

VERSATILITY IN THE USE OF RESEARCH DESIGNS: AN EFFECTIVE TOOL FOR CREATIVITY IN EDUCATIONAL RESEARCH, IN IMO STATE NIGERIA.

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Abstract

The study investigated the competence of educational researchers in both the faculty of education, Imo State University Owerri and the school of Education Alvan Ikoku Federal College of Education Owerri in the use of various educational research designs. The study employed both correlational survey design and descriptive survey. A sample of two hundred lecturers were randomly selected from the three hundred and twenty lecturers from the two institutions. The instrument used was a 25 item questionnaire titled "Versatility in the use of Design and Creativity in Educational Research" (WDACER). Four research questions and one hypothesis guided the study. The Research questions were answered using mean statistics and standard deviation while hypothesis was tested using t-test statistics at 5% level of significance. The finding revealed that there is a significant difference between lecturers who are versatile and those who are creative. Secondly, the most employed research design is the survey. Based on the findings, it was recommended that educational researchers should endeavour to make personal efforts to improve on their research skills. Educational researchers should realize the need to employ various designs during researches since problems pertaining to education are multifarious in nature.

Keywords: Research Design, Creativity and Versatility

Introduction

For any meaningful development, there must be research activities. The continued world advancement is also as a result of research activities and that is why countries and nations alike who have realized this keep aside substantial funds in budgets for researches. Education remains the tool for effective research because individuals need to be educated to meaningfully engage in researches. To research is to search again and this has to be systematic for a dependable solution to be arrived at.

Educational research on the other hand is a scientific and systematic investigation into identified educational problems with the view to finding a dependable solution to the problem. In educational research, there is an outlay of what to do at any point during investigation. This is called research process. This process aids the researcher to do the “right” things at the right time. Choosing an appropriate design is a crucial step in carrying out educational research.

A research design is the engine room of any research. It is the fulcrum of any meaningful research. It is the method that guides the researcher on how to carry out the research. To Ogomaka (2002) a research design is the map of what is to be done and how it is to be done. To Kellinger (1986) a design is a plan, structure of investigation so conceived as to obtain answers to research questions and or to test hypotheses formulated to guide the study. It guides the researcher in knowing the outline of what to do from writing the research questions and formulating the hypotheses and their operational implications to the final analysis of data. Nwana (2007) sees research design as a term used to describe a number of decisions which need to be taken regarding the collection of data before ever the data are collected. Since research design sets up the framework for study of the relations among variable, it tells us in a sense what observations to make, how to make them and how to analyze the quantitative representations of the observations. This therefore means that, if a researcher chooses a wrong design, he comes out with faulty findings which in turn could be misleading.

There are quite a number of educational designs employed in educational research. These designs exist because they are useful in their own individual capacities and merits and should be utilized in educational researches. Problems in education are diverse in nature and therefore, require diverse approaches to handle them. The use of any particular design though, depends on the nature of the problem and the researchers' expertise in handling any design. Be that as it may, since problems emanating from education are multifarious in nature, and cannot be handled always with some particular designs, educational researchers should therefore be creative in the use of educational designs for them to be versatile. The broad types of educational designs are; the experimental, survey and historical designs. There are occasions and situations that demand the use of these designs. These designs are employed because each has its attributes and characteristics. The sub types of the different designs like; descriptive survey design, case study design, developmental designs, causal comparative design, ex-post-factor, etc., further explains that an educational researcher should be versatile and knowledgeable regarding the use of different designs and it is by employing them that he demonstrates creativity.

Creativity is the act of turning new and imaginative ideas into reality. It is characterized by the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions (www.creativityatwork.com). It helps an individual to tackle issues from different angles. A creative person reasons divergently and does not believe in stereotypism. A creative person is supposed to be versatile as well.

Educational Researchers should endeavour to be creative because the benefits are enormous. This leads to versatility in choosing educational research designs during research.

Versatility has to do with one turning easily or readily from one subject, skill or occupation to another. It has to do with one being flexible in beginning and completing a task effectively. Diverse approaches to selecting educational research designs are a good thing in carrying out investigations that pertain to education. Sometimes, it is observed that most educational researches in journals and works employ mostly survey research design at the expense of other educational research designs. The questions therefore are; does it mean that problems concerning teaching and learning can only employ survey design? Is creativity not applicable to educational research? Be that as it may, these Researchers are worried since problems in education are diverse in nature and therefore should require diverse approaches more especially, the choice of educational research designs.

Specially, the study aimed at;

- 1) Determining the relationship between versatility and creativity in the design of educational research.
- 2) Ascertain the most employed educational research design by educational Researchers.

Research Questions

The following research questions guided the study.

- 1) What is the relationship between versatility and creativity in the design of educational research?
- 2) Which research design is mostly employed by educational Researchers?

Hypotheses

The following hypotheses were formulated to guide the study;

HO₁ there is no significant relationship between versatility and creativity in the use of design in educational research ($P < 0.05$)

Method

The study adopted a co-relational survey design as well as descriptive survey in investigating the relationship between versatility in the use of educational design and creativity in educational research. Pearson Product Moment Co-relation Coefficient was used to ascertain the level of the relationship while t-test was used to obtain the significant level. For the research questions, mean statistics and standard deviation were obtained.

