



## Role of Research in Education and Challenges of Research in Present Educational Context

Tridip Mandal, Ph.D., Principal  
Sagardighi Teachers' Training College, West Bengal, INDIA

### ORIGINAL ARTICLE



**Author**  
Tridip Mandal, Ph.D.

shodhsamagam1@gmail.com

Received on : 16/10/2023  
Revised on : -----  
Accepted on : 23/10/2023  
Plagiarism : 04% on 16/10/2023



Plagiarism Checker X - Report  
Originality Assessment

Overall Similarity: **4%**

Date: Oct 16, 2023

Statistics: 95 words Plagiarized / 2437 Total words

Remarks: Low similarity detected, check with your supervisor if changes are required.



### ABSTRACT

*Research embodies a scientific and methodical exploration and examination, primarily focusing on unearthing new knowledge within any realm of human understanding. Conversely, education encompasses the entirety of processes through which an individual cultivates skills, attitudes, and other forms of behavior with practical value within the society they inhabit. This paper is fundamentally dedicated to unraveling the pivotal role of research within the realm of education. Research is universally acknowledged as a catalyst for manifold benefits, both at the individual level and for the broader local, regional, national, and international communities that engage with the educational system. The core themes addressed in this paper encompass the characteristics and purposes of research in the realm of education, the procedural steps integral to conducting research, the profound importance of research in the context of education, and, lastly, the challenges that research grapples with in the contemporary landscape.*

### KEY WORDS

*Research, Researcher, Technology, Education, Challenges.*

### INTRODUCTION

The term 'research' is derived from two words, 'Re' and 'Search.' 'Re' signifies repetition or the act of doing something again and again, while 'Search' implies the process of seeking and discovering something. Essentially, research is the systematic and well-planned approach to finding reliable solutions to problems through the collection, analysis, and interpretation of data, as elucidated by Best and Kahn

(1998). Boykin (1972) further defines research in the field of education as a formal, systematic, and intensive process that employs scientific methods of analysis. Educational research primarily aims to methodically investigate educational issues and propose potential solutions to these problems. Within the realm of education, research has played a crucial role in advancing curriculum development and reform, addressing the needs of learners facing challenges, comprehending individual differences and preferences, and adapting instructional methods to suit the unique requirements of each learner.

## Definition of Research

Research is a systematic and organized process of inquiry and investigation that involves the careful collection, analysis, and interpretation of data or information to expand knowledge, answer specific questions, solve problems, or contribute to the understanding of a particular subject or phenomenon. It often follows established methodologies and employs rigorous and objective approaches to generate new insights, validate existing theories, or generate empirical evidence. Research can occur in various fields and disciplines, and it is a fundamental method for advancing human understanding and driving progress in science, academia, industry, and many other areas.

## Definiton of Education

Education is a structured and intentional process of acquiring knowledge, skills, values, beliefs, and cultural understanding through formal or informal means. Education is generally guided by teachers, instructors, or educational institutions, with the goal of nurturing intellectual, social, emotional, and moral development in individuals. This learning process can occur in a range of environments, such as schools, colleges, universities, workplaces, and self-directed learning settings. Its primary goals are to impart knowledge, promote critical thinking, facilitate personal growth, prepare individuals for future roles and responsibilities, and contribute to the overall advancement of society. Education is an enduring voyage that enables individuals to be knowledgeable, competent, and engaged contributors in their communities and the global society.

## Different Forms of Research

Research can take various forms, depending on its purpose, methodology, and the nature of the investigation. Here are some common forms of research:

