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## **Canvassing for a Policy Culture on Mixed Methods Research Methodology in Adult Education in Nigeria's Tertiary Education Institutions**

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### **Abstract**

This paper advocates a policy culture for utilisation of mixed-methods research methodology in adult education in Nigeria's tertiary education institutions arising from the contention that the adoption of a single research design is not sufficient enough for utilisation in a multidisciplinary and interdisciplinary field of study and practice like adult education. The paper begins with a discussion of the overview of research, research design, and classification of research designs known in literature. The conceptual overview and understanding of mixed-methods research design, the classification of mixed-methods research design, the philosophical foundation of mixed-methods design, the justification for the adoption of mixed-methods design, the conceptual understanding of adult education as a multidisciplinary and interdisciplinary field of study and practice, as well as the benefits of mixed-method research design in adult education are further and substantially discussed. The paper concludes that the adoption and utilisation of mixed-methods research design will tremendously enrich the quality and impact of researches conducted in adult education in Nigeria tertiary education institutions and, therefore, recommends that scholars, academics, students, and other researchers should adopt the mixed-method research design, rather than a single design, when conducting research in adult education based on the multidimensional benefits associated with this design.

**Keywords:** Research, research design, mixed-methods research design, adult education, Nigeria's tertiary education institutions

## **Introduction**

The global acceptability of adult education, which UNESCO and other international development partners have appropriately labelled adult learning and education (ALE), as a field of study and practice, has been greatly enriched through various forms of researches conducted by academics, scholars, students, non-governmental organisations, civil society organisations, and international development partners. Therefore, the growth and development of adult education worldwide will continue to be influenced by research. While there are many types of research designs/methods recognised in literature, the dominant method/design often adopted and use in adult education has been the quantitative research which Bryman (2012) defined as “a research strategy that emphasises quantification in the collection and analysis of data...”.

The increasing use of the quantitative research in adult education has been linked to some advantages including the assertions that quantitative findings are more generalised to a whole population or a sub-population because it involves the larger sample which is randomly selected (Carr, 1994). Besides, sampling, data analysis is less time consuming as it uses the statistical software such as SPSS (Connolly, 2007). However, there have been more advocacy for the adoption of qualitative research against the dominance of the quantitative research basically due to some limitations of this research method including heavy reliance of statistical procedures and other means of quantification to explain social phenomenon or problem (Connolly, 2007).

Qualitative research refers any type of research that produces findings not arrived at by statistical procedures or other means of quantification. Qualitative research is a research about persons' lives, lived experiences, behaviour, emotions, and feelings as well as about organisational functioning, social movements, cultural phenomena, and interactions between nations (Strauss & Corbin, 1990). The advocacy for qualitative research shows that no one method is sufficient for conducting a research in any discipline. In support of this viewpoint, this paper is written advocating a policy culture for utilisation of mixed-methods research methodology in adult education in Nigeria's tertiary education institutions as against one or singular methodology or design.

## **Conceptual Understanding of Research and Research Designs**

The word research is derived from the Middle French word "*recherche*" which means "*to go about seeking*" and the earliest recorded use of the term was in 1577 (Merriam-Webster, 2018). Research has been defined in a number of different

ways by different scholars. Even though, almost all these definitions are similar, emphasise common features and themes, there is no single or all-encompassing definition that is embraced by all researchers. *Research* is a process of steps used to collect and analyse information to increase the understanding of a topic or issue. It consists of three steps: posing a question, collecting data to answer the question, and presenting an answer to the question (Creswell, 2008). Research, in essence, is any creative systematic activity undertaken in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this knowledge to devise new applications (The Organization for Economic Cooperation and Development [OECD], 2015).

The cardinal features of research are: *it must be organised and systematic* (There is a structure, steps and planned procedures for doing research which is focused and limited to a specific scope); *it must contain questions* (Research is focused on relevant, useful, and important questions; without a question, research has no focus, drive, or purpose); and *it must find answers to a problem* (Finding answers to a hypothesis or even a simple question is the end of all research). Research is successful when a researcher find answer to the problem that prompted the research in the first place. Finally, research is a scholarly or scientific investigation or inquiry into a problem.

