CHAPTER I
CONCEPTUAL FRAMEWORK

1.1 INTRODUCTION

The progress of a nation depends upon the quality of the research done in the crucial areas of societal importance. The quality research is the concern of all, particularly, the institutes of higher education in any country. Research is a truthful, recursive, systematic and purposeful activity. It uses the previously known facts to establish a new one, explore new paths for development in all the walks of life (Best & Kahn, 2000). It enhances the efficiency of all the agencies engaged in the welfare and the upliftment of man. Among the varied areas of research, Educational Research has a prominent place that deals with a systematic attempt to gain a comprehensive understanding of the educational process including pedagogy, with a view to improving efficiency and effectiveness of pedagogy and related areas (Kerlinger, 1973).

Further, researches cannot be done in isolation, it should be cumulative, synchronized with other researchers and should greatly be based on research gaps existing in the earlier researches (Koul, 1997; Sidhu, 2004). The finding of research in the form of research report called a thesis or dissertation, is to be submitted to the affiliating agencies to pursue academic degree, viz., Master of Education (M.Ed.), Master of Philosophy in Education (M.Phil. in Education) and Doctor of Philosophy in Education (Ph.D. in Education). At the same time, the minor and major research projects are also conducted by experts in the various fields of Education to increase the existing pool of knowledge. This research report contains a detailed account of research experience that provides— a medium of dissemination of research findings; locating research gaps; paving the path for future research; learning experience for novel researchers; and exchange of experience among research workers, scholars, teachers, policymakers & all those interested ones in Educational Research.

Considering poor condition in the dissemination of the research findings of educational research, poor identification of the research gaps, non-scattering of findings of the researches, intentional duplication of the researches, Plagiarism, Non-uniform growth in different areas of the educational research & lack of reviews and trend analysis of the researches done, meager attempts for synthesizing research

findings as reported in different studies viz. Buch (ed.), 1974; Glass, 1976; Buch (ed.), 1979; Glass, McGraw & Smith 1981; Buch (ed.), 1987; Sujatha, 1988; Cooper, 1989; Sahoo, 1992; Panda, 1992; Cooper & Hedges, 1994; Prasad & Ramakrishnan, 1999; Venkataiah, 2001; Kaul, 2006; Mishra, 2002; Goel et.al., 2007; Gupta and Koul, 2007; Sekar, 2008; Meduri & Satyanarayan, 2008; Dinkar, Kothari & Shelat, 2009; Yadav 2011; and Desai, Singh & Yadav, 2011; Eğmir, Erdem and Koçyiğit, 2017 and Livingston & Flores, 2017; the present piece of research was taken up which deals with reviewing the Educational Research carried out at School of Education, Devi Ahilya Vishwavidyalaya, Indore.

The present study is an attempt, to direct the future research in the light of empirical pieces of evidence, with reference to the researches that already been carried out, while reviewing and trend analyzing the same. The present study purports to locate and to fill research gaps in the different aspects related to Educational research. Before getting into the process, terms like Research, Educational Research, Trend, Trend Analysis and Research Synthesis need elaboration and are clarified in the following sections.

1.2   RESEARCH: CONCEPT, MEANING AND IMPORTANCE

Research means a search for facts, answers to questions and solutions to problems. It is a purposeful organized inquiry (Emroy, 1976). The Oxford Dictionary describes research as careful search or inquiry, endeavor to discover new ideas by scientific study, a course of critical investigation. Kerlinger (1973) defines research as, "…systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena." At the same time, Research is an endless quest for knowledge. It is not only an unending search for truth which brings to light new knowledge but to corrects previous errors and misconceptions and adds in an orderly way to the existing body of knowledge (Singh & Desai, 2009). Research is proved to be an essential and powerful tool in leading man towards progress. Without systemic research and its application, there would have been very little or no progress. All significant research leads to progress in one field of life or others. Every other day new ways of doing things enter into our lives. All of these and many more are the fruits and rewards of our research effort. Research shows us the way in difficulties, gives sophisticated methods and techniques for every

profession, scientific understanding of human behavior, knowledge explosion (Good, 1959).

According to Cooper and Schindler (2003) research is conducted to reveal answers to specific questions related to action, performance or policy needs. It is a deliberate effort to collect information, to sift it, to analyze it to put it together and to evaluate it. Research is a formal systematic application of the scientific method to the study of problems, developing generalizations, principles, and theories (Krishnaswami & Ranganatham, 2005). Regarding the importance of research, it extends the knowledge of human beings, social life, and the environment by unraveling the mysteries of nature and verifying, testing the existing facts and theories (Van Dalen & Meyer, 1962). It also helps in analyzing the interrelationships between the entities and attributes and providing the solutions to the problems in routine and intellectual life (Good, 1959). Further, Good & Scates (1954) concluded that the purpose of the research is to serve men. So, the research opens up the path for new innovation, helps in problem-solving, serving society, making generalizations and understanding and theorizing phenomena accurately to develop methods & techniques of doing things differently, enhancing efficiency. Apart from many areas of research, Education is one of field dealing with the issues and problems related to pedagogy, a science and art of teaching and learning.

1.3 EDUCATIONAL RESEARCH: CONCEPT, MEANING, AND IMPORTANCE

Education is an Interdisciplinary subject, unique in its interface with natural sciences and social sciences, and with various other disciplines under the humanities. As a subject of study, education, being in a state of flux, is evasive (Buch, 1974). Neither is its boundaries well-demarcated nor is it's content areas distinctly defined. Any effort to classify educational research invariably involves overlapping and results in vagueness, confusion, and controversies (Buch, 1991).

While defining, Educational Research is a formal systematic application of the scientific method to study educational problems (Best & Kahn, 2000). Further, Travers (1969) defines Educational Research as an activity which is directed towards the development of the science of behavior in educational institutions. The ultimate aim of such a science is to provide knowledge that will permit the educator to achieve his goals by the most effective methods. Adding further, Mouly (1964) defines

Educational Research as, "The systematic and scholarly application of the scientific method interpreted in its broader sense, to the solution of the educational problem, conversely any systematic study designed to promote the development of education as a science can be considered as Educational Research." In words of Best & Kahn (2000), "Educational Research is that activity which is directed towards the development of a science of behavior in an educational situation with an aim to improve pedagogical practices. The ultimate aim of such a science is to provide knowledge that will permit the educator to achieve his goals by the most effective methods."

Educational Research in India is relatively a phenomenon of post-independent India (Nagaraju, 2004). The identity of Educational Research had come into focus in recent decades in the developed countries (Thomas, ed., 1972; Dockrell and Hamilton, eds., 1980; Burgress, ed. 1985). Gowin (1972) proposed six criteria to decide whether a piece of research is Educational Research or not. They are the *social setting, the concept of education, the educative process, the content of instruction, the context of inquiry and the person conducting research (Buch, 1974).*

Summing up the above, it can be concluded that Educational Research is that activity that is directed towards the development of a science and art of behavior in an educational situation. It provides knowledge that permits the educator to achieve his goals by the most effective methods. It can be applied to the selection and training of teachers, to the design of textbooks and other learning aids, to the design of the classroom, to help the pupil make long-range plans. Thus, Educational Research refers to a systematic attempt to gain a better understanding of the educational process, with a view to improving its efficiency. It is an application of the scientific method to the study of educational problems having its own set of significances.

