

**RESEARCH COMPETENCE AND ITS USAGE AMONG PROFESSIONAL
ACADEMIC STAFF OF SCHOOL OF SCIENCES FEDERAL COLLEGE OF
EDUCATION
PANKSHIN - PLATEAU STATE**

By

YAKUBU GORAH KAJANG Ph.D
Department of Physical and Health Education
Federal College of Education,
Zaria

Abstract

The paper focused on research competence among academic staff of school of Sciences, Federal College of Education, Pankshin, Plateau state. Four research questions and one hypothesis were stated. The survey method of research design was utilized in the study, which covered a population of 41 professional academic staff. The entire population was used as a sampled since it was not too large. The questionnaire was used as the instrument for data collection which yielded 76 reliability coefficient in a pre-test. Means were used to answer the research question, while the t-test was used in verifying the only hypothesis. It was discovered among others that the respondents generally had very high knowledge and good research competence as indicated by $x=3.5$ and $x=3.4$ responses respectively. Also the respondents generally had poor use of research as shown by $x = 2.9$ response and when the t-test was used to verify the only hypothesis, it was discovered that there was a significant difference in knowledge of research among the professional staff according to gender. Based on these results, it was recommended that professional teachers in higher institutions be educated on the importance of research and that instead of individual research work group research should be encouraged.

Keywords: *Research Competence, Professional Teachers, Quality of Teaching*

Introduction

The quest for knowledge and solution to human problems has generated the need for research in all aspects of human endeavour especially teachers (Ugwu, 2004). It was not surprising that Nkadi (2004) pointed out that research in education plays a central role not only in extending the boundaries to teachers' understanding in the three educational domains in which they work but also in contributing to the growth and development of teaching and learning as well as in the nation's economy. Again, he stated that the recognition of education world wide as the bedrock of science and technological accomplishment and development is paramount. Furthermore that educators have been increasingly concerned with ways of improving the quality of teaching and learning of subjects in colleges of education (of which FCE, Pankshin Plateau state is one). One way of improving the quality of teaching in colleges of education is by the application of educational research findings.

Research has been defined by Anikweze (1995) as the formal systematic and intensive process of carrying scientific method of analysis in

an identified problem with a view to uncovering hitherto undiscovered truths, efforts to provide more knowledge about that which is already known. Buttressing the statement, Nwana (1981) emphasized the lack of or indifference to research is one of the degenerating characteristics between developed and developing countries of the world. This means to conduct a research requires competence. In other words, an individual must be knowledgeable in the type/nature of different research. For instance, action research, is mostly concerned with solving identified educational problems of the classroom level. It has the following characteristics:

- ✓ Small scale for intervention
- ✓ It is usually collaborative because it can bring in people from different areas that are concerned with the problem and is usually self-evaluatory in term of accomplishing its objectives or terms of reference. As the name is, the problem being solved is normally urgent and may not make provision for a more elaborate research type or design. For example a health educator might want to know why

students from a particular village/town suffer from Guinea-worm. This type of action research can be easily handled even without the use of applied or other forms of educational investigation.

One other way of classifying educational research is according to the function that is, when the function is to describe the situation, it is descriptive (like is the case with the present study) when the function is to identify, it is exploratory and when the function is to assess or evaluate, it is evaluator. In evaluation research, its main concern is to make decision relating to the value or worth of educational materials, methods and programmes based on empirical data (Nwana, 1981). A great number of evaluation studies have been carried out by individuals. For example, evaluation of the implementation of the Expanded Programme on Immunization, 6.3.3.-4 system of education in Nigeria. Etc.

Competence, according to Busari (2003) is the successful integration of theory into practice. He stressed that competency should help trained teachers perform activities like facilitation, problem solving action researching and collaboration in order to establish a friendly learning environment for the learners. Research competence will be used in this work to mean the process of arriving at dependable answers to problems through a planned and systematic approach which is dependent on successful integration of theory to practice by teachers.

Discussing on research usage, Iyowi (1994) expressed that though educational research acts as an important instrument for development, it can be abused through misused. This, according to him, is because most of the research results are seldom used by teachers.

It was not surprising that Ajayi (1983) explained that most teachers and principals have an unfavourable attitude towards educational research. He also reported that most principals and teachers have little or no knowledge of research findings and would rather have the findings sent to either the college boards of where lecturers could easily have access to them or the head of each institution than have them reported in journals or stacked away in libraries only. However, usage will be used in this work to mean the acquisition and utilization of the outcome of research by professional teachers.