- **Basic Research:** This type of research is conducted to expand our understanding of fundamental concepts and principles without specific applications in mind. It aims to increase knowledge rather than solve practical problems.
- **Applied Research:** Applied research is centered on resolving particular practical issues or tackling real-world problems. It frequently utilizes the discoveries of basic research to formulate concrete solutions.
- **Quantitative Research:** Quantitative research involves gathering data in numerical format and scrutinizing it through statistical techniques. This method is frequently employed to measure relationships, patterns, and trends.
- **Qualitative Research:** Qualitative research involves gathering non-numerical data, such as text, images, or observations, to explore and understand underlying meanings, motivations, and behaviors.
- **Experimental Research:** Experimental research entails the manipulation of variables to investigate cause-and-effect relationships. This frequently encompasses controlled experiments with both experimental and control groups.
- **Descriptive Research:** This form of research seeks to portray and record the attributes of a subject or phenomenon without making any alterations or manipulations. Surveys, case studies, and observations are common methods in descriptive research.
- **Exploratory Research:** Exploratory research is carried out when there is minimal existing knowledge about a topic. Its aim is to acquire insights and formulate hypotheses for subsequent investigation.

- **Cross-Sectional Research:** Cross-sectional research gathers data from a sample of subjects at the same point in time to analyze and compare various variables.
- **Action Research:** Action research is often conducted by practitioners, such as teachers or professionals, to address specific issues in their work environment. It encompasses a cyclical sequence of planning, executing, observing, and reflecting.
- **Case Study Research:** Case studies delve deeply into a single subject, event, or individual, providing a thorough and in-depth examination of the selected subject.
- **Ethnographic Research:** Ethnographic research involves immersive, in-depth studies of specific cultural groups or communities to gain a holistic understanding of their practices, beliefs, and behaviors.
- **Survey Research:** Surveys gather information from a substantial number of participants through standardized questionnaires or interviews to collect data on opinions, attitudes, or behaviors.
- **Historical Research:** Historical research scrutinizes previous events and phenomena to assess their influence, importance, and pertinence to the current context.
- **Comparative Research:** Comparative research involves studying two or more groups, situations, or entities to identify similarities, differences, and patterns of interest.

## Characteristics of Research in the Field of Education

Research in the field of education possesses specific characteristics that distinguish it from research in other domains. These characteristics help shape the focus, methods, and outcomes of educational research. Some key characteristics of research in the field of education include:

- **Applied Nature:** Educational research often aims to address practical issues and solve real-world problems in educational settings. It seeks to improve teaching methods, enhance learning outcomes, and inform educational policy and practice.
- **Interdisciplinary:** Educational research frequently draws upon insights and methodologies from multiple disciplines, such as psychology, sociology, neuroscience, and pedagogy, to understand the complexities of learning and teaching.
- **Diverse Subjects and Settings:** Research in education covers a wide range of subjects, including students of different age groups, teachers, administrators, and educational institutions. It also encompasses various learning environments, from traditional classrooms to online platforms.
- **Longitudinal Studies:** Many educational research projects involve longitudinal studies, tracking individuals or groups over an extended period to observe developmental changes and the long-term effects of interventions.
- **Mixed Methods:** Educational researchers often employ mixed methods approaches, combining quantitative data (e.g., standardized test scores) with qualitative data (e.g., interviews or observations) to gain a comprehensive understanding of educational phenomena.
- **Policy Implications:** Educational research frequently informs educational policies and practices, helping policymakers make evidence-based decisions to improve educational systems.
- **Ethical Considerations:** Due to the involvement of vulnerable populations, such as children and students, ethical considerations are paramount in educational research. Researchers must ensure the protection and informed consent of participants.
- **Continuous Improvement:** Educational research emphasizes the ongoing evaluation and improvement of educational practices. It seeks to adapt and refine teaching methods and curricula to enhance the learning experience.
- **Peer Review:** Like research in other fields, educational research undergoes peer review, where experts in the field assess the quality and validity of research findings before publication.
- **Practical Applicability:** The goal of educational research is to generate insights that can be put into

practice within educational environments, ultimately benefiting students, educators, and institutions alike. This frequently involves transforming research findings into practical recommendations for action.

- **Assessment and Measurement:** Assessment and measurement are integral to educational research, as researchers develop tools and methodologies to evaluate educational outcomes, such as standardized tests and rubrics.
- **Collaboration:** Educational research often involves collaboration between researchers, educators, policymakers, and other stakeholders to ensure that research findings are relevant and practical.
- **Inclusivity:** Educational research strives to address issues of equity and inclusivity, aiming to reduce educational disparities and create opportunities for all learners, regardless of background or abilities.