1.4   SIGNIFICANCE OF THE EDUCATIONAL RESEARCH

Research in Education, termed as Educational Research, is essential for providing useful and dependable knowledge through which the process of education can be made more effective (Koul, 1997). In this unprecedented growth of the world around, it leads to enhance complexities and issues in all walks of life and education is not an exception. Similar complexities have arisen in the field of education with evolving philosophies and emergent theories (Koul, 1997). The need of finding the suitable method, techniques and skills for teaching-learning, to understand learner

better, to solve societal and world problems, to cater to the needs of deprived and specials, to include underprivileged and special ones, to synchronize global goals with local needs, to make man learned by establishing knowledge society, considering evolving educational technology makes the Educational Research a subject of utmost importance (Van Dalen & Meyer, 1962). Singh (2008) concluded that the major function of research in education is either to improve the quality of instruction or the examination of the content at all levels of education. All functions of education are the major responsibilities of Educational Research. In this continuously evolving knowledge society, with ever-expanding frontiers of knowledge, knowledge is continuously changing its meaning. One, therefore, needs to develop new skills, open up new paths, create new knowledge and explore new dimensions, which is impossible without Educational Research (Singh, 2007). Thus, the area of educational research is very vast.

In the modern world potential of a person is partially measured by the academic degrees one possesses. In many public and private sectors, the importance of academic degrees cannot be neglected along with the research experience one should have. In Research too, the degrees are also awarded by the affiliating educational institutes to the students where students enrolled him/herself. As far as the Educational Research is concerned, the students' orientation about the research starts in the Bachelor of Education (B.Ed.), and Master of Education (M.Ed.) or Master of Arts in Education i.e. M.A. (Education) courses as far as Indian universities are concerned. Fundamentals of the research are being introduced in these courses and a dissertation in terms of research experience as a partial fulfillment of the degree is also submitted at the Master of Education (M.Ed.) or Master of Arts in Education (M.A. Education) and Master of Philosophy (M.Phil.) course, in the Indian Universities (Sekar, 2008). At the Ph.D. level, degrees are awarded only after submitting a complete detailed report of research experience. Partying to M.Ed., M.Phil. and Ph.D., research projects (major and minor ones) are also conducted to enhance the body of knowledge in higher educational institutions to catering diversified needs.

1.5   NEED OF ANALYZING EDUCATIONAL RESEARCH

From the previous discussion, it is clear that the significance of doing Educational Research in particular and research, in general, cannot be ignored. It is

the duty of all the stakeholders to conduct genuine and quality research for the continuous development of society and individuals. Also at the same time reviewing/assessing and evaluation of the research done is also an important aspect (UGC, 2009). The National Policy on Education (NPE), 1986 and further Plan of Action (POA) (1992) stressed the need of reviewing the various parameters of plans, policies, and research after a considerable period of time. It further gave impetus on conducting appraisal at short intervals which in turn ascertains the progress of implementation of the findings of the research and the trends emerging from time to time.

National Knowledge Commission (NKC) through its document "More Quality Ph.Ds" (2008) stressed upon rejuvenating the Ph.D. program and to adhere to quality standards to attract talented students through the continuous monitoring system of review and assessment. The document also emphasized a comprehensive assessment, Periodic review of the research thesis and a wider dissemination of research work. The purposes of reviewing, evaluating or analyzing any research/researches are (Singh & Desai, 2009; Sidhu, 2004; Krishnaswami & Ranganatham, 2005):

- To gain a background of the researches earlier done.
- To acquaint researchers with the current pool of knowledge in the field in which one conducts its research.
- To know about what others have already attempted.
- To identify the research gaps.
- To know what type of methodologies are being employed in different situations and their procedures.
- To build the base for one's study.
- To develop an insight into methods, techniques and data sources used by previous researchers.
- To learn from the others' structured reports.
- To avoid plagiarism and unintentional repetitions of the work.
- To identify research trends in different areas of research.
- To stop unethical practices like taking other's work or a credit on others' work.
- To make policies and plans after viewing the trend of the research done.
- To formulate new researches based on the trends (Gay et. al. 2000).
- To formulate and design the courses depending upon the researches reviewed (Best & Kahn, 2000).

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–   To know about the recommendations made by the researches earlier done.

–   To increase the knowledge levels by arranging the researches in a particular way/fashion viz. chronologically, area wise.

–   To synthesize research findings and conducting meta-analysis so as to chalk out single reality, if any.

The quality of research can be examined by considering three factors, namely, Functions of research, Ethical principles of research and the Process of conducting research. If at all one wants to evaluate the quality of research all three factors namely the role and functions of research, ethics of research and process of conducting the research should be given due emphasis (Kothari et.al. 2009).

According to Whitley (1999), who investigated more than 4000 research studies of the 20 institutions in Australia, 60 percent to 80 percent of the research work has been found facing academic dishonesty.

According to Gupta (2003), the vast volume of research has little or no relevance to the immediate needs of the society and in most of the areas, the quality of research is poor. Dahiya (2001) has highlighted various aspects related to doctoral research. According to him, more than 80 percent of Ph.D. studies are bogus, stereotyped, repetitive, plagiarized and hence irrelevant (Kothari et.al, 2009).

According to Bandyopadhyay (2003), a number of Ph. D. (in all disciplines) awarded was 18286 during the years 1973-74 and 1977-78 in all subjects. This became double within ten years 1983-84 and 1987-88. During the period of 1993-94 to 1997-98 more than 50,000 Ph. D.s were awarded in all the subjects offered at the higher education level. In many universities especially during the last decade after the declaration of UGC that Ph. D. will be a compulsory qualification to be appointed as a lecturer in higher education, there was mushroom growth in Ph.D. degree holders (Kothari et.al, 2009). To eliminate the ill effects mentioned aforesaid and to bring quality in any sort of research, rigorous review/evaluation or analysis is an important aspect.

The process of analysis is having varied forms and is used in varied senses in the different areas of natural and social sciences viz. content analysis, inductive analysis, deductive analysis, trend analysis. For the present research, the terms 'Trend Analysis' and 'Research Synthesis', are used, which are being elaborated in the next section.

1.6 TREND ANALYSIS & RESEARCH SYNTHESIS: CONCEPT AND MEANING, IMPORTANCE AND DIFFERENT METHODS

Trend Analysis, as John Ralston Saul, a famous author, said, "With the past, we can see trajectories into the future - both catastrophic and creative projections." The quotation points out the relevance of the information guiding with respect to both the destructive or degenerative and creative or constructive trends and tendencies.

By *Oxford Dictionary* (2019), the term 'trend' means—'A general direction in which something is developing or changing' or 'fashion' or 'Change or develop in a general direction.' The term 'Analysis' means—'…detailed examination of the elements or structure of something.' Or '…the process of separating something into its constituent elements'. The literal meaning of Trend Analysis is the '…The practice of collecting information and attempting to spot a pattern or change in the given information'.

