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**Repositioning Science Teacher Education Through Practical Oriented
Application in the Teaching and Learning Process for Global
Competitiveness: University Undergraduate’s View**

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ABSTRACT

The dynamism in educational development today had change holistically so people in charge too need to be proactive to meet the global challenges that can compete with the global world and to meet the global competitiveness if not our educational system will not be in line with the word educational system. This prompts the researchers to look at repositioning teaching and learning process by laying emphases on practical. Forty (40) respondents were used as the pilot study that comprises of six (6) science education lecturer and thirty-four post graduate student of the same department. Sixty-three undergraduate students were randomly selected as the sample population of the study from science education department. A structure questionnaire was design that consist of ten items for data collection using Linkert scale and the result was analyses using frequency counting, mean and standard deviation and t-test at $P>0.05$. From the result it was observed that repositioning teaching and learning process using practical process is inevitable and that the teacher should ready to adopt practical as one of the cardinal points to teach some of the recommendation proffer includes giving awareness to the need for repositioning teaching and learning of science through practical oriented process and prompt adequate financing of the practical for better understanding of scientific phenomenon.

Keywords: Education, Teacher Education, Practical and Global competitiveness

1.0 INTRODUCTION

The diversity in need and aspiration of any country or nation divers from one and the other, in a bid to meet the national demand the rate at which educational development raises in such country or nation will serve as a determinant tools to achieve such demand since life itself is dynamic not static. The development of the world itself requires adequate and functional education equivalent to the rate of development in which the nation is. Alada and Adedo, (2014) observed that development does not take place in a vacuum but can be noticed in form of advancement in education, technology and economy growth of a nation. The developments of a nation depend solely on its achievement of its education. These developments necessitate the wiliness of every individual to look for education that will suit their demands. Therefore, things need to change in all aspect of human endeavors in a bid to close the gap in meeting the global development

through educational integration in all aspect of economy.

Education is rightly regarded as one of the social institutions which is designed to transmit the culture, skills, knowledge, attitude with traditional values on the society to the younger generation because it tells people how to think, talk and how to manipulate their environment to meet daily needs. The need to diversify the education system is highly demanded in order to meet the global world. Opataye, (2012) expressed that education is a process of exercising political, economy and administrative authority, especially over a state which is believed to have evolved from the needs by the society to organize its member towards achieving a common purpose Every nation which is committed to progress, development and advancement would have a system of education that reflects the changing need of the nation, such

changes are usually not born out of correction but out of desire from both government and the people to evolve a system that meet the goals and aspiration that could meet the challenges of competitiveness while Adedo, Jimoh and Saliman, (2019) sees education as a form of learning in which the knowledge, skills and habit of a group of people are transferred from one generation to the next through teaching and learning or research this implies that any nation or country that give standard education to its citizens will surely be developed.

The Nigerian system of education relied mostly on theoretical rather than practical in teaching and learning because most school administrators hide under lack of finance, equipment, ill-equipped laboratories and lack of qualified teachers, etc. including our colleges and tertiary institutions which made it difficult for students to acquire the required skills needed that can make them stand on their own. Sanni, Amosa & Danmaigoro (2017) and Adedokun, Lewu, Issa & Ajani (2021) opined that education is a social medium and process of acquisition of relevant knowledge, skills and attitudes for survival in the changing world. While Jimoh (2018) define Education as the tools for integration of individuals effectively into a society so that the individual can achieve self-realization, promote unity and strive for social, economic, political, scientific, cultural, technological process and develop national consciousness this shows that any nation or country that produce better education for all will be able to meet the global competitiveness.

The result of unavailability of the required skills needed by the graduates had contributed to under development, unemployment, increase in crime rate, insecurity, kidnaping with others related offences to join the part of leading world had now become a survival of the fittest where education is the only key that can lead us out in achieving political, social and economic growth and development. Educational system is not aimed to suffer the learners with the factual knowledge, but at equipping the learners with type of knowledge that will enable him to be capable and relevant anytime and anywhere while in (National policy on education 2013) NPE revised 2013 that it was to promote functional education for skill acquisition,

job creation, poverty reduction and the good quality of instruction at all levels of education. Educational institution performs a significant function of providing learning experiences to lead their students from the darkness of ignorance to the light of knowledge. The key personnel in the institutions that play an important role to bring about this transformation are teachers this is to say that teacher needs to see teaching process beyond the classroom situation and therefore there is the need to reposition teacher education.

