About The Author

Joshua Abah ABAH is a researcher in the Department of Mathematics Education, Federal University of Agriculture, Makurdi, Nigeria. His research interests are Technology of Mathematics Education, Ethnomathematics, Statistical Computing, and Instructional Design. He is happily married to Christy and the marriage is blessed with two children, Prime and Hephzibah.

About The Book

Research in Mathematics Education is a formal, systematic application of the scientific approach to the study of a problem within Mathematics Education to discover new information or expand and verify existing knowledge. This book presents unique approaches to research as well as the professional ethics that are peculiar to the field of Mathematics Education. It elaborates the core aspects of the research process and the application of suitable statistical tools in research reporting. The book is intended to guide students and researchers at all levels on the practice and ethics of research in the noble field of Mathematics Education.
RESEARCH PRACTICE AND ETHICS IN MATHEMATICS EDUCATION

Joshua Abah ABAH

Network for Grassroots Science and Mathematics Education
(The VillageMath Network)
https://ngsme.villagemath.net
RESEARCH PRACTICE AND ETHICS IN MATHEMATICS EDUCATION

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Research is a vital prerequisite for progress in all fields of human endeavours. The practice of research is a systematic exercise that must be conducted in the most professional way. In the field of mathematics education, the focus of research is on the advancement of theory, pedagogy and technology for teaching and learning of mathematics as a school subject. Apart from being the core purview of mathematics educators in the academia, research practice is also a compulsory part of the Benchmark Minimum Academic Standard (BMAS) for students of mathematics education in institutions of higher learning. This implies that courses within the higher education curriculum are predesigned to train students in the technicalities of undertaking research and systematically contributing to knowledge in the discipline. Accordingly, all stakeholders in higher education are concerned about the extent of expertise being displayed in the research works being churned out by students at all levels.

This book, *Research Practice and Ethics in Mathematics Education* derives from the existing concern for sound and ethical research conduct within the field of mathematics education. The book examines the problems of doing research from a very practical point of view, taking the reader through a holistic panorama on the ramification of research practice in mathematics education. It first presents an overview of mathematics education as a field of study. It then uniquely summarizes the key areas of research in the field, affirming that with so many areas still under-researched, candidates and researchers need not
grapple with topic selection nor continue to duplicate already-published research works.

*Research Practice and Ethics in Mathematics Education* characteristically explores the research process and the types of research articles that could be developed from a research exercise. The book also guides the reader through an extensive section-by-section consideration of project and thesis report writing, emphasizing best practices and concise approaches. The aim of this guide on format for research writing is to keep the researcher abreast of the expectations for each segment of the report and provide suggestions on flexibly developing the write-up from the preliminary pages, abstract, introduction, literature review, methodology, results and discussion to references and appendices.

A large portion of this work is dedicated to educating young researchers on ethical practices within the field of mathematics education in particular and in the humanities and social and behavioural sciences in general. Research in these fields often involve human beings and is directed towards advancing human welfare, knowledge and understanding, and towards the study of social and cultural dynamics. Beginning with the concept of academic freedom and obligations of researchers, through some key definitions and a brief history of research ethics, to ethical principles, the book provides a practical exposition on the core ethical guidelines to be followed in the conduct of research works. Materials in this section of the book builds on the foundation of highly reputable documents and codes of conduct for research.

The final chapter of this book is an article on ignorance, bias and malpractice in research, which takes a swipe at statistical and
methodological inadequacies common in research practice. It seeks to raise awareness on the need to continuously review approaches to data analysis and interpretation, and the need to maintain the highest level of integrity in the handling of research data and publishing research findings.

Although the content of this book are specifically addressed to students and practitioners of Mathematics Education, the wideness of discussion is purely multidisciplinary, making it a valuable guide to researchers in all fields of studies. The richness of the presentation of the contents is meant to allow users of the book to seamlessly apply the state-of-the-art guidelines to various areas of research. As such, with Research Practice and Ethics in Mathematics Education in hand, you have a wonderful research companion.

Enjoy your usage of this book. Your feedback is welcomed to improve future editions. Thank you.

Joshua Abah ABAH
2020
# TABLE OF CONTENT

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Page</td>
<td>i</td>
</tr>
<tr>
<td>Copyright</td>
<td>iii</td>
</tr>
<tr>
<td>Preface</td>
<td>iv</td>
</tr>
<tr>
<td><strong>CHAPTER ONE</strong></td>
<td></td>
</tr>
<tr>
<td>Mathematics Education as Field of Study</td>
<td>1</td>
</tr>
<tr>
<td><strong>CHAPTER TWO</strong></td>
<td></td>
</tr>
<tr>
<td>Areas of Research in Mathematics Education</td>
<td>7</td>
</tr>
<tr>
<td>Defining Research in Mathematics Education</td>
<td>7</td>
</tr>
<tr>
<td>Topical Areas of Research in Mathematics Education</td>
<td>10</td>
</tr>
<tr>
<td><strong>CHAPTER THREE</strong></td>
<td></td>
</tr>
<tr>
<td>Broad Types of Research in Mathematics Education</td>
<td>32</td>
</tr>
<tr>
<td>Introduction</td>
<td>32</td>
</tr>
<tr>
<td>Quantitative vs. Qualitative Research</td>
<td>32</td>
</tr>
<tr>
<td>Descriptive Vs Analytical</td>
<td>33</td>
</tr>
<tr>
<td>Applied Vs Fundamental</td>
<td>34</td>
</tr>
<tr>
<td>Conceptual Vs Empirical</td>
<td>35</td>
</tr>
<tr>
<td>One-Time Vs Longitudinal</td>
<td>36</td>
</tr>
<tr>
<td><strong>CHAPTER FOUR</strong></td>
<td></td>
</tr>
<tr>
<td>The Research Process</td>
<td>37</td>
</tr>
<tr>
<td>Introduction</td>
<td>37</td>
</tr>
<tr>
<td>The Research Process</td>
<td>37</td>
</tr>
<tr>
<td><strong>CHAPTER FIVE</strong></td>
<td></td>
</tr>
<tr>
<td>Types of Research Articles</td>
<td>71</td>
</tr>
<tr>
<td>Introduction</td>
<td>71</td>
</tr>
<tr>
<td><strong>CHAPTER SIX</strong></td>
<td></td>
</tr>
</tbody>
</table>
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