Trend analysis is having its implications in all walks of life and areas, listing a few like—Market, Business, Stocks and shares, History, Education, Fashion, technology, religion, etc. Trend analysis is helpful because moving with trends, and not against them, will often lead to profit for an investor/customer. An aspect of technical analysis that tries to predict the future movement of a stock based on past data. Trend analysis is based on the idea that what has happened in the past gives traders an idea of what will happen in the future *(https://www.investopedia.com/ terms/t/ trend analysis.asp).* Project Management trend analysis is a mathematical technique that uses historical results to predict future outcomes. In Statistics, trend analysis often refers to techniques for extracting an underlying pattern of behavior in a time series that would otherwise be partly or nearly completely hidden by noise. A simple description of these techniques is trend estimation, which can be undertaken within a formal regression analysis. In recent times, trend analysis often refers to the science of studying changes in social patterns, including fashion, technology, and consumer behavior.

Thus, trend analysis is a form of comparative analysis that is often employed to identify patterns or changes in current and future movements of events or groups of events. The process may involve comparing past and current status as they related to various entities in order to project how long the current trend will continue. This type

of information is extremely helpful to persons who wish to make the most, from the information of the events.

Research synthesis may be defined as a review of primary research on a given topic with the purpose of integrating the findings (e.g., for creating generalizations or resolving conflicts across studies and identifying emerging trends). *Merriam Webster Dictionary* defines Research Synthesis as "…a quantitative statistical analysis of several separate but similar experiments or studies in order to test the pooled data for statistical significance…" Further, as per the *Oxford Dictionary* (2019), "Research synthesis is the examination of data from a number of independent studies on the same subject, in order to determine overall trends".

Research synthesis is central to the scientific enterprise. Without it, the evidence for various alternative hypotheses cannot be properly evaluated and generalizations cannot be reached, thus, advances of the scientific field as well as any potential practical applications are inhibited. Research synthesis can be performed either qualitatively, in the form of a narrative review, or quantitatively, by employing various statistical methods for the integration of results from individual studies. (Koricheva, J. and Gurevitch, J., Mengersen, K., 2013). Research synthesis helps to produce answers to new questions that cannot be addressed easily in individual studies and identifying the sources of heterogeneity in researches. (Mosteller and Colditz, 1996)

1.6.1 IMPORTANCE OF THE TREND ANALYSIS AND RESEARCH SYNTHESIS

Analysis, followed by the synthesis, is an essential activity in social sciences. The reasons for this are various. Trend Analysis and Research synthesis emphasizes on threefold aspects—

a)   To summarize the findings across studies

b)   To maintain the consistency of findings

c)   To resolve contradictory findings

Importance of Trend Analysis and Research synthesis deals with

−   Accumulation of knowledge about the field regarding what/how/where/when of the entity under observation for trend location

−   Importance of maintaining high standards in their execution according to the findings.

- Resolving the conflicting findings to give it a new shape.
- It helps in characterizing the methodologies used in the field of inquiry.
- It helps in finding out the new methods.
- To give a consolidated view of reality, that are scattered in different studies.
- In making conclusive statements.
- To make policy decisions Trend Analysis and Research synthesis can be used.

1.6.2 DIFFERENT METHODS OF LOCATING TREND AND RESEARCH SYNTHESIS

The process of a trend analysis followed by research synthesis begins with identifying the category of the events that are under consideration. Once the focus is established, one takes a look at the general performance for the category over the last couple of years. This helps to identify key factors that led to the current trend of performance for the entity under consideration. By understanding how a given event reached the current level of performance, it is then possible to determine if all or most of those factors are still exerting an influence. After identifying past and present factors that are maintaining a current trend in performance, one can analyze each factor and project which factors are likely to continue exerting influence on the direction of the event. Assuming that all or most of the factors will continue to exert an influence for the foreseeable future, one can make an informed decision on the future course of action.

So, trend analysis and research synthesis are important, both, as a scientific activity and of the practical uses made of the conclusions which are derived from research trend synthesis. The process of the trend analysis and research synthesis of educational research can be systematically done with using the following Methods. Each method is detailed with strengths, and with respect to three-fold aspects viz. Summarizing results across the studies, assessing the results across studies and Resolving contradictory findings across studies as follows—

A. Narrative approach: As the name indicates, it is a verbal description of the research studies arranged chronologically about what the researcher did in each study & the results found. It is most suitable when the number of studies on a topic is small. The strength of the narrative approach is

    a. It provides richness of the details about the study characteristics

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b. It allows the researches to trace the evolution of thought because of the chronological arrangement.

c. It can be used to synthesize two or more different lines of research that may bear only indirectly on each other.

❐ **Summarizing results across the studies**

The narrative approach relies heavily on the statistical significance & reported results of the individual. The statistical technique portrayed for the research result is a highly subjective matter. The subjectivity in summarizing the findings inherent in narrative approach can lead to different conclusions

❐ **Assessing the results across studies**

The narratives approach provides no significant mechanism for assessing the consistency of the results other than a verbal description.

❐ **Resolving contradictory findings across studies**

There is no systematic mechanism for resolving contradictory findings. The narrative approach is always susceptible to the confusion between research criticism & research integration.

B. Vote counting method: It is the most popular and is supplanted from the narrative method when there are a larger number of studies. It involves categorizing the studies on the basis of the direction & statistical significance.

In the conventional vote-counting procedure, one simply divides studies into three categories: those with significant positive results, those with significant negative results, and those with non-significant results. The number of studies falling into each of these three categories is then simply tallied. If a plurality of studies falls into any one of these three categories, with few falling into the other two, the modal category is declared the winner. This modal category is then assumed to give the best estimate of the direction of the true relationship between the independent and dependent variable (Light and Smith, 1971), (Brushman and Wang, 2009). Vote counting procedures are useful when complete information about the results of primary studies is not available in the sense that effect size estimates cannot be calculated. In such situations often the information from a primary source is in the form of a report of the decision obtained from a significance test (i.e., significant positive relation or non-significant positive relation) or in the form of a direction (positive or negative) of the effect without regard to its statistical significance.

The strength of the vote-counting method is: (a) once the relevant set of studies to be synthesized has been identified, the method can be executed quickly. (b)Results of vote counting are replicable because it is less subjective. The intrinsic role that vote counting method play is:

❑ **Summarizing results across the studies**:

It is a straight forward process and the category into which the statistical results of most studies fall in described as the treatment effects or the relationship between variables.

❑ **Accessing the consistency of results across studies:**

It assumes that there will be inconsistency in findings across studies & the objective is to identify which statistical result among the set of inconsistent findings is most prevalent. Thus, vote counting methods provide no systematic mechanisms for assessing the consistency of results.

❑ **Resolving contradictory findings across studies;**

It does not attempt to resolve contradictory findings across the studies.

C. Combined significant tests: This method involves the combining of probabilities or common test of significance statistics across several studies addressing the same research questions & assessing the statistical significance of these overall values. This method was introduced because of the inadequacy of the voting method. The main importance of the combined significance method is that they help to eliminate the low treatment effect of the vote-counting method. Rosenthal (1978) provided an excellent description of the procedures, advantages, limitations, and applicability of nine combined significance tests Adding logs; Adding 'p's; Adding 't's; Adding 'Z's; Adding weighted 'Z's; Testing means 'p'; Testing means Z; Counting and Blocking. This is a highly significant method but it does not have any mechanism explaining the variability of results across studies.