Research design, just like research, is defined by different social scientists in different terms. Research design is the structure of research; it is the “*glue*” that holds all of the elements in a research project together. In other words, research design is a plan of the proposed research work (Akhtar, 2016). A research design is a master plan specifying the methods and procedure for research (Zikmund, 1988).

The function of a research design is to ensure that the evidence obtained enables the researcher to effectively address the research problem as unambiguously as possible. In conducting a research, obtaining evidence relevant to the research problem generally entails specifying the type of evidence needed to accurately describe a phenomenon. Sometimes, researchers often begin their investigations far too early before they think critically about what information is required to answer the study's research questions. Without attending to the issues of design beforehand, the conclusions that will be weak and unconvincing. Consequently, such conclusions will fail to adequately address the overall research problem.

A good research design, according to Kirshenblatt-Gimblett, (2006), must contain the following elements: (1) identification of the research problem with a clear justification for its selection; (2) review of previously published literature

associated with the problem area; (3) clear and explicit specification of research questions and hypotheses central to the selected problem; (4) effective description of the data which will be necessary for adequate testing of the hypotheses and explanation of how such data will be obtained, and (5) description of the methods of analysis which will be applied to the data in determining whether or not the hypotheses are true or false.

### **Classification of Research Designs**

The University of Southern California Libraries (2016) identified twelve types of research design as follows:

- 1. Action Research** - The social psychologist Kurt Lewin coined the term '*action research*' in 1946. Action research is a special way of doing and using research; it is not a method or a research instrument like observation, interviews, mapping, among others (Alidou & Glanz, 2015). Action research is about researching action through action. Action research takes a systematic approach, as opposed to the more random 'learning by doing' (Alidou & Glanz, 2015). In action research, the problem and question to be addressed are defined, reflection on how to address the problem, planing a new way of dealing with it, monitoring alternative approach, evaluating action, communicating the results, and changing the practice. Action research was developed to democratise research and knowledge generation (Coghlan and Brydon-Miller, 2014). Action research abolishes the elitist tradition whereby only the systematic knowledge generation of university-trained scientists is accepted as research (Alidou & Glanz, 2015). Action research design focuses on pragmatic and solution-driven research outcomes rather than testing theories.
- 2. Case Study Design** - A case study is an in-depth study of a particular research problem rather than a sweeping statistical survey or comprehensive comparative inquiry. It is often used to narrow down a very broad field of research into one or a few easily researchable examples. The case study research design is also useful for testing whether a specific theory and model actually applies to phenomena in the real world. It is a useful design when not much is known about an issue or phenomenon. A researcher using a case study design can apply a variety of methodologies and rely on a variety of sources to investigate a research

problem. Researchers make wide use of this research design to examine contemporary real-life situations and provide the basis for the application of concepts and theories and the extension of methodologies.

3. **Causal Design** - This type of research is used to measure what impact a specific change will have on existing norms and assumptions. Most researchers seek causal explanations that reflect tests of hypotheses. Causal effect occurs when variation in one phenomenon, an independent variable, leads to or results in variation in another phenomenon, the dependent variable.
4. **Cohort Design** - Often used in the medical sciences, but also found in the applied social sciences, a cohort study generally refers to a study conducted over a period of time involving members of a population which the subject or representative member comes from, and who are united by some commonality or similarity. Using a quantitative framework, a cohort study makes note of statistical occurrence within a specialised subgroup, united by same or similar characteristics that are relevant to the research problem being investigated, rather than studying statistical occurrence within the general population. Using a qualitative framework, cohort studies generally gather data using methods of observation.
5. **Cross-Sectional Design** - Cross-sectional research designs have three distinctive features: (1) no time dimension; (2) a reliance on existing differences rather than change following intervention; and, (3) groups are selected based on existing differences rather than random allocation. The cross-sectional design can only measure differences between or from among a variety of people, subjects, or phenomena rather than a process of change. As such, researchers using this design can only employ a relatively passive approach to making causal inferences based on findings.
6. **Descriptive Design** - Descriptive research designs help provide answers to the questions of who, what, when, where, and how, associated with a particular research problem. A descriptive study cannot conclusively ascertain answers to why. Descriptive research is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation. Descriptive studies collect a large amount of data for detailed analysis and can yield rich data that lead to important recommendations in practice.
7. **Experimental research** - Experimental research is often used where there is time priority in a causal relationship (cause precedes effect), there

is consistency in a causal relationship (a cause will always lead to the same effect), and the magnitude of the correlation is great. The classic experimental design specifies an experimental group and a control group. The independent variable is administered to the experimental group and not to the control group, and both groups are measured on the same dependent variable. Subsequent experimental designs have used more groups and more measurements over longer periods. True experiments must have control, randomisation, and manipulation.