## Steps Involved in Research

1. **Identification and formulation of the research topic or problem:** Begin by identifying and shaping the research topic or problem. Narrow down and refine the focus of your study. Initiate a preliminary literature search to gather background information.
2. **Literature Review:** Explore the topic comprehensively to refine your research focus, questions, and methodologies. Engage in a critical examination of existing literature to assess how your research complements prior efforts and to provide a contextual framework. This phase is interconnected with and informs other stages of the research process.
3. **Formulate a Research Hypothesis or Research Questions:** Develop a hypothesis (for experimental research) or research questions (for other types of research) based on your topic and the gaps identified in the literature.
4. **Design the Research Methodology:** Determine the research methodology and approach (quantitative, qualitative, mixed methods, etc.) that best suits your research objectives. Select the data collection methods (surveys, interviews, observations, experiments, etc.) and design data collection instruments.
5. **Collect Data**
  - Collect data according to your chosen methodology and instruments.
  - Ensure data collection methods are ethical and reliable.
6. **Organize and Analyze Data**
  - Organize and clean collected data for analysis.
  - Utilize suitable data analysis methods, including statistical analysis (for quantitative data) or thematic analysis (for qualitative data).
7. **Generalisation and write-up:** The researcher establishes a connection between the gathered evidence and the research questions, formulates conclusions regarding the questions or hypotheses, and recognizes any limitations inherent in the study.

## Importance of Research in Education

Research plays a crucial and multifaceted role in the field of education, contributing to its continuous improvement and development. Below are key points emphasizing the significance of research in education:

- **Informed Decision-Making:** Educational research provides empirical evidence and data that educators, policymakers, and administrators can use to make informed decisions about curriculum, teaching methods, and educational policies. It aids in ensuring that decisions rely on evidence rather than presumptions.
- **Improving Teaching and Learning:** Research identifies effective teaching strategies, instructional methods, and classroom practices that can enhance student learning outcomes. Teachers can use research findings to improve their teaching techniques and adapt to the diverse needs of students.

- **Enhancing Student Outcomes:** Educational research helps identify and address factors that affect student success, such as early interventions for at-risk students, strategies for reducing dropout rates, and methods for promoting academic achievement.
- **Curriculum Development:** Research informs the design and revision of educational curricula. It ensures that curricular content is relevant, up-to-date, and aligned with educational goals and standards.
- **Addressing Educational Inequities:** Research sheds light on disparities in educational opportunities and outcomes among different groups of students. It can inform policies and interventions aimed at reducing educational inequalities.
- **Assessment and Accountability:** Research contributes to the development of valid and reliable assessment tools, which are essential for measuring student progress and ensuring accountability in education systems.
- **Professional Development:** Educators can benefit from research by engaging in continuous professional development. Research findings help teachers stay updated on the latest educational theories and best practices.
- **Policy Formulation:** Policymakers use educational research to design and enact policies aimed at enhancing the overall quality of education. Research-based policies have the potential to positively impact educational systems at the local, regional, and national levels.
- **Innovation and Experimentation:** Research encourages innovation in education. It allows educators to experiment with new approaches, technologies, and teaching methods to better meet the evolving needs of students.
- **Evidence-Based Practices:** Educational research promotes the use of evidence-based practices, ensuring that educational interventions are supported by empirical data and are more likely to be effective.
- **Global Competitiveness:** In an increasingly interconnected world, education research helps countries remain competitive by fostering a well-educated workforce equipped with the skills and knowledge needed for the global economy.
- **Continuous Improvement:** The cyclical nature of research encourages ongoing evaluation and improvement in education. Research findings lead to new questions, creating a cycle of continuous improvement.