The intrinsic role that combined significant method play is:

❑ **Summarizing results across the studies**:

This method enables combined p-values or size of test statistics (t-ratios, chi-square, z, etc.) and assesses the statistical significance of this overall index. This, in turn, gives a summarized result across the studies.

❑ **Accessing the consistency of results across studies:**

This method could not provide any systematic mechanism for assessing the consistency of results.

❑ **Resolving contradictory findings across studies;**

It does not attempt to resolve contradictory findings across the studies.

D. Effect Magnitude Method: Glass coined the term 'Meta-Analysis' to refer to the methods of research synthesis that are statistical in nature. Meta-analysis is a formal statistical method that assessed the magnitude of an effect. Glass developed this technique so that a variety of findings could be quantified, standardized & then compared across studies. Meta-analysis uses the 'Effect size (E_s)' statistics

$$E_s = (X_t - X_c) / SD_p$$

Where X_t = Mean of the treatment group; X_c = Mean of Control group; SD_p = Pooled Standard deviation of the control and experimental group.

$$SD_p = \frac{(Ne-1)Se^2 + (Nc-1)Sc^2}{(Ne+Nc-2)},$$

Where N_e = Number of subjects in Experimental Group, N_c = Number of subjects in Control Group, S_e = Standard deviation of the Experimental Group, S_c = Standard deviation of the Control Group.

These statistics provide a composite figure for treatment effect which synthesizes the general impact of the treatment across the different studies. The effect size for each of the findings in a study is computed and Es are then averaged together. This allows for significance & non-significance findings to influence the total ES equally, thus minimizing the possible influence of type I & type II errors, evaluating research findings. Meta-analysis fulfills three criteria

a) Only studies examining the effect of a series of lessons or training treatment were included.

b) Only those studies which are equal in a single variable are included which is done for the comparability among studies in terms of the characteristics.

c) The third criterion for including a study in meta-analysis is a technical one. In order to be included, a study has to provide sufficient data from which an Effect Size (E_S) can be calculated.

The intrinsic role that Effect size method play is:

❑ **Summarizing results across the studies**:

This method enables Average standardized indices of effect magnitude computed for each study. This, in turn, gives a summarized result across the studies.

❑ **Accessing the consistency of results across studies:**

This method provides a systematic mechanism for assessing the consistency of results in terms of Post distribution of effect magnitude and Statistical test of homogeneity of effect magnitude are used to assessing the consistency of results across studies.

❑ **Resolving contradictory findings across studies:**

Correlation of study characteristics with indices of effect magnitude and Test homogeneity of effect magnitude separately for clusters of studies that differ on study characteristics are few methods which can be utilized to resolve contradictory findings across studies (Glass, 1976)

Summarizing the aforesaid, these methods the emerging overall picture is tabulated in Tables 1.1 and 1.2.

Thus, it is clear that research done in any field need to be reviewed at the regular interval of the time so to improve the quality of the research. The researcher in any field is obligated to give a complete detailed account of all his experience and thinking involved in the method of research so as to carry the reader with him from identification and definition of the problems, process of research, interpretation of the collected data and finally to drawing out conclusions. Such a detailed, complete and original account of research experience is called a Research report (Koul, 1997).

Given that research has worthy and coherent ideas to convey to others, transmitting those ideas effectively from the writer to the reader depends ultimately on the style of writing and organization and presentation of content. The vital points for writing research report have been stressed by Leedy (1993), "…to write a report of one's research that shows fidelity to the facts, the ability to organize them logically, to present them clearly, and to remember there will be a reader who will ultimately read your report- this is to bring one's research effort to its destined conclusion and to share with others your findings and whatever nuggets of truth they may contain."

From any research point of view, report writing of one's research experience is the crucial part that not only serves the purpose of saving research experience in a published form but also plays a vital role in formulating research problems and finding answers to important questions, for all researchers, stakeholders, and policymakers. Also, at the same time, this research report is evidence that someone had experienced in the research.

Table 1.1

Research methods addresses the threefold aim of trend analysis & research synthesis

Sr. No.	Method	How the results summarized	How consistency of results assessed	How conflicts in findings resolved
1	Narrative	Verbal description of procedures used and statistical significance reported results	No systematic mechanism	No systematic mechanism
		Overall conclusions based on reviewer's subjective weighting of studies	Verbal description of the concurrence of statistical results	Verbal description of study characteristics that seem to mediate reported results
2	Vote counting	Tabulation of direction & statistical significance of reported results: positive, negative & no significant results	No systematic mechanism	No systematic mechanism
		The category into which most studies fall is the effect or relationship between variables	The proportion of studies falling into each category	Tally studies separately for subsets of studies
3	Combined significance test	Combined p-values or size of test statistics (t-ratios, chi-square, z, etc.) and assess the statistical significance of this overall index	No systematic mechanism	No systematic mechanism
4	Effect magnitude	Average standardized indices of effect magnitude computed for each study	Post distribution of effect magnitude	Correlation of study characteristics with indices of effect magnitude
			Statistical test of homogeneity of effect magnitude	Test homogeneity of effect magnitude separately for clusters of studies that differ on study characteristics

(Source: Goel, D. R. (2007). Synthesizing Research Findings. In D. R. Goel (Ed.) Research Methodology, CASE Publication, Vadodara: M.S.U. Baroda. pp. 150-157)

Table 1.2

Research Trend/Synthesis methods Suitability and Techniques

Sr. No.	Method	Suitable for	Technique
1	**Narrative Reflective**	Number of studies are small, Philosophical/Qualitative/descriptive	Content Analysis
2	**Vote counting**	All the studies have data on the dependent variable and specific independent variables. Tabulation of direction & statistical significance of reported results: positive, negative & no significant results	Frequency count of the positive, negative & no significant results
3	**Combined significance test**	Studies having the empirical/ statistical values like p-values or size of test statistics (t-ratios, chi-square, z, etc.) and assess the statistical significance of this overall index	$(X)^2 = -2 \sum_{i=1}^{K} \log (Pi)$ When the p-values tend to be small, the test statistic X^2 will be large, which suggests that the null hypotheses are not true for every test
4	**Effect Magnitude**	Studies having the empirical/ statistical values	Calculating Cohen's d *i.e.* 'Effect size (E_s)' from t-tests statistics (a) $E_s = (X_t - X_c) / \sigma_p$ where, X_t = mean of the treatment group; X_c = mean of Control group ; σ_p = Pooled Standard deviation (b) When an experiment that uses a t-test does not list standard deviations, you can calculate Cohen's d as follows using the t statistic: $d = t \sqrt{\left(\frac{n_t + n_c}{n_t \, n_c} \right) \left(\frac{n_t + n_c}{n_t + n_c - 2} \right)}$ $t = t$ statistic; n = number of subjects