8. **Exploratory Design** -An exploratory design is conducted about a research problem when there are few or no earlier studies to refer to or rely upon to predict an outcome. The focus is on gaining insights and familiarity for later investigation or undertaken when research problems are in a preliminary stage of investigation. Exploratory designs are often used to establish an understanding of how best to proceed in studying an issue or what methodology would effectively apply to gathering information about the issue. The goals of exploratory research are intended to produce the following possible insights: familiarity with basic details, settings, and concerns, well-grounded picture of the situation being developed, generation of new ideas and assumptions, development of tentative theories or hypotheses, determination about whether a study is feasible in the future, issues get refined for more systematic investigation and formulation of new research questions, and direction for future research and techniques get developed.
  
9. **Historical design** -The purpose of a historical research design is to collect, verify, and synthesise evidence from the past to establish facts that defend or refute a hypothesis. It uses secondary sources and a variety of primary documentary evidence, such as, diaries, official records, reports, archives, and non-textual information [maps, pictures, audio and visual recordings]. The sources of historical design must be both authentic and valid. The historical approach is well suited for trend analysis, can add important contextual background required to more fully understand and interpret a research problem, and can be used over and over to study different research problems or to replicate a previous study.
  
10. **Longitudinal Design** - A longitudinal study follows the same sample over time and makes repeated observations. For example, with longitudinal surveys, the same group of people is interviewed at regular intervals, enabling researchers to track changes over time and to relate



them to variables that might explain why the changes occur. Longitudinal research designs describe patterns of change and help establish the direction and magnitude of causal relationships. Measurements are taken on each variable over two or more distinct time periods. This allows the researcher to measure change in variables over time. It is a type of observational study sometimes referred to as a panel study.

11. **Meta-Analysis Design** - Meta-analysis is an analytical methodology designed to systematically evaluate and summarise the results from a number of individual studies, thereby, increasing the overall sample size and the ability of the researcher to study effects of interest. The purpose is to not simply summarise existing knowledge, but to develop a new understanding of a research problem using synoptic reasoning. The main objectives of meta analysis include analysing differences in the results among studies and increasing the precision by which effects are estimated. A well-designed meta-analysis depends upon strict adherence to the criteria used for selecting studies and the availability of information in each study to properly analyse their findings. Lack of information can severely limit the type of analyses and conclusions that can be reached.

A meta-analysis needs to fulfill the following requirements to ensure the validity of findings. The requirements are: (1) clearly defined description of objectives, including precise definitions of the variables and outcomes that are being evaluated; (2) a well-reasoned and well-documented justification for identification and selection of the studies; (3) assessment and explicit acknowledgment of any researcher bias in the identification and selection of those studies; (4) description and evaluation of the degree of heterogeneity among the sample size of studies reviewed; and (5) justification of the techniques used to evaluate the studies.

12. **Observational Design** - This type of research design draws a conclusion by comparing subjects against a control group, in cases where the researcher has no control over the experiment. An observational study allows a useful insight into a phenomenon and avoids the ethical and practical difficulties of setting up a large and cumbersome research project. Observational studies are usually flexible and do not necessarily need to be structured around a hypothesis about what a researcher expects to observe. Data in observational studies is emergent rather than

pre-existing.

### **Conceptual Understanding of Mixed Methods Research Design**

The review of classifications of research designs above shows that there are many designs that can be adopted in conducting research with application in adult education. It further shows that the adoption of a singular research design may not be sufficient in adult education. This, therefore, call for the adoption of mixed-methods design and the deeper understanding of this design. Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches and the use of qualitative and quantitative viewpoints, data collection, analysis, and inference techniques for the broad purposes of breadth and depth of understanding and corroboration (Johnson, Burke, Anthony, Onwuegbuzie, & Turner, 2007).