## Challenges of Research in Present Educational Context

Research in the present educational context faces several challenges, reflecting the evolving nature of education and the broader research landscape. Some key challenges include:

- **Access to Quality Data:** Obtaining access to reliable and comprehensive data can be challenging, particularly when researching educational systems, student outcomes, or institutional practices. Privacy concerns and data protection regulations may also restrict access to certain information.
- **Funding Constraints:** Securing research funding can be highly competitive and challenging. Limited resources may hinder researchers' ability to conduct large-scale studies or carry out long-term research projects.
- **Changing Educational Landscapes:** Rapid changes in educational technologies, teaching methods, and curriculum development present challenges in keeping research current and relevant. Researchers must adapt quickly to stay aligned with these changes.
- **Diverse Student Populations:** Increasing diversity in student populations, including students with varying learning needs and cultural backgrounds, requires researchers to address a broader range of educational contexts and needs.
- **Online and Hybrid Learning:** The shift towards online and hybrid learning models, accelerated by events like the COVID-19 pandemic, poses challenges for researching the effectiveness of these methods and ensuring equitable access.

- **Ethical Considerations:** Research involving vulnerable populations, such as children or marginalized groups, requires stringent ethical considerations. Obtaining informed consent and ensuring participant confidentiality can be complex.
- **Measurement and Assessment Issues:** Developing valid and reliable assessment tools that accurately measure learning outcomes can be challenging. Researchers must continually refine these instruments to ensure accuracy.
- **Policy and Implementation Gaps:** Bridging the gap between research findings and policy implementation can be challenging. Even when evidence-based practices are identified, barriers may prevent their widespread adoption in educational settings.
- **Influence of Politics:** Educational research can be influenced by political agendas, which may impact the direction, funding, and dissemination of research findings. Objective, unbiased research can face political hurdles.

## CONCLUSION

In summary, research in education is indispensable for improving teaching and learning, addressing educational disparities, and shaping policies and practices that enhance the quality and effectiveness of educational systems. It is a driving force behind progress and innovation in education, ultimately benefiting students, educators, and society as a whole. Research enables us to gain insights into effective practices, understand their underlying mechanisms, assess both short-term and long-term consequences, and provide a reasoned basis for decisions and actions. It also helps in proactively identifying and addressing unexpected challenges, fostering continuous improvement. Therefore, the thoughtful application of research in education is of paramount importance. Furthermore, there is a need for ongoing research efforts to identify and tackle the challenges that arise, offering potential solutions and implementation strategies to enhance the education sector's quality and contribute to the well-being of our education system and society as a whole.

## REFERENCES

1. Alexander P.A. and Dochy F.J.R.C., "Conceptions of Knowledge and Beliefs: A Comparison across Various Cultural and Educational Communities", *American Educational Research Journal*, Vol. 32, No. 2, pp. 413-442, 1995.
2. Best, J.W., & Kahn, J.V. (1998). *Research in Education*. Retrieved December 20, 2017 from <http://ww2.odu.edu/~jritz/attachments/reined.pdf>
3. John W. Best and James V. Kahn, "Research in Education", 5th Edition, Prentice-Hall, 1986.
4. Kapur, Radhika. (2018). Significance of Research in Education. Retrieved from [https://www.researchgate.net/publication/323833808\\_Significance\\_of\\_Research\\_in\\_Education](https://www.researchgate.net/publication/323833808_Significance_of_Research_in_Education).
5. Kothari C.R., "Research Methodology, Methods and Techniques", 2nd Edition, New Age International Publishers, 2014.
6. Morris, B. (1967). The Role of Research in Education. *The Irish Journal of Education/Iris Eireannach an Oideachais*, 1(1), 5-14. Retrieved from [www.jstor.org/stable/30077130](http://www.jstor.org/stable/30077130)
7. Mortimore, P. (2000). Issues in Education Research: Problems and possibilities. *Oxford Review of Education*. 26:3-4, 503-507.
8. Ponce, Omar. & Pagán Maldonado, Nellie. (2017). Educational research in the 21st century: challenges and opportunities for scientific effectiveness. *International Journal of Educational Research and Innovation*. 8. 24-37.
9. Pramodini, D.V., & Sophia, K.A. (2012). Evaluation of Importance of Research Education. *International Journal of Social Science & Interdisciplinary Research*, 1(9), 1-6. Retrieved from <http://indianresearchjournals.com/pdf/IJSSIR/2012/September/1pdf>.

\*\*\*\*\*