Teaching involves the use of a wide body of knowledge about the subject being taught, and another set of knowledge about the most effective ways to teach that subject to different kinds of learner; it, therefore, requires teachers to undertake a complex set of tasks every minute. Teacher education as teachers being taught using teaching methods that would be deemed inappropriate if they used the same methods in schools, or teachers being taught by persons with little or no hands-on experience of teaching in real classrooms. In other systems, teacher education may be the subject of detailed prescription

There is no nation that can rise beyond its teacher capacity in education. Teacher's competencies level serves as a tool of attainment in national development. Teacher serves as a facilitator of knowledge through dissemination of instruction where the learner believed whatever information given by them is right. Teacher must be well equipped with relevant current knowledge to meet the challenges that can lead us to global attainment. Teacher education or teacher training refers to the policies, procedures, and provision designed to equip (prospective) teachers with the knowledge, attitudes, behaviors, and skills they require to perform their tasks effectively in the classroom, school, and wider community (Francesca, 2017). The professionals who engage in training the prospective teachers are called teacher educators (or, in some contexts, teacher trainers). Teacher education is a program that is related to the development of teacher proficiency and competence that would enable and empower the teacher to meet the requirements of the profession and face the challenges therein.

The sole aim of education curriculum and curriculum implementation today is to close the gap in-between the theory and the practical. It was observed that most concepts in the teaching and learning of science involves practical doing. Ohadiugha (2021) view curriculum implementation as a process of putting all that has been planned as the curriculum document into practice in the classroom through the combined effort of the learners, teachers the school administration and the government.

The need to look for holistic approach in which the practical aspect can be taught in sciences Gbenga (2021) observed that learning is based on foundation of impulse reactive relation, where student receive feedback for answer, that help them to avoid wrong answer this shows that decision of the student needs to be decided at every point of learning through activities doing by practices. Lumped and Olive 1991; Bass, Kristin, Daniell & Hazzar; 2012, Tunde and Babafemi (2016) state that hand on activities is define as any science activity that allows the student to handle, manipulate or observe a scientific process of learning which involves the child in a total learning experience which enhance the child ability to think critically by planning a process to test hypothesis by putting the process into motion using various hands-on materials, guide the process to completion and then be able to explain the end product. The resulting force of this is only when our teacher is well trained with practical skilled which in turns make our graduates to be skilled and enable them to face the test of the time that can lead to global competitiveness in all aspect of economy

The most concepts in teaching and learning of science subject involved laboratory experiment that can make it more understandable but most of the concepts is mostly done theoretically until when this practical is teachable for more understanding of scientific phenomenon, we may not be able to face the challenges that can make us to meet the global challenges that is the reason while we need to reposition science education teacher to move to practical oriented process. Odutuyi (2016) asserted that the laboratory experiment is to demonstrate practically some of the principles taught in theory, test validity of certain empirical chemical laws and

illustrate properties of substance taught theoretically in the classroom may look boring from their opinion it shows that most of the science concepts involves teacher and student activities.

Olatunbosun (2019) view that practical work plays a vital role in developing scientific knowledge and enhancing scientific skills, attitude and inquiry based learning, that student learn by performing concrete activities, by comparing experimental data to a model or by designing an investigation. This show that there is distinctive difference in learning process through application of practical than theoretical teaching and learning process so science teacher education must be repositing to accommodate practical.

2.0 STATEMENT OF THE PROBLEM

The development of a nation depends solely on the attainment of her educational development which lies on the teacher competences and no nation can grow beyond is teacher capacity. Teachers were the one that have the ability to carry out some specific task or activity which could be used as a tool to determine the level of achievement in the development of a state or country. So, if teacher were not adequately equipped or trained to achieve the stated objective in all aspect of national development it will be difficult to achieve a greater development there by repositioning teacher education is a need that must be done.

The way the education is carried out is usually a subject of political discussion in many nations, which show the value and level of attached to it by different cultures and societies but to prepare young people for their life. This education is an important element of any education system, which must be reviewed for effectiveness.

The teaching and learning in science had to move from factual and theoretical nature to practical oriented nature where student will be adequately participated in the process because the notion of saying science is abstract and opaque need to be debunk and the only way to change this enunciation is through teaching and learning of science by practical doing that is learning by doing.

Teachers are facilitators for teaching, if the teacher were not taught towards the process of using practical as an effective method of teaching science the process of making teaching and learning of science more understandable will not be achieved so the need to repositioning teacher education through application of practical is a welcome ideal.