In other words, mixed methods research design merges or incorporates qualitative and quantitative research and data in a single study (Creswell, 2014). Qualitative data is derived from open ended sources usually without pre-designed replies; whereas, quantitative data comes from close ended data sources like tests, questionnaires or psychological instruments (Creswell, 2014). Hanson, Creswell, Clark, Petska, & Creswell (2005) defined mixed-method research design as the collection, analysis, and integration of quantitative and qualitative data in a single or multiphase study. Similarly, Tashakkori and Creswell (2007) defined mixed method research project as a research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches in a single study or programme of inquiry.

Invariably, a good quality mixed methods research entails mixing at all stages of the study- from phrasing research questions, to sampling, to data collection, to analysis, and, finally, to interpretation (Yin, 2006). Therefore, mixed methods research design offers the scope of blending various research design constituents to seek the best solution to their precise research problem (Johnson & Onwuegbuzie, 2004). Mixed methods research is the sibling of multi-method research in which either solely multiple qualitative approaches or solely multiple quantitative approaches are combined (Schoonenboom & Johnson, 2017). In essence, a mixed methods design is characterised by the combination of at least one qualitative and one quantitative research component. Various expressions are in use for the mixed-methods research design. They are: “integrating”,



“synthesis”, “quantitative and qualitative methods”, “multimethod”, and “mixed methodology”. However, in contemporary writings, the commonly used term is mixed methods (Bryman, 2006, 2012; Tashakkori & Teddlie, 2010).

Corroborating these viewpoints, Sarumi, Lawal and Balogun (2004); Alonge (2010) and Kester (2024) contended that the mixed methods include both qualitative and quantitative questions, whereby a researcher specify them at the beginning of the study and use good variable for the emanation of both qualitative and qualitative research question and hypotheses (Creswell, 2008, cited in Alonge, 2010). In the qualitative research, this research design uses research questions and hypotheses to specifically shape and focus on the objectives of the study. The researcher r write the independent variables first, followed by the dependent variables beginning with descriptive questions, followed by inferential questions or hypotheses that are related to the variables. Hence, this approach calls for mixed method.

Moreover, qualitative research method, according to Alonge, (2010), Osokoya, (2007) and Sarumi (2024) helps researchers to observe social life in its natural setting with a view to enriching the understanding of many social phenomenon that can be realised through other observations methods. Hence, the research observes in a deliberate, well-planned and active way. Qualitative method does not rely heavily on statistical methods. Respondents in qualitative research may not be aware that they are being observed or studied. Qualitative research answers questions on 'why and how?' it doesn't use random sampling but purposive sampling techniques. Mixed-methods research is now globally referred the third path or the third research paradigm or the third methodology movement as a result of the fact that brings together questions from two different philosophies (Teddlie & Tashakkori, 2003; Gorard & Taylor, 2004; Johnson & Onwuegbuzie, 2004; and Johnson & Onwuegbuzie, 2007).

### **Classifications of Mixed- Method Research Design**

Mixed methods design has been classified in literature into three categories (Creswell, 2014). **1. Convergent parallel mixed method** - In convergent parallel mixed method, the researcher merges quantitative and qualitative data to derive a holistic inquiry of the research question. The researcher usually accumulates qualitative and quantitative data simultaneously and then incorporates the data in the interpretation stage of the result. In this design

inconsistencies or contrasting findings are clarified or further explored.

2. **Explanatory sequential mixed method** - In explanatory sequential mixed method, the researcher first executes the quantitative inquiry of the study, analyses the results and then explains the results more elaborately and complement with the qualitative data. This design is termed as explanatory because the data gathered from the quantitative sources are further explained through the qualitative data obtained in the later stage. This design is termed as sequential because the preliminary quantitative stage is followed by the qualitative stage. This type of study is widely accepted in studies with strong quantitative connotation.
  
3. **Exploratory sequential mixed method** - In exploratory sequential mixed method design, the order of investigation starts with qualitative inquiry unlike the explanatory sequential mixed method. In other words, the researcher initiates the study with the qualitative phase in order to collect the viewpoints of the participants. Thereafter, the analysis of the data is used to structure the quantitative phase. The qualitative phase facilitates constructing an instrument suitable for the sample of the study so as to identify variables to use in the quantitative stage. However, the challenging issue of using this method lies in concentrating on the precise qualitative findings to employ and the selection of the sample for both stages of the study.
  
