school required skills and Business Education teachers' acquired skill, paired sampled t-test was carried out at 5% level of significance and the results are shown on table 4.1, 4.2, and 4.3

**Table 6:** Paired sampled t-test Analysis Showing Difference in Secondary school Required Skills competencies and Business Education Teachers Acquired Skill.

**Relationship between required and acquired Skill Competences.**

Variables	N	Mean	S. D	z-value	Df	p-value
Secondary school required interpersonal relationship skills	420	2.685	.332			
Interpersonal Relationship Skills				4.99	418	0.000
Business Education Teachers acquired interpersonal relationship skills	420	2.004	.390			

**Table 7:** Paired Sample t-test Analysis Showing Difference in Secondary School Required and Business Education Teachers Acquired ICT Skill Competencies.

Variables	N	Mean	S.D	Df	z-value	p-value
Secondary school required ICT skills	420	3.384	.384			
ICT				418	3.17	0.000
Business Education teachers acquired ICT skills	420	2.854	.828			

**Table 8:** Paired Sampled t-test Analysis Showing Difference in Secondary School Required and Business Education Teachers Acquired Communication Skills.

Variables	N	Mean	S. D	Df	Z-value	p-value
Secondary school required communication skill	420	3.937	0.422			
Communication skills				418	5.79	0.000
Business Education teachers acquired communication skills	420	3.14	0.280			

The result from Table 4.1, 4.2 and 4.3 indicate that secondary school required inter-personal relationships, ICT, and Communication skill competencies was slightly higher than the mean score of the acquired skills of Business Education Teachers. It can be inferred that though the university Business Education program meets the minimal requirement of the work place, yet, what was acquired from the Business Education programme is not adequate enough to meet the needs of their work place.

**Hypothesis 2:** There is no significant difference in secondary school required and Business Education teachers acquired attitudinal competencies. The hypothesis was tested using paired sampled t-test analysis. The summary of the result is presented in Table 5

**Table 9:** Paired Sampled t-test Analysis Showing Difference in Secondary School Required and Business Education Teachers Acquired Attitudinal Competencies.

Variables	N	Mean	S. D	DF	z-value	p-value
Secondary school Required Competencies	352	3.9452	0.267			
Attitude				418	2.99	0.000
Business Education Teachers Acquired competencies	251	3.2673	0.688			

The result from Table 5 indicates that secondary school required attitudinal competencies were slightly higher than the mean score of the acquired attitudes of Business Education Teachers. It can be inferred that though the university Business Education program meets the minimal requirement of the work place, yet, what was acquired from the Business Education programme is not adequate enough to meet the needs of their work place.

**4. Discussion of Findings**

The study reveals that all the competencies listed are considered highly required by the respondents. The skills listed are basic skills that graduates are expected to develop through their undergraduate studies. They include teaching skills, ICT skills, communication skills, interpersonal skills, managerial skills, knowledge of course content and attitude. Wetterman (2005) in Oduma & Ile (2012) noted that the possession of core office occupation competencies among job applicants is vital because it could be a major source of strength and efficiency for

organizations in the discharge of regular office routine functions.

**4.1 Secondary School Required and Business Education Teachers Acquired Skills.**

Research question 2 and hypothesis 1 shows that there is a significant difference in secondary school required and Business Education teachers’ acquired interpersonal relationship, ICT and communication skills competencies. Therefore, the hypothesis stated was rejected because the level of significance was less than 0.05. It can be inferred that even though the university Business Education programme meets the minimal requirements of the school work-place, the curriculum is not adequate enough to meet the needs of the school work place. Thus, there is more to be done in the area of laboratory exercises in terms of the use of modern equipment and software which have hitherto been found to be out-dated and inadequate This finding is supported by the report given by Billing (2003) that employability skills provided by universities: problem solving skills, communication skills, critical thinking skills, team

work, interpersonal skills, ICT and much more are not enough or adequate.

#### 4.2 Secondary school required and Business Education Teachers Acquired Attitudes.

The result from Hypothesis 3 and research question 4 indicates that there is a significant different between attitudes required by Business Education teachers and work-based attitudes acquired of them in their places of work. However, the values of paired differences of mean show a positive value indicating that the attitudes required of Business teachers in schools is higher than the attitudes acquired by them. Therefore, it can be inferred that even though the university Business Education curriculum programme meets the minimal requirements of the schools, the programme is not adequate enough to meet the needs of the work place.

#### 5. Conclusion

The study assessed the skills and attitudes competencies of Business Education teachers in secondary schools, South-West, Nigeria. The researcher concludes by stating that the contents of Business Education programme do not fully equip their students with adequate competencies required in 21st century. Consequently, they cannot confidently join the labour market as teachers, compete with their mates, secure the job and perform effectively in the fieldwork. The implication of the result is that the prospect of Business Education graduate to secure job in Nigeria will be thwarted by lack of necessary competencies required by employers of labour in global economy.

#### 6. Recommendations

In view of the issues enumerated, this study recommends that:

- The contents of Business Education programme needs an in-depth review. This would enable the graduates respond to social goals, economic realities and future life challenges. This should be done by selecting contents that are consistent with emergent and anticipated competence needs of the society.
- Also to solve the problem of work-based competencies required in the 21st century, modern technology should be integrated into the contents of Business Education programme in Nigerian universities.

- Moreover, theoretical aspects of Business Education courses should be aligned with related practical for teaching effectiveness. Therefore, the programme should be organised in a most profitable way to achieve its aims and objectives. This will help to provide students with practical competencies needed for successful transition to work place.

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