



**ORIGINAL RESEARCH PAPER**

**Education**

**THE ROLE OF ARTIFICIAL INTELLIGENCE IN SHAPING THE CONTEMPORARY WORLD: SITUATING RESEARCH IN THE AI ERA**

**KEY WORDS:** artificial intelligence, interdisciplinary cooperation, cutting-edge methodologies and approaches

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**ABSTRACT**

Modern society is being transformed by artificial intelligence (AI), which has emerged as a powerful force. This essay examines the varied ways in which AI has influenced contemporary life and emphasizes the significance of contextualizing research in the AI era. As AI technology develops quickly, it will have a significant impact on a variety of industries, including healthcare, finance, education, transportation, and more. This article presents a thorough review of how AI is affecting different industries, stressing the advantages, difficulties, and ethical issues that come with AI integration. It also emphasizes how important research is to comprehending, utilizing, and properly managing AI's impact on society. To solve difficult problems and realize the full potential of AI, the era of AI requires interdisciplinary cooperation as well as cutting-edge methodologies and approaches. To ensure that AI technologies benefit all members of society equally, researchers are faced with tackling concerns related to bias, transparency, accountability, and privacy.

**INTRODUCTION**

According to Grinnell, "Research is a structured inquiry that utilizes acceptable scientific methodology to solve problems and create new knowledge that is generally applicable."

Research in education as in the other fields is necessary for providing useful and dependable knowledge, for continuously contributing in the direction of making it more effective. Researching is moreover an essentiality in contemporary time which demands in depth understanding of various concerns relating to research in education. The changing conception of education also strives for further researches in the field of education. The International Commission of Development of Education in its report 'Learning to be' emphasizes:

Education from now on can no longer be defined in relation to a fixed content which has to be assimilated, but must be conceived of a process in the human being, who thereby learns to express himself, to communicate and to question the world, through his various experiences and increasingly-all the time to fulfill himself. It has strong roots not only in economics and sociology but also in findings from psychological research which indicates man is an unfinished being and can only fulfill himself through constant learning. If this is so, then education takes place at all ages of life, in all situations and circumstances of existence. It returns to its true nature, which is to be total and lifelong & transcends the limits of institutions programmes and methods imposed on it down the centuries.

Research in education greatly influences the classroom practice procedures and outcomes of an educational setting. Much of the practice in education relies heavily upon what is discovered through researches. Research method varies from the fairly normal, based upon clinical impressions, to the strictly scientific, adhering to the conventional expectation of scientific procedures.

While conducting a research it should be implied that the process being applied is being undertaken within a framework of a set of philosophies, using procedures methods and techniques that have been tested for their validity and reliability and is unbiased and objective. The concept of validity ensures that correct procedures have been applied to find answers to the research question. Reliability refers to the quality of a measurement procedure that provide accuracy. Unbiased and objective means that the conclusion drawn are unbiased and free from one's vested interest.

Qualitative research in education is concerned with qualitative phenomena i.e. relating to quality or kind. For instance, when we are interested in investigating the reason for human behaviour (i.e. why people think or do certain things) in that case we employ qualitative approach. This type of research covers the underlying motives and desires using in-depth interviews for the purpose.

**Distinctive Qualities Of Qualitative Research In The AI Era**

Usually in India quantitative researches are conducted which are quantifiable in numeric terms but the researches who prefer to conduct qualitative research take into consideration the human condition and research issue. In qualitative research the distinctive set of features makes the research design different one way or the other. The unique characteristics of qualitative research are:

1. **Absence Of Truth-** For conducting the qualitative research the researcher does not gather the information in a vacuum but in different context due to which the data is considered as the result of various situational factors.
2. **Importance Of Context-** A major factor that plays an important role in qualitative research is the context that is kept in the mind of the researcher for obtaining the data so as to conduct the research.
3. **Researcher-As- Instrument-** Here the researcher acts as an instrument for collection of data. There is closeness of researcher with the participants as well as with the subject matter which provides an in-depth understanding to the researcher by which he/she is able to analyse and interpret the outcomes.
4. **Importance Of Meaning-** A the qualitative researches gives emphasis on the context in the same way the effort is made to draw meaning from data as per the context. The researchers draw meaning in terms of multiple sources, the context, the language, the impact of relationship between participant and researcher, the chances of participant bias and the chances of researcher bias.
5. **Participant-Researcher Relationship-** It is important that relationship between participant and researcher must be established while conducting the research as it will help the researcher in collection of data and will also make an impact on research outcomes.