1.7.   SCENARIO OF EDUCATIONAL RESEARCH IN INDIA

Over the years, India has built a vast system of higher education consisting of 611 plus Higher education Institutions (including 48 central universities, 400 State Universities, 126 Deemed Universities, 337 Private Universities, and 66 Autonomous/Institutes of National Importance) and 26500 plus colleges (https://www.ugc.ac.in/oldpdf/consolidated%20list%20of%20All%20universities.pdf) . Research in Education or Educational Research has been pressurizing the minds of the teachers and Researchers along with policy planners since the first Ph.D. in Education was awarded by the Bombay University in 1943 to Dr. D.V. Chikermane for his thesis entitled *"Factor Analysis of Arithmetic Ability."* The master's degree program was entitled to a few universities before independence (Buch (ed.), 1974). Only 10 Ph.D. had been awarded by the year 1950 in the entire country. After independence, most of the universities introduced a Master's program in Education and the number of Ph.D. started multiplying manifold in each decade (Buch, 1987). Since then the more than sixteen thousand thesis and projects have been added to this area of study (Malhotra, 2008). The first effort to take stock of Educational Research was attempted by the National Council of Educational Research and Training (NCERT) in the form of bringing out the third yearbook of education focusing on the review of Educational Research in 1968 (Nagaraju, 2004). Most of the studies reviewed were dissertations submitted for a Master's Degree in various universities.

Later on, the UGC sponsored a survey of Educational Researches in India. It was carried out under the editorship of Prof. M.B. Buch in 1974 in the Center for Advanced Study in Education (CASE), The Maharaja Sayajirao University of Baroda. It traced the history of Educational Research in India and come out with research trends in different areas of education until 1972 (Buch, 1974). After that various attempts have been made to document the trends in Educational Research. Prominent among them are the five surveys of research in education (Buch 1974, 1979, 1987, 1991; NCERT, 1997). Drawing upon these and some other recent sources such as Indian Educational Abstracts, also initiate the task of recording the research abstracts to delineate the trend of research in education. A detailed account of the studies compiled as the research abstracts is given in Table 1.3.

Table 1.3

Details of the Educational Research in India up to 2019

Sr. No.	Survey	Period	Year of Publication	Number of Areas Covered	Number of Studies Covered	Cumulative Number of studies
1	First Survey	up to 1972	1974	17	729	729
2	Second Survey	1972-1978	1979	17	839	1568
3	Third Survey	1978-1983	1987	19	1483	3051
4	Fourth Survey	1983-1988	1991	29	1652	4703
5	Fifth Survey	1988-1992	1997	37	1828	6531
6	Indian Educational Abstracts	1992-2001	Published Every six months	-	1633	8164
7	Sixth Survey	1993-2000	2007	20	2500*	10664*
8	Sixth Survey (Online)	1993-2005	2007	-	2394	13058
9	Indian Educational Abstracts	2002- 2009	Published every six months	-	3000*	16058
10	Goel, et. al	1998 onwards	2007	18	146	16204
11	Goel, et. al	2006 onwards	2008	19	64	16268
12	Goel, et. al	2007 onwards	2010	23	120	16388
13	INFLIBNET	Upto 2019	2019	-	35154*	51542*

Approximate value (Source: Nagaraju, 2004 pp.600; Buch 1974, 1979, 1987, 1991; NCERT, 1997; INFFLIBNET website, NCERT website)

From Table 1.3 it is clear that First surveys of Research in Education contain 729 research abstracts and cover 17 areas. The second survey contained 839 research abstracts and 17 areas, the third contained abstracts of 1483 studies and 19 areas, the fourth included abstracts of 1652 researches and 29 areas and the fifth survey contained 1828 research abstracts and covers 37 areas.

However, subsequent to the completion of Fifth Survey of Educational Research, the NCERT had decided to publish the research abstracts as occasional publications on regular intervals to reduce the time gap in disseminating information of completed researches. Starting from 1995 to 1999 eight publications of Indian Educational Abstracts were released and from 2000 onwards NCERT stated a bi-annual periodical by the same name i.e. Indian Educational Abstracts appear regularly. A similar attempt was made by the Sansanwal (Ed.), 2005 by putting the Educational Research abstracts of 2394 studies. More than 16000 Researches including Ph.D.s. from education, Ph.D.s from related areas and Projects were so far completed and had an entry in the aforesaid mentioned records. In the line of above the similar attempts were also made at departmental level by various universities like Allahabad University, Allahabad; Central Institute of Education, New Delhi; Lucknow University, Lucknow; Mumbai University, Mumbai; Centre of Advanced Study in Education, Vadodara; School of Education, Devi Ahilya Vishwavidyalaya, Indore and other places.

As far as latest attempts are concerned, Information and Library Network (INFILBNET) center, an autonomous Inter-University Centre of the University Grants Commission (UGC) of India under Ministry of Human Resource Development (MHRD) located in Gandhinagar, Gujarat, under the 'Shodhganga' Project, is collecting full-text of thesis in all disciplines. So far, it had included more than 243898 full-text thesis reports, 6450 research synopsis from 415 contributing universities (https://shodhganga.inflibnet.ac.in/). Along with this, NCERT, under the project named 'Online Survey of Research in Education', is collecting Research Abstracts of Educational Researches (Doctoral, Post Doctoral Studies and Major Research Projects) conducted in the country had to place it on its website for wider dissemination (http://osre.ncert.gov.in/).

1.8   EDUCATIONAL RESEARCH AT THE SCHOOL OF EDUCATION (SOE), DEVI AHILYA VISHWAVIDYALAYA, INDORE

The School of Education, Devi Ahilya Vishwavidyalaya, Indore was established on 15th November 1964, later recognized as *'Institute of Excellence'* by the Madhya Pradesh State in 1988. It was further upgraded as *'Institute of Education'* by Devi Ahilya Vishwavidyalaya in 1991. In the field of Educational Research, the department had completed University Grants Commission (UGC)'s   Special

Assistance Program – Department of Research Support(SAP-DRS) Phase I [SAP-DRS (I), sanctioned by UGC in 1999], Phase II [SAP-DRS (II), sanctioned by UGC in 2004)], Phase-III[SAP-DRS III, Sanctioned by UGC in 2009]. SAP-DSA Phase I sanctioned in 2014 is currently going on. The department is recognized at National and International levels. Department was accredited for a period of five years with a CGPA of 3.23 on a four-point scale at 'A' grade, on September 16, 2008 and with again with a CGPA of 3.14 on a four-point scale at 'A' grade, on March 16, 2014 by National Assessment and Accreditation Council (NAAC). Currently, School of Education (SOE), Devi Ahilya Vishwavidyalaya offers Bachelor of Education (B.Ed.), Master of Education (M.Ed.), Master of Philosophy in Education (M.Phil. Education) and Doctor of Philosophy in Education (Ph.D. Education) degree courses with the intake capacity of 150, 50, 20 and 80 respectively. Earlier the superannuated faculties from the department can also guide the doctoral student (as per Ordinance 18 of DAVV) which increases the quantity of the research scholar at the Ph.D. level. The first Ph.D. degree was awarded to Sateshwari Saxena on *"Educational Planning in India –A Study in Approach and Methodology"* in the year 1973. Looking into the significance of M.Ed. program, the University of Indore started this course in 1966 in its University Teaching Department of Education. The M.Phil. program was started at the University teaching Department of Education in the year 1983.