The Nigeria system of education today lay more emphasis on theoretical teaching and learning process rather than practical hiding under lack of finance, lack of laboratories apparatus, equipment and lack of inadequate and qualified teachers to take up practical etc. where by making our graduates to be unskilled and find it difficult to meet the global challenges as a result of new technology and innovation in our educational system. It is when people become educational skilled with adequate knowledge and application of new technologies to meet the current global educational development and global competitiveness may not be achieved. Teachers can be trained on modern concepts and ideas in order to expand their boundaries of knowledge and adapt to the new learning environment. Repositioning teacher education towards the use of practical during the teaching and learning of sciences can serves as the only tools that can make our education development to meet the global competitiveness.

3.0 METHODOLOGY

The research used all the six science education teachers and eighteen post graduate students in faculty of education as a pilot study while about sixty-three undergraduate students of the same science education department in the same faculty of Al-hikman university Ilorin was used as the sampling population for the research because they were in the best position to see the reasons behind repositioning teacher education in the teaching and learning process in science through practical doing as a way to meet the global competitiveness. The science education lecturers and the post graduate's student were used as a pilot study. A structure questionnaire in two sections A and B, A consist the biodata of the respondent while section B consist of 10 items question using four Linkert scale used for data collection using strongly agree (SA), agree (A), Disagree (D) and Strongly Disagree (SD), while percentage scores, frequency,

mean and standard deviation and t-test was used for results analysis at $P > 0.05$.

3.1 Research questions

- i. Is there any need for repositioning science teaching and learning to meet the global competitiveness?
- ii. Is there any need for repositioning science teacher education towards practical oriented method of teaching to meet the global competitiveness?
- iii. Does repositioning science teaching and learning through practical oriented method will it lead us to be among the global world and meeting the global competitiveness?
- iv. Repositioning science teaching and learning through practical can it bring about new innovation and creativity that could meet the global competitiveness?
- v. Is there any difference in view of undergraduates' student on repositioning science teachers through practicals for global competitiveness?

3.2 Research Hypothesis

- i. There is no statistical significant difference in the views of male and female undergraduates' student on repositioning science teachers through practical for global competitiveness.

4.0 RESULTS FINDINGS

Is there any need for repositioning science teaching and learning to meet the global competitiveness? The results observed from the table shows that the responses of the respondent in question item 1 having the mean of 3.54, is higher than decision rule of 2.50 this indicate that there is a strong need to repositioning teaching and learning of science to enable us to meet the global competitiveness and its accepted.

Does is it necessary to repositioning science teacher education towards practical oriented method of teaching to meet the global competitiveness? The responses of the respondent in question item two with the mean of 3.49 is higher than decision rule of 2.50 this indicate that there is a need to repositioning science teacher education towards practical oriented method of teaching will in a long

way assist us to meet the global competitiveness which was also accepted.

Does repositioning science teaching and learning through practical oriented method will it lead us to be among the global world and meeting the global competitiveness? The results observed from the table shows that the responses of the respondent in question item three with the mean of 3.19 is higher than decision rule of 2.50 this indicate that there is a need to repositioning science teaching and

learning through practical oriented method as the only road that can lead us among the global world and meeting the global competitiveness this is also accepted while the ideal was supported in relevant to question item four with the mean of 3.00. higher that the decision rule of 2.50 indicate from the responses of the respondent that using theoretical methods cannot lead us to be among the global world nor meeting the global competitiveness and its accepted.

Table 1; Statistic showing the responses of the respondents towards the research questions 1,2, 3 and 4.

S/N	Items	Mean	Standard Deviation	Remarks
1	To be among the global world the need to change the methods use in teaching and learning of science concepts must be repositioning.	3.54	.591	Accepted
2	To be among the global world and to meet the global competitiveness the science teachers must be practically trained to teach the scientific phenomenon.	3.49	.669	Accepted
3	Repositioning the process used in teaching and learning of science concept through practical oriented method can lead us to global competitiveness.	3.19	.715	Accepted
4	Repositioning the process used in Teaching and learning of science concept through theoretical method can lead us to global competitiveness	3.00	.762.	Accepted
5	Using practical oriented method in the teaching and learning of science concepts create more understanding of scientific phenomenon.	3.44	.616	Accepted
6	Using practical oriented method in the teaching and learning of science concepts will help in debunking the notion that science is abstract in nature	3.40	.636.	Accepted
7	Using practical oriented method in the teaching and learning of science concepts will help in debunking the notion that science is opaque in nature.	2.89	.845	Accepted
8	Using practical oriented method in the teaching and learning of science concepts will bring about creativity that lead the . global competitiveness.	3.52	.618	Accepted
9	The Using of practical oriented method in the teaching and learning of science concepts will help to produce skilled graduate that can meet the global competitiveness	3.46	.502.	Accepted
10	Using practical oriented method in the teaching and learning of science concepts will bring about new innovations that lead to global competitiveness.	3.14	.877	Accepted

