Trends of Mixed Methods Researches of Education in Indian Context

Deepti Kumari¹, Dr. Ajay Surana²

¹Research Scholar, Department of Education, Banasthali University, Rajasthan, India
²Associate Professor, Head of Department, Department of Education Banasthali University, Rajasthan, India

Abstract: There have been numerous waves in research, these are quantitative, qualitative and mixed methods research. Mixed method research is not new in education but in Indian context that was less compared to world scenario. When conducting mixed methods research that involves collection, analyzing and interpreting quantitative and qualitative data in a single study or in a series of studies that investigate the same phenomenon for better understanding. The present paper based on to find out the mixed methods researches was conducted in Indian Universities. After finding the mixed methods researches that can analyzed according to time period and areas of educational research. Paper also presents the basic concept, history, advantages and types of mixed methods researches. Results reflect the position of mixed methods researches in India.

Keywords: History, Definition, Advantages and Types of Mixed Methods Research, Scope and Position of Mixed Methods Research.

I. INTRODUCTION

The fundamental purpose of educational research is to increase our understanding of educational process, practice and issues. For most of the history of educational research, the methods of science have been used to obtain these understanding. There were well defined widely accepted procedures for stating research topics, carrying out the research process, analyzing the resulting data and verifying the quality of the study and its conclusions. For the most part, the accepted research procedures were based on a quantitative approach, qualitative approach and mixed methods approach to conducting and obtaining educational understandings.

II. DEFINITIONS OF MIXED METHODS RESEARCH

The popularity of mixed methods has grown exponentially during the past 30 years; and mixed methods research has become popular as the newest development in research methods and in approaches to “mixing” quantitative and qualitative research.

A mixed methods research design is a procedure for collecting, analyzing, and “mixing” both quantitative and qualitative methods in a single study or a series of studies to understand a research problem (Creswell & Plano Clark, 2011).

By using this design, there is need to understand both quantitative and qualitative research. Mixed methods research is not simply collecting two distinct “strands” of research – quantitative and qualitative. It consists of merging, integrating, linking, or embedding the two “strands”. In short, the data are “mixed” in a mixed methods study.

According to Valerie Caracelli “A mixed method study is one that plan fully juxtaposes or combines methods of different types (qualitative and quantitative) to provide a more elaborated understanding of the phenomenon of interest (including its context) and, as well, to gain greater confidence in the conclusions generated by the evaluation study”.

According to John Creswell “Mixed methods research is a research design (or methodology) in which the researcher collects, analyzes, and mixes (integrates or connects) both quantitative and qualitative data in a single study or a multiphase program of inquiry.

Above definitions reveals that mixed methods research is formally defined here as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study.

III. ADVANTAGES OF MIXED METHODS RESEARCH

On the basis of definitions of mixed methods research given by the researcher there are many advantages of mixed methods researches among them:-

- It allows researchers to be more confident of their results.
- It can lead to thicker, richer data.
- It can lead to synthesis or integration of theories.
- It could also provide more comprehensive answers to research questions, going beyond the limitations of a single approach.

A number of factors have contributed to the evolution of mixed methods research. A combination of both forms of data can provide the most complete analysis of problems. Researchers can situate numbers in the contexts and words of participants, and they can frame the words of participants with numbers, trends, and statistical results.

IV. TYPES OF MIXED METHODS RESEARCH
There were various types of mixed methods research but the popular approaches used in mixed methods research are:

- **Convergent Parallel Design**

- **Embedded Design**

- **Explanatory Design**

- **Exploratory Design**

As with the other research approaches, mixed methods research is not without controversy. There are concerns about the time and expertise necessary to combine quantitative and qualitative research with one study, as well as the resources and funding necessary to conduct large scale, more complicated projects. Some argue that often the only way to properly conduct a mixed methods study is to create a team in which some members are skilled at conducting quantitative research and others qualitative research.

V. OBJECTIVES

The objectives of the paper are:

- To find out the mixed methods researches were completed in Indian Universities.
- To categorize the researches according to approaches used in Mixed Methods research, time period and areas of educational research.

VI. HYPOTHESIS

On the basis of objective of the paper the following hypothesis were formulated:
1. It is possible to identify number of mixed methods researches completed in different Universities such as:
   - Bundelkhand University, Jhansi
   - Dr. Bhim Rao Ambedkar University, Agra
   - Kanpur University, Kanpur
   - CCSUniversity, Meerut
   - Aligarh Muslim University, Aligarh

2. It is possible to categorize researches according to approaches used in mixed methods research.

3. It is possible to analyze mixed methods researches on the basis of:
   - Time Period
   - Areas of Educational Research

VII. OPERATIONAL DEFINITION

- **Mixed Methods Research**
  Mixed methods research is a research design with a methodology and methods. As a methodology, it involves collecting, analyzing, and mixing qualitative and quantitative approaches at many phases in the research process.

- **Time period**
  In this study to find out trends in researches with mixed methods approach, the researcher was divided time period into two phases i.e.-
  - Before Year 2000
  - After Year 2000

- **Areas of Educational Research**
  Educational researches concern with almost every field of education to solve the educational problems such fields are educational psychology, educational philosophy, educational sociology, educational technology, educational guidance and counseling and many other field.