4. **Transformative mixed methods design** - Transformative mixed method is a more sophisticated version of the three basic designs discussed above. Researchers using the transformative mixed method design uses "social justice" or "power" as the umbrella concept incorporating in it both quantitative and qualitative data. In this type of study, data can be arranged simultaneously or successively to facilitate building up of one data set based on other.
  
5. **Embedded mixed method design** - Another more sophisticated version of the three basic designs discussed above is the embedded mixed method design. The central feature of embedded mixed methods design is- either qualitative or quantitative data is incorporated within a bigger design like an experiment and the data sources serve as a facilitating part in the whole design.

6. **Multiphase mixed methods design** - Multiphase mixed methods design is another more sophisticated version of the three basic designs discussed above. This type of design is prevalent in the areas of evaluation and programme interventions. In the design, concurrent or sequential approaches are applied jointly to get the best sense of a long-term programme objective.

### **Philosophical Foundation of Mixed Methods Research**

Pragmatism is widely regarded as the philosophical foundation for mixed method research (Cherryholmes, 1992; Morgan, 2007; Creswell, 2014). Pragmatism originates from the Greek noun "*pragma*" which means "works or deeds" (Steyn, Behr, Bisschoff, & Vos, 1986). Pragmatism is a philosophy that considers the rationality of ideas by their results when put into practice in real life. The source of pragmatism can be found in the ideas of the ancient Greek philosopher, Protagoras (485-415 BC) but was developed through the writings of Charles Sanders Peirce, William James, Mead, and John Dewey (Cherryholmes, 1992). Other notable writers of Pragmatism were Murphy (1990), Patton (1990), and Rorty (1990). Pragmatism deals with the implementation of -"what works" and finding way out from difficulties (Patton, 1990). Pragmatic researchers focus on the research problem rather than concentrating on methods or procedures and utilise all approaches or designs to probe into the issue (Rossman & Wilson, 1985). Pragmatism, as the philosophical foundation for mixed method research, has been justified by Cherryholmes, (1992), Morgan, (2007) and Creswell (2014) as follows:

1. Pragmatism does not limit itself to any specific epistemology or ontology. Following this philosophical viewpoint, researchers pursuing mixed methods employ both qualitative and quantitative standpoints to accomplish their target or goal.
2. Philosophy of pragmatism offers the researchers a flexibility in terms of choosing methods, techniques, and procedures of research that best suit their necessities and objectives.
3. To the pragmatists, the world is not an "absolute unity". Therefore, mixed method researchers rely on various approaches for data collection and analysis rather than affiliating to either qualitative or quantitative design.

4. Pragmatists define truth as what serves the purpose at the time. Likewise, mixed method researchers explore both qualitative and quantitative data to provide the most comprehensive view of their research question.
5. Mixed method researchers need to clarify the objectives of qualitative and quantitative data synthesis.
6. Pragmatists believe research always takes place in social, historical, political, and other backdrops. Therefore, mixed method studies may comprise of a postmodern essence echoing social justice and political objectives.
7. Therefore, for the mixed method researcher, pragmatism facilitates employing various methods, diverse worldviews, along with various types of data collection and analysis techniques.
8. Similarly, the significance of Pragmatism lies in its capacity to emphasise on research problem in research and then adopting diverse approaches to resolve the inquiry (Morgan, 2007; Patton, 1990; & Tashakkori and Teddlie, 2010). The basic assumption of mixed method research is utilising multiple data sources to ensure a holistic understanding of the research problem rather than depending on a single research design-qualitative or quantitative (Creswell, 2014).

### **Justifications for the Adoption of Mixed-Method Research Design**

Tashakkori and Newman (2010) identified seven reasons that make researchers to adopt the mixed-method research design. They are:

1. **Complementarity** - To blend in two diverse but related responses to a single research question using both quantitative and qualitative approaches.
2. **Completeness** - For achieving a holistic view of the phenomenon studied in the research by integrating findings from quantitative and qualitative investigation.