Dose repositioning science teaching and learning through practical will it lead us to new innovation and creativity that could meet the global competitiveness? The results observed from the table shows that the responses of the respondent in question item eight with the mean of 3.52 and question item ten with the mean of 3.14 are higher than decision rule of 2.50 this indicate that there is a need to repositioning science teaching and learning that will lead us to new innovation and creativity that could meet the global competitiveness

this was complimented from questions items five, six, seven and nine with the mean of 3.44, 3.40, 2.89 and 3.46 respectively higher than 2.50 decision rule because teaching and learning of science through practical brings about more understanding of phenomenal, allow one to debunk the notion either science is abstract or opaque in nature and allow to produce skilled manpower that would able to create and innovate showing the acceptability of the research question.

Table 2; Is there any difference in view of male and female undergraduates’ student on repositioning science teachers through practicals for global competitiveness

gender	N	Mean	Std. Deviation	Std. Error Mean
item1 male	38	3.55	.645	.105
female	25	3.52	.510	.102
item2 male	38	3.47	.762	.124
female	25	3.52	.510	.102
item3 male	38	3.34	.627	.102
female	25	2.96	.790	.158
item4 male	38	2.89	.798	.129
female	25	3.16	.688	.138
item5 male	38	3.53	.647	.105
female	25	3.32	.557	.111
item6 male	38	3.45	.686	.111
female	25	3.32	.557	.111
item7 male	38	3.00	.838	.136
female	25	2.72	.843	.169
item8 male	38	3.53	.687	.111
female	25	3.52	.510	.102
item9 male	38	3.47	.506	.082
female	25	3.44	.507	.101
item10 male	38	3.24	.883	.143
female	25	3.00	.866	.173

It was observed from the table that the aggregate mean for the Male is 33.4737 while the female mean is 32.4800. The male view is higher than the female view this indicate that there is difference in male and female view.

Table 3; The responses of the respondent on the statistical significant difference in the views of male and female undergraduate’s student on repositioning science teachers through practical for global competitiveness

gender	N	Mean	Std. Deviation	T	df	Sig	Decision
TOTAL ITEM Male	38	33.4737	3.87464	1.114	61	.270	Not significant
female	25	32.4800	2.70986				

From the above table it was observed that the mean for the male is 33.4737 while that of the female was 32.4800 with significant difference of 0.09937 the T-cal is 1.114 which is lower than the T-val 2.50 at $P > 0.05$ there is no significant difference between male and female response of the undergraduates on the repositioning of science teacher through practical oriented process in the teaching and learning of science therefor the hypothesis is here by accepted.

5.0 CONCLUSION

Teaching and the learning of science is in two folds that consist of the theory and the practical but teaching of practical is normally being avoided in most cases due to some numerous problems and challenges been encountered yet it is inevitable to neglect the role practical plays in science teaching and learning process because of the realization that practical help to engineer and consolidate teaching and learning of sciences however achieving quality teaching in sciences would be a mirage if teachers training on practical is not recon with. To give more understanding of scientific phenomenon emphasis should be more on practical than the theoretical aspect.

6.0 RECOMMENDATIONS

- i. Teachers involve in the teaching and learning of sciences must have it in mind that the process of teaching is beyond theoretical methods.
- ii. Giving awareness on the need for repositioning science teaching and learning through practical oriented process.
- iii. The government and the school administrator must be ready to provide the necessary tools, materials and equipment needed be provided
- iv. Adequate financial provision should readily have made available to meet the challenges involve because there are some other needed finances apart from providing the tools, materials and equipment needed.
- v. Adequate training must be given to the teachers involve that will enable them to understand the technicality involve on how to handle practical teaching tools, materials and equipment in process.
- vi. Periodic seminars and workshops should be giving to make the teachers involve acquitted new knowledge that will enable them to cope with the new practical approach.
- vii. Adequate provision should be made in giving allowances that could serves as remuneration for sciences teachers.

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