The population of the study was the Three Hundred and Twenty (320) lecturers from two tertiary institutions in Imo State comprising lecturers from faculty of education Imo State University Owerri and School of Education, AlvanIkoku

Federal College of Education Owerri. A sample of Two Hundred (200) lecturers which is approximately 53% was drawn using simple random sampling technique. A 25 item instrument titled Versatility in the use of Design and Creativity in Educational Research (VUDACER) was used by the researchers to elicit analyzable data from the respondents for the study. The scores were co-related and a high reliability coefficient of 0.73 was obtained as the internal consistency of the instrument. Four research questions and one hypothesis guided the study. The research questions were answered using mean and standard deviation while the hypothesis was tested using t-test statistics at 5% level of significance.

Results

Research Question One: What is the relationship between versatility and creativity in the design of educational research?

Analysis concerning relationship between versatility and Creativity in educational research.

Table 1: Mean scores of lecturers who are versatile and creative in the use of educational research.

Use of design in educational research	N	X	SD
Versatility	100	43.42	6.66
Creativity	100	43.96	7.14

The result in table 1 shows that the mean score of lecturers that are versatile is 43.42 with standard deviation of 6.66 while the mean score of the lecturers that are creative is 43.96 with standard deviation of 7.14. This shows that the mean scores of lecturers who are creative is higher than that of the lecturers who are versatile.

Hypothesis One: There is no significant relationship between Versatility and Creativity in the use of design in educational research. ($P < 0.05$).

Analysis concerning significant relationship between versatility and creativity in the use of design in educational research.

Table 2: t-test analysis of the relationship between versatility and creativity in the use of design and creativity in educational research.

Use of design in educational research	Sample size	Mean score	SD	T-cal	T-crit	Decision
Versatile	100	43.42	6.66	11.22	1.66	HoRejected
Creative	100	43.96	7.14			

Table 2 shows that the t-calculated (11.22) is greater than t-tabulated (1.66) that is $t_{cal} > t_{tab}$ at 0.05 level of significance and 198 degree of freedom. The null hypothesis is therefore, rejected. Hence there is significance relationship between versatility in the use of design and creativity in educational research.

Research Question Two: Which research designs are mostly employed by Educational Researchers?

Analysis concerning research designs mostly employed. \

Table 3: Mean responses of lecturers on educational research designs mostly employed by educational researchers

S/N	Statements		Very often	Often	Less often	Not at all	X	SD	Remark
1	I employ experimental designs during researches	n	22	30	70	140	1.985	0.613	Rarely
		nx	88	90	40	140			
2	I employed historical designs during researches	n	15	25	82	78	1.185	0.481	Rarely
		nx	60	75	164	78			
3	I employ survey designs during researches	n	153	23	12	12	3.592	1.87	Rarely
		nx	612	69	24	12			

Cluster mean = 2.25

Table 3 indicates that educational researchers rarely use the experimental and historical designs as could be observed from their mean responses of 1.985 and 1.185 respectively. The lecturers agreed to a very high extent they very often employ survey designs with the mean of 3.592. The cluster mean 2.25 which is below the criterion mean of 2.50.

Discussion

The findings of the study showed that the mean score of lecturers who are versatile differ from the mean score of lecturers that are creative in the use of design in educational research. These findings, therefore, revealed that creativity depends on versatility in educational research and one can only be creative in the use of design when he is versatile. This is in line with the views of versatility creative group who observed that creativity and versatility go hand-in-glove and could lead to innovations. This is interesting because creativity could also encourage innovations in education.

The study also revealed that the most used design is the survey design which employs descriptive statistics in answering research questions. Descriptive design could be used alongside hypotheses testing which is inferential statistics. Most often researchers fail to test hypotheses. This is not heartwarming because with hypotheses testing, inferences could be made regarding the variables of the study. These are what creativity and versatility in research talk about. Survey design which had the highest item mean deals with observing the situations as they exist without manipulation or treatment. This method purely allows the researcher to collect people's opinions and views. Sometimes, these responses could be misleading as respondents sometimes are not usually honest in reacting to instruments like questionnaire which is perhaps the most popular instrument in descriptive survey research. Ogomaka (2004) supports this when he observed that dishonesty and trivialization of the things to be done in research works is a serious educational and societal problem.

Conclusion

This study established that not all the lecturers who are versatile in the use of educational research design are also creative in the use of research designs as could be seen from the mean scores. The Null hypothesis used in testing the relationship between versatility and creativity of use of educational designs by the lecturers was equally rejected. The most often used design by the lecturers is the survey design ignoring the other types of design as could be observed from the individual item means used to answer that particular research question. Problems emanating from education are multifarious in nature and require diverse measures.

Recommendations

Based on the findings, the following recommendations are made:

- i. Educational researchers should make personal efforts to improve on their research skills more especially in the use of research designs.
- ii. There should be regular workshop for educational researchers by

- institutions and organizations where they work.
- iii. Educational researchers should realize the need to employ various designs during researches since educational problems are diverse in nature.
 - iv. Professional associations should build into their annual conferences and other programmes, a session on refresher talks on 'Educational Research Designs'.

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