**Contemporary Issues Needed To Be Researched In The AI Era**

India as a country is said to be as a multi-cultural, multi-religious and multi-linguistic society. As each state has its own unique identity therefore dealing with various aspirations of

people can be challenging task to the government of India. The various issues in contemporary context are outlined here: lack of quality education, corruption in education, no proper value education, poor women's education, lack of facilities, curriculum issues, public school workforce absenteeism, wrong societal outlook, government policies and spending, technology and education, assessment and attainment, school reform, health and child development, education and the curriculum, lack of funds, expensive higher education, neglect of Indian languages, problem of brain drain, mass illiteracy, wastage of resources, general education oriented and problems of primary education.

### Concerns Related To Conducting Qualitative Research In The AI Era

Research can be conducted using quantitative as well as qualitative methods. The difference between these is crucial. In present times, due to emphasis on numerical data most researches are quantitative in nature. Quantitative research results in valuable information that significantly contributes in change in practice, but their predominance can sometimes conceal the valuable contribution that may be reflective from qualitative research practices.

Qualitative research are more subject specific or subject-centered in which the preferences and opinions of the subject are honoured. Qualitative research in education prospects to ask, listen, learn from subject's responses and tries to incorporate these into delivery of instruction. Essentially, the aim of this approach is to clearly understand a specific situation or phenomena from the viewpoint of those (people) who've actually experienced it. Here, the researcher is open to listening and learning from people and gaining first-hand experience of any event, situation or a set of phenomena. While conducting a qualitative study there are a few concerns that need to be taken care of in order to attain the predetermined goals.

### Mistakes Committed In Doing Qualitative Research In The AI Era

- 1. Misunderstandings About Rigor In Qualitative Research-** It is mistaken by the people that qualitative research doesn't require in-depth study, infact the qualitative research relies on triangulation, duration and depth.
- 2. Neglecting The Rationale For Each Method-** In case of quantitative research the statistical method is adopted as per the type of data i.e. whether it is nominal, ordinal, interval or ratio. In the same way, the researchers need to select a particular method for the purpose of using it in qualitative research.
- 3. Avoiding Numerical Data-** Misconception arises in the mind of the researcher that the qualitative researchers only relies on the words rather than numbers. But in reality, the qualitative researches are being designed which adopts mixed method that is quantitative and qualitative approaches.
- 4. Considering Participants In Quantitative Terms-** At the time of conducting qualitative researches it is not necessary that the number of participants are large, random and representative while these things are taken into consideration at the time of conducting quantitative researches so as to generalize the results drawn from sample to the population.
- 5. Shunning Computer Analysis-**As the quantitative researches requires the use of SPSS for the purpose of data analysis and interpretation in the same way the researcher require software so as to interpret the qualitative data.

### Role Of AI In The Contemporary World

The field of education has been significantly impacted by AI, which has changed many elements of teaching, learning, and managerial actions. Following are the major roles AI plays in

the contemporary educational landscape:

- 1. AI-Driven Tutoring Systems:** It can assist as virtual tutors by giving learners quick feedback and help as they work through challenges and tasks. These tools can be used to track development, identify problem areas, and reinforce learning.
- 2. Content Creation and Curation:** AI algorithms can generate instructive content, such as quizzes, tests, and study materials, reducing the load on educators and providing students with supplementary resources.
- 3. Natural Language Processing (NLP):** AI-powered NLP applications can assist in language learning by offering language translation, pronunciation correction, and grammar suggestions, making language learning more interactive and effective.
- 4. Administrative Efficiency:** AI can reorganise administrative tasks in educational institutions, such as student enrolment, scheduling, and resource allocation. This can free up time and resources for educators and administrators to focus on providing quality education.
- 5. Smart Classrooms:** AI can enhance the traditional classroom experience by incorporating smart devices and tools. Interactive whiteboards, AI-powered educational games, and virtual reality (VR) experiences can involve learners and make learning more immersive.

### CONCLUSION

In educational research, obtaining information relevant to the research problem generally involves specifying the type of evidence needed to test theory to evaluate a program or to precisely assess meaning related to observable phenomena. Usually, a common mistake made by the researcher is that they do not give a critical thought about what information is required to address the research problem. With qualitative research design, a researcher assemble a compete and good judgment of human behaviour and the underlying reasons that govern such behaviour. Researcher can use such methods for having a comprehensive understanding of various factors which drive people to behave in a particular manner. Such research also demands special guidance from experts. It represents a broad framework for conducting educational studies. The main focus of qualitative studies in education is on holistic description of learners and teachers in naturalistic setting. It usually involves a complex theoretical or philosophical framework. The domain of qualitative research is to search the 'why' and not the 'how' of the research problem. In qualitative approach extensive analysis of unstructured information is used. It does not just rely on statistics or numbers likewise in quantitative research but uses instruments like interview transcripts, open-ended survey responses, e-mail, notes, feedback forms, photos and videos.

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