Table 1.4
Educational Research at SOE, DAVV, from 1964 to 2014

SN	Year	Ph.D.	M.Phil.	M.Ed.	Research Projects	Total
1	1964-2014	161	131	714	27	1033

From table 1.4 it is clear that, from inception to 2014, the School of Education, Devi Ahilya Vishwavidyalaya, Indore conferred 161 Ph.D., 131 M.Phil. & 714 M.Ed. degrees and 27 Research Projects. The department is also having significant researches in the field of Educational Technology, Models of Teaching, Creativity, and Innovations, Jerk Technology, Educational Surveys, ICT in Education and Psychology of Education. The peculiar features of the department like project method, Work Experience, Psychological Practical, Practical Pedagogy, and Personalized teacher Education/Zero lecture (Activity B.Ed.), at the B.Ed. level helps the young fellows to be quality teachers.

From the previous discussion, it emerges clearly that the volume of educational research at the national level increases significantly and the School of

Education is not an exception. At the same time monitoring these researches at all levels is an essential component as far as the quality of academia is concerned. The efforts of reviewing these researches give cognition about the status of educational research, further paving the path for future researches. For the present piece of research, some of the efforts done in the area of Reviewing/ Analyzing the researches at different levels in the education field, per se, play a vital role to formulate the problem in a specific manner. Therefore, to formulate the problem, to locate the research gaps, to frame the research problem more precisely, to see what has been done already and what is to be done, reviewing literature was needed. Literature available, Nationally and Internationally, in the area of Reviewing educational research, Trend Analysis and Research Synthesis were studied and reported in chapter II.

Based on the conceptual framework and review of related literature the present research was rationalized in the following manner.

1.9 RATIONALE FOR THE PRESENT STUDY

Research is an innate human proclivity, in which curiosity is imperative substance. One might as well call curiosity or inquisitiveness as the mother of research (Chandola, 2008). Educational Research, in particular, is that activity which is directed towards the development of a science of behavior in educational situations to make better insight into the issues and problems of educational settings.

Nowadays, Researches are carried out at the individual level to make one acquire an academic qualification, such as M.Ed., M.Phil. or Ph.D. and research projects, as far as the Educational Research, in particular, are concerned. The numbers of research coming out of the educational institutes are increasing significantly (Table 1). There is a need to check and monitor these researches as far as the quality of research is a concern. The lack of monitoring and the proper evaluation patterns lead to researches with no value (Sekar, 2008). Rais & Madhulika (1991), Raina & Sengupta (1979), Dahiya (2001), Gupta (2003), Nagaraju(2004), Singh & Desai (2009) sarcastically criticized the researches due to their poor coverage of the ideas based on easiness of getting degrees, unethical practices at the higher education level and recommended to appraise the status of the Educational Research time to time in particular and overall research in general.

Different studies viz. Buch (ed.) (1974); Buch (ed.) (1979); Buch (ed.) (1987); Sujatha (1988); Sahoo (1992); Panda, Satyanarayana & Sharma (1996); Ramakrishnan & Prasad (1999); Kaul (2006); Mishra (2002); Goel et.al. (2007); Sekar (2008); Meduri & Satyanarayan (2008); Singh & Desai (2009); Kothari et. al. (2009); Yadav (2011) and Singh et.al., 2011 reported poor condition in the dissemination of the research findings of educational research, poor identification of the research gaps, non-scattering of findings of the researches, intentional duplication of the researches, Plagiarism, Non-uniform growth in different areas of the educational research & lack of reviews and trend analysis of the researches done.

Nagaraju (2004) also critically commented on the scenario of the Educational Research on India and claimed that many Educational Researches promoted in the departments of Education in Indian Universities lack the perspective of Education. Singh & Desai (2009) stressed the need for keeping a track of the researches already done to bring quality in Educational Research and to guide the future course of action for Educational Research. One thing is coming out clearly that the system of monitoring/ reviewing/ evaluation/ analyzing the process of any kind of research at any level is essential, therefore the present piece of research is necessary.

From the reviewed literature, it is clear that, in the field of Educational Research Buch (ed.) (1974), Buch (ed.) (1979), Buch (ed.) (1987), Buch (ed.) (1991), NCERT (1997), Sansanwal (ed.) (2006), Indian Educational Abstracts, Goel et.al. (2007, 2008, 2010) had carried out task of collection of the abstracts of doctoral degree theses and Research Projects at national level in Indian context. Also, similar attempts were made by Pal (1984), Singh (1987), Shaheen (1994), Yadav (2011) and Singh et.al. (2011) as far as the doctoral researches & research projects at School of Education, Devi Ahilya Vishwavidyalaya is concerned. Another issue of interest that provided motivation for a present piece of research is, periodic reviews of the studies at School of Education were done in Pal (1984), Singh (1987) Yadav (2011) and Singh et.al.(2011). But after Pal (1984) and Singh (1987) no further systematic effort was taken up in reviewing the research except NCERT (2007) and Sansanwal (2006) at the national level and Yadav (2011) & Singh et.al. (2011) at the departmental level. Even NCERT (2007) and Sansanwal (2006) had collected the abstracts of the Doctoral theses from 139 Indian universities. From the reviewed literature and its implication it is evident that Educational Research at M.Phil. and M.Ed. level was not included in any of the above research studies, especially at the School of Education

after 1995. Also Yadav (2011) taken up study to review the educational research at the School of Education, Devi Ahilya Vishwavidyalaya, Indore by reviewing studies of M.Ed., M.Phil, and Ph.D. level, randomly selecting the studies held during 2001-2010.

Concluding the above, Researcher found research gaps regarding

❑ Non-inclusion of the M.Phil. & M.Ed. Studies in the any of the above research studies (except Third-year book of Education (1968), Pal (1984) and Singh (1987) Panda, Satyanarayana & Sharma (1996); Yadav (2011) and Singh et.al. (2011))

❑ No attempt was made to report/review the researches at M.Phil. & M.Ed. the level at School of Education after 1987 except Yadav (2011) and Singh et.al. (2011) and;

❑ Lack of Research Synthesis and trend analysis of the educational research at the School of Education, Devi Ahilya Vishwavidyalaya since Inception, at any level of research.

These research gaps lead to formulating the base for the present piece of research.

The need for this type of study is felt due to the time, money & energy involved in the searching & arranging of the research literature. The researcher felt its importance because of the rising need for computer and educational technology intrusion as the most effective media for educational upsurge & for easy access to the literature of School of Education, Devi Ahilya Vishwavidyalaya, Indore, the researcher is attempting for a database of all the research studies.

The researcher firmly believes the present study can encourage and help research workers, scholars, teachers, and others interested in Educational Research related fields and professionals of teacher education, to locate and to fill research gaps in the aspects that need due attention. The present research also may help the research guides to identify the new areas and to pay more attention to the aspects within the research given less attention.