3. **Development** - To utilise the initial phase of the investigation to develop the research questions, data sources or sampling decisions necessary for the later phase of the study.
4. **Expansion** - To expand the findings derived from the first phase of the investigation.
5. **Corroboration/confirmation** - To validate the quality of conclusions derived from one type of study by checking it against mixed designs.
6. **Compensation** - To balance the shortcomings of one method utilizing the supremacy of the other method.
7. **Diversity** - To analyse the varied depictions of the same phenomenon.

The validity and reliability of qualitative results of a mixed methods study augments as the sample of the qualitative phase is derived generally from the quantitative sample (Hesse-Biber, 2014). Hesse-Biber, (2014) further submitted that If identical questions are enquired in both the phases, concern for validity and reliability of research outcomes can be addressed by ensuring – (a) the degree to which research outcomes from identical questions produce identical responses(reliability) and (b) the degree to which their responses seem to address the same fundamental problems to produce an overall unanimity of responses; that is, validity through triangulation.

### **Conceptual Understanding of Adult Education as a Multidisciplinary Field of Study and Practice**

Adult education is globally viewed and perceived as a multidisciplinary field of study and practice (Ojokheta, 2020) based on the expansive definitions and forms associated with it. Even though, there is no single and all-encompassing definition of adult education; however, all definitions of adult education are similar, and emphasise common features and themes. Adult education has been defined as:

1. A field of practice in which adults engage in systematic and sustained learning activities in order to gain new forms of knowledge, skills, or values (Merriam & Brockett, 2007).
2. Any form of learning that adults engage in beyond traditional schooling, encompassing basic literacy to personal fulfilment as a lifelong learner” (Spencer, 2006; Spencer, & Lange, 2014).
3. A fundamental human right 'for the achievement of equity and inclusion, for alleviating poverty and for building equitable, tolerant, sustainable and knowledge-based societies' (UNESCO, 2011).
4. A means to achieve social justice and educational equality while its contribution to economic and social development was considered crucial” (UNESCO, 1985; Knoll, 2014).
5. ...on-going learning processes, formal or otherwise, whereby people regarded as adults by the society to which they belong develop their abilities, enrich their knowledge, and improve their technical or professional qualifications or turn them in a new direction to meet their own needs and those of their society. Adult learning encompasses formal and continuing education, non-formal learning and the spectrum of informal and incidental learning available in a multicultural learning society, where theory- and practice-based approaches are recognised (UNESCO, 1997).
6. The key to the twenty-first century; it is both a consequence of active citizenship and a condition for full participation in society. It is a powerful concept for fostering sustainable development, for promoting democracy, justice, gender equity, and scientific, social and economic development, and for building a world in which violent conflict is replaced by dialogue and a culture of peace based on justice... (UNESCO, 1997).
7. A link with sustainable and equitable human development, job creation,



income generation, democracy and the overall goals of social development goals. Besides, the conference noted the potential contribution of adult and continuing education to the creation of an informed and tolerant citizenry, economic and social development, the promotion of literacy, the alleviation of poverty and the preservation of the environment (UNESCO, 1997).

8. An important tool to tackle social and economic inequality, reduce poverty, prepare global society for new paradigms of sustainable production and consumption, train skilled labour for competitive economies, create the basis for a culture of peace and conviviality, establish more harmonious relationships between human and natural environments, and develop the potential of all people (UNESCO, 2009).
  
9. A significant component of the lifelong learning process, which embraces a learning continuum ranging from formal to non-formal to informal learning" and an "imperative for the achievement of equity and inclusion, for alleviating poverty and for building equitable, tolerant, sustainable and knowledge-based societies". The conference conceptually recognised adult learning and education as very rich and multi-referenced (UNESCO, 2010). Therefore, adult education is a significant component of the humanistic perspective of lifelong learning" (UIL, 2014; UNESCO, 2011).
  
10. A core component of lifelong learning. It comprises all forms of education and learning that aim to ensure that all adults participate in their societies and the world of work. It denotes the entire body of learning processes: formal, non-formal and informal, whereby those regarded as adults by the society in which they live, develop and enrich their capabilities for living and working, both in their own interests and those of their communities, organizations and societies (UNESCO & UIL, 2015).