Again, Obanya (1983) stress that despite the usefulness of educational research, studies have shown that less than 2% of all research findings were applied to solve the felt needs and aspiration of citizens. In the same vein, Nkadi (2004)

conducted a study on the use of science education research findings among secondary school Biology teachers in Enugu State and discovered that teachers do not make use of research findings in their classroom practice. He further stressed that they were unaware of the usefulness of it, the existence of some journal and how to gain access to such materials.

Worse still, he expressed that there does not seem to be much efforts by researchers towards discovering whether research findings and technological innovations in education are actually being put into practice by classroom teachers. It is possible that the same condition exists among professional teachers in school of science, Federal College of Education (FCE), Pankshin where present study was conducted.

In order to address the research competence and its usage among professional teachers of the school of sciences, FCE, Pankshin. The following research questions were stated.

- i) What is the level of knowledge of research competence among professional teachers in school of science, F.C.E, Pankshin?
- ii) What is the research competence of professional teachers of the school of science, F.C.E.?
- iii) How do professional teachers use research findings for the improvement of their class teaching?
- iv) What are the attitudes of professional teachers towards research in school of science, F.C.E., Pankshin?

Hypothesis

1. There will be no significant difference in the level of knowledge of research among male and female professional teachers in school of sciences, F.C.E. Pankshin.

All the professional teachers teaching in all the departments of School of Sciences, F.C.E, Pankshin were used as the population and sample. A total of 41 academic staff served as the respondents (out of which 29 were males and 12 females).

Instrument

The research tool used for data collection was a thirty item questionnaire that consisted of section A,B,C,D and E. section A had items on personal data, B elicited information on the knowledge of research, C sought for information on the use of research, while section E sought for information on attitudes of professional teachers towards research.

Validity of the Instrument

The instrument used was given to 5 teachers other than the ones used for the study who were not below the rank of principal lecturer to validate for the face validity of the instrument.

Reliability of the Instrument

The validated instrument was given to ten other lecturers who were not below the rank of lecturer I to respond to. The split-half was used in analyzing the responses and this yielded a reliability

co-efficient of .76 which was considered high for the present study.

Method of Data Collection and Analysis

The investigator gave the instrument to all the respondents which was collected almost immediately on completion. The raw data collected were tallied, scored and the means of responses to each item found. This was used in answering the research questions. The t-test was use in verifying the only hypothesis for the study.

Results

Table 1 Level of knowledge of Research by Teachers N=41

S/No	Item	Responses
		x
1.	Easy to identify a research problem	2.4
2.	All variables in a topic brought to play in the background	4.0
3.	Rational not necessarily written in chapter 1	3.2
4.	A very good sources of literature in a study is other researches conducted on the topic	4.5
5.	Literature does not necessarily need to tell a researcher that a gap exist which the present work should fill	3.3
6.	Survey research design is mostly used in education	3.1
7.	Not necessarily to validate an instrument as long as it answers the issues raised.	4.2
8.	Number or groups determine the type of tool to be used for verifying a hypothesis.	3.9
9.	No need for tittles in tables in a study.	4.1
10.	Discussion will normally start on a new page regardless of the number of words on the last page especially writing thesis	3.2
Overall mean		x=3.5

Generally: Table 1 showed that the respondents had high level of research knowledge as indicated by (x=3.5) response.

Table 2: Research Competence of Teachers in School of Sciences, F.C.E., Pankshin N=41

S/No	Item	Responses
		x
11.	Identify variable(s) of study from a title	3.4
12.	Introduction' is the title to chapter one	4.6
13.	Research questions should be in line with the objectives of the study	4.4
14.	Background takes care of major variables in a title of a work	3.6
15.	No need for suitable headings under which literature related to a study can be reviewed	3.3
16.	Identify major findings of recent research related to study	3.6
17.	Identify research instrument(s) best for data collection	3.6
18.	Develop research instrument based on the research question	3.6
Overall mean		x=3.4

Table 2 revealed that the teachers had very good research competence in all the items listed as indicated by an average response of x =3.4

Table 3: Ways of Using Research Findings for Improvement of Teaching N=41.