Also, present research may provide a medium of dissemination of Educational Research and exchange of experience among research workers, scholars, teachers, and others interested in Educational Research related fields and professionals of educational areas. At the same time, the present piece of research will lead to an

increase in the volumes of research done in this area, for more authentic and reliable data for cross-checking the theses.

It has been observed that it is necessary to have periodic reviews of the studies of Educational Research in an institution so that a trend of developments can be evolved which will act as a guide to future action, such reviews in different areas help in planning the future research.

In the light of the aforesaid, being part and parcel of School of Education, this study is undertaken with a view to finding the answers for the following **research questions** coming to every concerned mind related to the field of Education:

1. How the Educational Research at the School of Education, Devi Ahilya Vishwavidyalaya, Indore synchronized with that of national-level Educational Research?

2. Which areas of the Educational Research had been least/most attended in the Educational Research at the School of Education, Devi Ahilya Vishwavidyalaya, Indore?

3. What will be the nature of the Research synthesis of the research studies at the School of Education, Devi Ahilya Vishwavidyalaya, Indore?

4. How the Educational Research at the School of Education, Devi Ahilya Vishwavidyalaya, Indore complements and supplements the earlier researches?

5. Do Educational Researches at the School of Education, Devi Ahilya Vishwavidyalaya, Indore Reviews literature comprehensively?

6. To what extent the Research gaps were identified in the Educational Researches at the School of Education, Devi Ahilya Vishwavidyalaya, Indore?

7. Which different research methodologies, types of data analysis techniques, types of research tools/techniques, Reference style been used in Educational research at the School of Education, Devi Ahilya Vishwavidyalaya, Indore?

8. What Geographical/ Social/ Educational areas are/were being covered by the Educational Research at the School of Education, Devi Ahilya Vishwavidyalaya, Indore?

9. What is the trend related to the output of the Educational Research at the School of Education, Devi Ahilya Vishwavidyalaya, Indore?

10. Which variables were most studied in the researches at the School of Education, Devi Ahilya Vishwavidyalaya, Indore?

11. How one can synthesize the findings that emerge out from the different researches carried out at the School of Education, Devi Ahilya Vishwavidyalaya, Indore?

12. What could be the future course of action for conducting Educational Research at the School of Education, Devi Ahilya Vishwavidyalaya, Indore?

The hunch for locating the answers for the aforesaid broad questions and efforts to provide a future course of action for the areas, need to be focused and deprived ones, for the School of Education, Devi Ahilya Vishwavidyalaya, Indore finds the rationale for the present study.

Working on the philosophy of 'Think Globally and Act Locally', the present study may be called, a sort of, descriptive study in terms of geographical area, as School of Education, Devi Ahilya Vishwavidyalaya is taken up. The researcher, being part and parcel of the institution, has the opinion that present research will help the decision-makers & practitioners of Educational Research in the department to shape future research. So the present piece of research is formulated about the School of Education, Devi Ahilya Vishwavidyalaya, Indore.

The sample for the study includes the Educational research done at the School of Education, Devi Ahilya Vishwavidyalaya, Indore since inception. The reason of considering studies from inception is the belief that it will give an idea about the trends occurred at different point of time in the development of the department to its present status and further gives light to the future researches. Further, there is a lack of systematic effort to locate the trends empirically since inception. Few efforts in this direction were made by Pal (1984) & Singh (1986) but it includes the abstracts only. The effort done by Shaheen (1994) includes the studies for one year only and Yadav (2011) had a systematic effort but it reviewed the studies with a randomly selected sample rather than the exhaustive one.

All these thoughts made the researcher leading to formulate the present piece of research in the following manner.

1.10   TITLE OF THE STUDY

The study is titled as— **Trend Analysis of the Educational Research at the School of Education, Devi Ahilya Vishwavidyalaya, Indore**

1.11   OBJECTIVES OF THE STUDY

The present study is conducted with the following objectives:

1. To prepare abstracts of the Educational Researches (Ph.D. Theses, M. Phil. Dissertations, and Research Projects) conducted at the School of Education, Devi Ahilya Vishwavidyalaya Indore.

2. To classify and categorize the Educational Research conducted at the School of Education, Devi Ahilya Vishwavidyalaya Indore.

3. To review and identify the Emerging trend of Educational research at the School of Education, Devi Ahilya Vishwavidyalaya Indore with respect to

    i.   Basic information about the research

    ii. Physical information about the research

    iii. Area of the research

    iv. Reviewed Literature

    v.   Methodology of the research

    vi. Type of research

    vii. Sampling technique used

    viii. Tools used

    ix. The data analysis technique used

    x.   Reference styles used

    xi. Final Output of the Research

4. To synthesize the findings of Educational researches based on the variables studied in the Educational Researches conducted at the School of Education, Devi Ahilya Vishwavidyalaya Indore.

1.12   OPERATIONALIZATION OF THE TERMS

The major terms viz. Database, Review, Trend Analysis and Research Synthesis been used in the present piece of research. Considering their broad meanings which may further lead to various interpretations, these terms were being operationalized as follows.

❑ **Database:** A database is an organized collection of data for one or more purposes, usually in digital form. For the present research the database will be a set of records about the educational research done at the School of Education, Devi Ahilya Vishwavidyalaya Indore with respect to the various fields/attributes of the Educational Research like Investigator name, Guide

name, Type of research, Area of research, Type of variables used, information with respect to various components (as mentioned in the Table 3.1), in the research work.

❑ **Trend Analysis:** Trend Analysis is the practice of collecting information and attempting to spot a pattern in the information. By trend, the researcher means consistency in and with respect to the nature of research, area of research, Methodology, tools, sample, data analysis techniques, the emerging thesis of the study, variables studied, referencing style and findings of the research. The convergence of corresponding findings will represent the emerging trends. Thus, the trend analysis will be the process of identifying and analyzing such convergence.

❑ **Review:** A review means here an evaluation of a publication and a retrospective view, about the product of the research. For the present research, Review means the synoptic retrospective evaluative view to reporting the features of the educational research done at the M.Ed., M.Phil. Education, Ph.D. Education level along with the research projects with respect to various components like Basic information about the Educational Research, Physical information of the Educational Research, Area of the research, Reviewed literature, Methodology of the research, Type/method of the research, Sampling used, Tools used, Data analysis technique used, Reference style used and Final Product of the educational Research.

❑ **Research Synthesis:** it is a review of primary research on a given topic with the purpose of integrating the findings (e.g., for creating generalizations or resolving conflicts). Research synthesis is an examination of data from a number of independent studies of the same subject, in order to determine overall trends.

1.13 DELIMITATION OF THE STUDY

The present study was delimited with reference to the area, level of courses and time span as follows:

❑ The study was delimited to the Educational Research at Master of Philosophy in Education (M.Phil. Education), Doctor of Philosophy in Education (Ph.D. Education) and Research Projects only.

❑ The present study was delimited to the Master of Philosophy in Education (M.Phil. Education), Doctor of Philosophy in Education (Ph.D. Education) and Research Projects carried out in the time period of 1964-2014.