From these various definitions and perceptions, it can be seen that (1) adult education is a vast, rich, multi-referenced and multidisciplinary in nature; (2) contains many forms and components, (3) promotes participation, inclusion and equity so that no individual is excluded from learning, (4) ensures quality learning opportunities for all men and women of diverse social, cultural, linguistic, economic, educational and other backgrounds, and 5) a

comprehensive canvas for providing education for all, throughout life, as lifelong and life-wide learning (UNESCO Institute for Lifelong Learning, [UIL], 2017). It is in this context that the International Conference on Adult Education, organised by UNESCO in 1997 in Hamburg, Germany, called on all countries of the world to “set amount of time to be devoted to adult education, everywhere and by everyone – 'one hour a day – one week a year (UNESCO/UIL, 1997).

### **Benefits of Mixed-Method Research Design in Adult Education**

There are many benefits of adoption and utilisation of mixed-method research design in adult education in Nigeria's higher education institutions. Such benefits include:

1. Adult education is a multidimensional, interdisciplinary, or transdisciplinary field of study and practice. The adoption and utilisation of one approach to conduct a research in the discipline will definitely not be sufficient enough to enrich the quality of research. Mixed-methods design allows the application of two different methods in the same study. The combination of the two different methods in the same study will enhance a robust design of a research in adult education and a stronger inference.
2. On the philosophical level, mixed methods research brings together questions from two different philosophies or paradigms. While quantitative research is usually guided by the philosophy of positivism; qualitative research is guided by the philosophy interpretivism. This combination allows investigation from both the inductive and deductive perspectives. Therefore, researchers in adult education, through the mixed-method design, will be able to combine theory generation and hypothesis testing within a single study.
3. The use of quantitative and qualitative approaches in combination, which mixed-method encourages, provides a better understanding of research problems and complex phenomena in adult education than the adoption of either approach alone.
4. Mixed-method designs offer multiple ways of looking at the research question in adult education. This will lead to improvement in the quality of conducting research in adult education. This is because, mixed-

method design has the potential to offset the shortcomings of one single method; thereby offering more validity and reliability to the findings of a research.

5. The adoption and utilisation of mixed-method design will enable researchers in adult education develop a broader set of skills that span both the quantitative and the qualitative. The mixed-method design will help such researchers to extend and sharpen their methodological skills to increase the rigour of their conceptual thinking and see new ways to answer research questions.

## **Conclusion**

This paper has provided insights into the importance and the inherent benefits of mixed-methods research design in conducting researches in adult education. Therefore, researchers in adult education must give due consideration to the adoption and utilisation of this third path or third research paradigm globally known as the mixed-methods design and its various classification such as: convergent parallel mixed method, explanatory sequential mixed method, exploratory sequential mixed method, transformative mixed methods design, embedded mixed method design, and multiphase mixed methods design. Therefore, the adoption and utilisation of mixed-methods research design will tremendously enrich the quality and impact of researches conducted in adult education in Nigeria tertiary education institutions.

## **Recommendations**

To ensure the appropriate utilisation of mixed-methods research design in adult education, the following recommendations are made:

1. **Development of policy culture on mixed-methods research design -** Departments of Adult Education in Nigeria tertiary education institutions are advised to develop a policy culture on mixed-method research design which will guide the direction and conduct of researches in each Department. Such policy culture becomes a necessity considering the multidimensional benefits associated with mixed-method research methodology.

2. **Capacity training of academic staff on mixed-methods research methodology** - After the development of the policy culture, Departments of Adult Education in Nigeria's tertiary education institutions are also advised to put in place training programme to help in the development of capacity of academic staff on how to construct mixed methods research design. Such training programme will help enhance the knowledge and understanding of academic staff on conducting researches through mixed-methods design.
  
3. **Capacity training of postgraduate students on mixed-methods research methodology** - Similarly, Departments of Adult Education in Nigeria's tertiary education institutions should put in place continuous training programmes for postgraduate students to help in the development of their capacity on how to construct mixed methods research design in their studies. Such continuous training programmes will help enhance their knowledge and understanding of conducting researches through mixed-methods design.
  
4. **Instituting a policy culture on mixed-methods research methodology by adult education service providers** - Adult education service providers including government's Ministries, Departments, and Agencies, non-governmental organisations, civil society organisations, international development partners are enjoined to institute a policy culture promoting mixed-methods research methodology in their programmes. Such policy culture will give wider recognition to the utilisation of mixed-methods methodology for the conduct of researches.

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