S/No	Item	Response
		x
19.	Improve teaching methods	3.8
20.	No access to research work	2.4
21.	Helps me to read widely whenever I have a problem in the Course of my work.	3.8
22.	Not able to cope with the volume of findings	2.1
23.	Some findings are not worth it	2.4
24.	Some use inappropriate tools therefore making the result invalid	2.2
25.	Use of research is less emphasized	3.1
26.	Studies are mere academic exercise	3.4
Overall mean		x =2.9

The result in Table 3 indicated that the teachers use research for improving teaching methods and reading widely in case of a problem with a response of (x =3.8) for both. The table also shows that the respondents agreed that research is less emphasized as indicated by (x =3.1) response and that studies are mere academic exercise (x=3.4) responses. Averagely, the table showed that the respondents use less research work for improving their teaching as indicated by (x =2.9) response.

Table 4 Attitudes of teachers toward research N=41

S/No	Items	Response
		x
27.	Money spent on studies is worth it	4.7
28.	Individuals should spend money on research rather than the government	3.7
29.	Research help to make life better	4.1
30.	Without research the world could still be a better pace to Live in.	4.6
31.	Money used on research work is a waste	4.8
32.	I get my literature from various sources before any study is carried out.	3.7
Overall mean		x = 4.2

The result in Table 4 indicated that the respondents had a mean score of x=4.2 for the items on the attitudes of teachers towards research.

Table 5

Summary of t-test verifying knowledge of Research Among Male and Female Lecturers, School of Science FCE, Pankshin.

Gender	Number	X	T. Cal	T. Cri	Decision
Male	29		3		
Female	12	1.4	2.76	2.21	Rejected

The result in Table 5 shows that the table t-cri is =2.21 and the t-cal is 2.70 at 0.05 level of significant. Since the calculated t-value is greater

than the table value, the hypothesis of no significant difference was therefore rejected. This means that

there was significant difference on knowledge of research among male and female lecturers.

Discussion

The results in Table 1 and 2 generally showed that the respondents had very high knowledge on competence of research as indicated by $x=3.5$ and $x= 3.4$ respectively. These results were expected because majority of the respondents have been conducting research in their various fields of teaching. Again, most of the respondents are known to have masters or holders of doctor philosophy (Ph.D) in their various disciplines. This result seems to be in line with the statement made by Busari (2003) who posited that the successful integration of theory into practice is of paramount importance in research. He stressed that this will help train teachers perform activities like facilitation, problem solving, action researching and collaboration in order to establish a friendly learning environment for the learners.

However, the results in table 3 showed that generally the respondents have poor use of research findings. This result was not expected because emphasis is being laid on teaching and research at the tertiary level. This may attest to the fact that the respondents do not accept and use other results. This idea is in line with what Ivowi (1985) expressed that research should serve two main purposes. These, according to him are provision of information and application of result. Again, the research itself must be valuable in terms of the use of which it could be made. On the other hand, the results seem to support the statement advanced by Obanya (1983) who stressed that despite the usefulness of educational research, it has been shown that less than 2% of all research findings were applied to solve the felt needs and aspirations of citizens.

The results in Table 4 showed that the respondents have a mean score of ($x= 4.2$) which is very high, regarding their attitudes towards research. This was expected since one of the primary functions of a teacher in a tertiary institution is to conduct research. This result seems to differ from what Ivowi (1994) pointed out that, science teachers do not utilize research findings due to the fact that the findings are not worth it. Again, that most studies carried out by individuals in the universities and research institutions were to fulfill their employers requirements for advancement. The difference in attitudes noticed may be due to the fact that individuals are more enlightened on the importance of research findings and have now

realized that they must keep abreast with current findings in order to stay in the job.

Generally, base on the fact that the respondents have poor use of research findings, it is possible that majority of the academic staff in the college may have the same attitude, this can not be a healthy development for the system, since educational research serves two major roles of providing information and application of results in effective class management. It is suggested that action research be encouraged as it gives room for collaboration and self-evaluatory interms of accomplishing its objectives and bringing people from different areas that are concerned with solving educational problems of which teachers are the key actors. This is because, what an individual discovers, brings satisfaction and feeling of accomplishment leading to valued discovery which may be put to use.

Recommendation

Based on the findings and discussion, it is recommended that teachers (especially those) in higher institutions should be educated on the importance of using research findings because of what Ivowi (1994) observed. This could be done through workshops and seminars. Again to enhance the value and acceptability of research findings, groups of people should be encouraged to carry out research instead of individuals since such efforts are likely to produce better efforts.

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