- **Approaches used in Mixed Methods Research**
  There was various approaches used in mixed methods research but the present study consists:
  - Convergent parallel design
  - Embedded design
  - Explanatory design
  - Exploratory design

VIII. DELIMITATIONS OF STUDY

Due to the limitations of time, cost, energy and distance, the present research study considered only mixed methods researches completed in various universities of Uttar Pradesh such as –

- Bundelkhand University, Jhansi
- Dr. Bhim Rao Ambedkar University, Agra
- Kanpur University, Kanpur
- CCSUniversity, Meerut
- Aligarh Muslim University, Aligarh

IX. POPULATION

In this study population consists of all the research reports of education in the various Universities of Uttar Pradesh.

X. SAMPLE AND SAMPLING PROCESS

Sample of the study consists of all the mixed methods researches completed in 5 Universities of Uttar Pradesh.

In this study on the basis of objectives there was need of selecting mixed methods researches and also selecting Universities (as per above mentioned criteria). So, purposive sampling process was used.

XI. RESEARCH METHOD

To achieve the objectives of the study, the Survey research method was used.

XII. ANALYSIS OF DATA

After collection of data from the self made check list it can be analyzed according to objective of the paper. Mixed Method Researches in 5 Universities of Uttar Pradesh (i.e. Bundelkhand University, Dr Bhim Rao Ambedkar University, CCSUniversity, Kanpur University, Aligarh Muslim University) that can show below according to hypothesis of the study:

**Hypothesis 1:** It is possible to identify number of mixed methods researches completed in different universities of Uttar Pradesh such as:

- Bundelkhand University, Jhansi
- Dr. Bhim Rao Ambedkar University, Agra
- Kanpur University, Kanpur
- CCSUniversity, Meerut
- Aligarh Muslim University, Aligarh

**Total no. of MMR in above mentioned Universities are 156**

After identification of mixed method educational researches, the next step was to categorize researches on the basis of time period, areas of educational researches and approaches used in mixed methods research. The categorization process was given below:

**Mixed Methods Educational Researches (MMR) with respect to Time Period**
Categorizations of Time period was as follows-

- Before Year 2000
- After Year 2000

Table No. -1 Showing Frequencies of Mixed Methods Educational Researches with respect to Time Period

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Before 2000</th>
<th>After 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of MMR</td>
<td>66</td>
<td>90</td>
</tr>
</tbody>
</table>

From the table 1, 66 mixed methods educational researches were completed before year 2000 and 90 mixed methods educational researches were completed after year 2000.

Areas of Educational Research in Mixed Methods Educational Researches

Categorizations of Areas of Educational Researches was found as follows-

Areas of Educational Research

Table No. -2 Showing Frequencies of Mixed Methods Educational Researches with Respect To Areas of Educational Research

<table>
<thead>
<tr>
<th>Areas of Educational Research</th>
<th>EGC</th>
<th>EAM</th>
<th>TE</th>
<th>ET</th>
<th>CCM</th>
<th>E. PSY</th>
<th>E. SOCIO</th>
<th>E. PHIL</th>
<th>PHY. EDU</th>
<th>EDU. DEV</th>
<th>LAN</th>
<th>SCI</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of MMR</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>11</td>
<td>5</td>
<td>81</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

From the table 2, it was clear that maximum (81) frequency of mixed method educational researches was completed in the area of educational psychology and 32 frequencies of mixed method educational researches was completed in the area of educational sociology only one- one mixed method educational researches was completed in the area of educational development and teacher education.

Approaches used in Mixed Methods Educational Researches (MMR)

Categorization of approaches used in Mixed Methods Educational Researches were found as below-

- Convergent Parallel Design
- Embedded Design
- Explanatory Design
- Exploratory Design

Table No. -3 Showing Frequencies of Approaches used in Mixed Methods Educational Researches

<table>
<thead>
<tr>
<th>Approaches Used in Mixed Methods Educational Researches</th>
<th>Convergent Parallel Design</th>
<th>Embedded Design</th>
<th>Explanatory Design</th>
<th>Exploratory Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of MMR</td>
<td>21</td>
<td>28</td>
<td>59</td>
<td>48</td>
</tr>
</tbody>
</table>
From the table 3, it was clear that in 59 mixed methods educational researches where explanatory design was used. In 48 mixed methods educational researches where exploratory design was used. In 21 mixed methods educational researches where convergent parallel design was used. In 28 mixed methods educational researches where embedded design was used. It was clear that in maximum no. of mixed methods educational researches where explanatory & exploratory design was used.

XIII. RESULTS AND DISCUSSION

According to the above categorization of mixed methods educational research that revealed that only 156 mixed methods educational researches were completed in five Universities of Utter Pradesh that means that frequency was not as much as suitable for world scenario of mixed methods research. When see the mixed methods research with respect to time period then the data expressed that mostly mixed methods researches were completed after year 2000 as compare to before year 2000. Maximum number of mixed methods research completed in the area of educational psychology and educational sociology but there are various areas of educational research where this approach can also be adopt for better presentation and interpretation of data. Mixed methods research with respect to approaches used in MMR that revealed that maximum mixed methods researches were completed with explanatory approach and with exploratory approach.

XIV. CONCLUSION

A number of factors have contributed to the evolution of mixed methods research. The complexity of research problems calls for answers beyond simple numbers in a quantitative sense or words in a qualitative sense. A combination of both forms of data can provide the most complete analysis of problems. With the mixed methods approach, researcher present their work more accurately and systematic. In Indian context its necessary to do more researches with mixed methods approach.

Lastly As with the other research approaches, mixed methods research is not without controversy. There are concerns about the time and expertise necessary to combine quantitative and qualitative research with one study, as well as the resources and funding necessary to conduct large scale, more complicated projects.

REFERENCES