❑ For the third objective, the study was delimited to the 11 components namely

    i. Basic information about the research

    ii. Physical information about the research

    iii. Area of the research

    iv. Reviewed Literature

    v. Methodology of the research

    vi. Type of research

    vii. Sampling technique used

    viii. Tools used

    ix. Data analysis technique used

    x. Reference styles used

    xi. Final Product

❑ The number of year wise and course wise research studies done during 1964-2014 being given in the following Table 1.

❑ For the fourth objective, the delimitation while conducting the synthesis of the research findings was as follows. Only those studies were taken into consideration in which —

    a. 'the hypothesis was tested' were taken into the account for research synthesis

    b. The only linear effect of the Independent variable on the Dependent variable was studied.

    c. The interaction effects of the Independent variables on the dependent variable were not taken into account for the research synthesis.

    d. Philosophical Researches, some analytical surveys, case studies were not taken into account for research synthesis as qualitative synthesis (Narrative Approach) was needed for them.

The afore-mention delimitation for fourth Objective results into a total of 207 studies (108 Ph.D., 87 M.Phil. and 12 Projects) out of 290 that were taken into

account for the present synthesis of research findings (Details are given in Chapter 5).

Table 1.5

Educational Research (Ph.D., M.Phil. and Research projects actually in records and found using primary and secondary sources) at the School of Education, Devi Ahilya Vishwavidyalaya, Indore during 1964-2014

Sr. No.	Year	Actually in Records					Found			
		Ph.D.	M.Phil.	M.Ed.	Research Projects	Total	Ph.D.	M.Phil.	Research Projects	Total
1	1964	0	0	0	1	1	0	0	0	0
2	1965	0	0	7	1	8	0	0	0	0
3	1966	0	0	8	0	8	0	0	0	0
4	1967	0	0	7	2	9	0	0	0	0
5	1968	0	0	4	0	4	0	0	0	0
6	1969	0	0	8	0	8	0	0	0	0
7	1970	0	0	3	1	4	0	0	0	0
8	1971	0	0	4	1	5	0	0	0	0
9	1972	0	0	2	2	4	0	0	0	0
10	1973	1	0	5	0	6	1	0	0	1
11	1974	0	0	11	0	11	0	0	0	0
12	1975	0	0	10	0	10	0	0	0	0
13	1976	1	0	11	0	12	1	0	0	1
14	1977	0	0	11	0	11	0	0	1	1
15	1978	0	0	12	0	12	0	0	1	1
16	1979	1	0	9	1	11	1	0	2	3
17	1980	1	0	11	2	14	0	0	1	1
18	1981	4	0	9	0	13	4	0	3	7
19	1982	3	0	10	0	13	3	0	0	3
20	1983	3	0	11	1	15	3	0	1	4
21	1984	2	4	11	2	19	1	0	0	1
22	1985	2	7	15	1	25	1	6	1	8
23	1986	5	13	11	2	31	5	13	3	21
24	1987	4	12	18	0	34	2	12	0	14
25	1988	3	12	19	0	34	3	12	0	15
26	1989	2	14	18	2	36	2	14	1	17

Table 1.5 (Continue)

Educational Research (Ph.D., M.Phil. and Research projects actually in records and found using primary and secondary sources) at the School of Education, Devi Ahilya Vishwavidyalaya, Indore during 1964-2014

Sr. No.	Year	Actually in Records					Found			
		Ph.D.	M.Phil.	M.Ed.	Research Projects	Total	Ph.D.	M.Phil.	Research Projects	Total
27	1990	3	11	18	1	33	3	11	0	14
28	1991	5	11	15	0	31	5	11	0	16
29	1992	4	4	17	0	25	4	2	1	7
30	1993	10	4	16	1	31	11	4	0	15
31	1994	6	0	20	0	26	6	0	0	6
32	1995	10	1	16	0	27	8	1	0	9
33	1996	6	0	19	0	25	6	0	0	6
34	1997	9	0	21	0	30	8	0	0	8
35	1998	3	0	14	0	17	2	0	0	2
36	1999	8	0	14	0	22	6	0	0	6
37	2000	1	0	17	1	19	0	0	0	0
38	2001	5	0	21	0	26	5	0	0	5
39	2002	5	0	15	0	20	5	0	0	5
40	2003	1	0	14	1	16	0	0	0	0
41	2004	1	0	20	2	23	1	0	1	2
42	2005	0	0	19	0	19	0	0	0	0
43	2006	3	0	18	0	21	3	0	0	3
44	2007	5	0	18	0	23	5	0	0	5
45	2008	4	5	20	1	30	4	5	1	10
46	2009	4	4	17	0	25	4	4	0	8
47	2010	5	3	16	0	24	5	3	0	8
48	2011	7	0	24	1	32	7	0	0	7
49	2012	8	1	26	0	35	8	1	0	9
50	2013	8	11	27	0	46	8	11	0	19
51	2014	8	14	27	0	49	8	14	0	22
	TOTAL	161	131	714	27	1033	149	124	17	290

Table 1.6

Summary of Educational Research (Ph.D., M.Phil. and Research projects) at the School of Education, Devi Ahilya Vishwavidyalaya, Indore during 1964-2014 actually in records and found using primary and secondary sources

Status	Research Studies				Total
	Ph.D.	**M.Phil.**	**M.Ed.**	**Projects**	
Actually on Records	161	131	714	27	1033
Found using Primary and Secondary sources	**149**	**124**	**NA**	**17**	**290**

Out of 161 Ph.D., 131 M.Phil., 714 M.Ed. and 27 Research Projects studies during the time span of 1964-2014, only 149 Ph.D. studies, 124 M.Phil. Studies and 17 Research Projects could be located using primary and secondary sources. The M.Ed. studies were not taken for consideration under the current piece of research.

1.14   SCHEME OF CHAPTERIZATION

The present study follows the below-listed scheme of chapterization

❑ Chapter—I provide details about the conceptual framework of the present study by providing basic understanding about Research Synthesis, Trend Analysis, various techniques for research synthesis, panoramic view of Educational research in the country and in the School of Education, Devi Ahilya Vishwavidyalaya, Indore. The chapter helps to build the rationale for the present study by entailing appropriateness and reason to conduct the study. The chapter also presents the details of the objectives of the study, terms explained and delimitation of the present study.

❑ Chapter—II gives a detail of the reviewed literature in the field of Trend Analysis and Research Synthesis. This helped the researcher to decide upon the Modalities of methodology to be adopted for the present study.

❑ Chapter—III details the methodology adopted in the present study and the plan and procedure. This chapter details the design of the study, the procedure followed to construct the tools used for data collection and techniques for the data analysis.

❑ Chapter— IV provides details of the analysis and interpretation of the data collected with respect to Objective 1, 2 and 3.

❑ Chapter—V minutiae the comprehensive research Synthesis of the research findings of Educational researches based on the variables studied in the

Educational Researches conducted at the School of Education, Devi Ahilya Vishwavidyalaya Indore with respect to Objective 4.

❑ Chapter —VI comprises of summary, findings, and discussion on the results arrived at after the analysis. This Chapter presents the whole study in a nutshell. It also consists of the implications drawn from the present study and suggestions for further research.

❑ Bibliography and Appendices are given at the end of the report.