REFLECTIONS ON TREND ANALYSIS OF EDUCATIONAL RESEARCHES: A REVIEW

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Abstract:
Trend analysis is the method of collecting data and identifying a pattern or trend (upward or downward shift) in the data. It is based on a longitudinal consideration of recorded data indicating what has been happening in the past, what the present situation reveals, and, on the basis of these data, what is likely to happen in future (Best and Kahn, 2009). Being a research student in field of Education, the researcher seeking to know the trend of educational researches, therefore the researcher has decided to conduct a trend analysis for educational researches. For a proper and systematic conduction of trend analysis the researcher has reviewed a lot of trend studies especially in the field of education regarding their objectives, variables, methodology, data analysis techniques and findings. The researcher will provide clear picture of similar research works through this paper to identify the knowledge gap and conduct a study in this field. To analyse reviewed studies the researcher has categorized the studies into two main groups first studies related to trends in education and second trend analysis or analysis of research articles or PhD theses.

Key Words: Trend analysis, Educational researches.

Introduction:

The review of related literature performs a number of important functions which helps researcher to select a genuine research problem. It explores existing knowledge in the field related to proposed research. Through the literature review the researcher identifies gaps, conflicts and research questions left in existing researches related to his/her selected research problem that his/her study addresses. Review of related literature helps researcher to find similarities and differences between previous researches and proposed research and shows originality and relevance of proposed research. It provides a base of knowledge and context for the research and also helps to justify the proposed research problem. Review of related studies highlights concepts that support the hypothesis, methods and results of proposed research. Before the discussion of core part of this paper we should know about some key words, which are as follows-

Trend Analysis:

There are two terms in 'trend analysis', trend and analysis. The term trend refers to an upward or downward shift or changes in a data over a time and analysis is a detailed examination of anything in order to determine its main characteristics. Therefore trend analysis is the analysis

of changes over time. The trend analysis is the method which analyses the data and explains trends in it.

Educational Researches: Educational researches are the studies and investigations in the field of education. Educational researches explore the level of knowledge, issues, and practices in educational context. The researcher has considered only PhD level researches in her research work to analyses the trend of educational researches.

To determine the need of the study and identify the knowledge the researcher has divided the reviewed studies into two categories to analyse theses studies-

- Studies related to Trends in Education
- Studies related to Trend Analysis/ Analysis of Research Articles or PhD Theses

Studies related to Trends in Education:

In this category the maximum number of studies was theoretical research articles and related to trends in higher education in India. In 2005, Gupta had studied a trend entitled as *'International Trends in Higher Education and the Indian Scenario'* which was aimed to overview the political, economic, socio-cultural, ethical, philosophical, legal, and practical aspects of international trends in private higher education and focused on the driving forces, causes and consequences of the emergence of private higher education in India during the last three decades. Pujar (2014) had studied '*Trends in Growth of Higher Education in India'* aimed to study the current status of higher education and to analyse the trends in higher education in India. To obtain the objectives data was collected through books, magazines, newspapers, research articles, research journals, e-journals, report on higher education in India. The investigator found India ranked second in the world regarding the enrolment of students in higher education institution and maximum growth in enrolment was found increased in faculties of engineering followed by commerce & management and education. The investigator found that there was wide disparity in the gross attendance ratio (GAR) of higher education in urban and rural areas, and gender and community-wise. Jonaki & Ptasenjit (2016) also found similar trends like gender disparity, geographical inequity, minority-majority based inequity, and inequity based on economic class in Indian higher education. The researchers analysed that the enrolment in higher education was increasing and found a large growth in quantity of universities and colleges in India and Indian higher education system was providing education in almost all areas of knowledge. The researchers highlighted the recent trends, emerging in Indian higher education like globalization and privatization. In 2019, Abduraheem & Joseph were studied the '*Recent Trends in Higher Education, Induced by Digitalisation'.* This study was based on a survey conducted on students of the University of Calicut to analyse the changes in the traditional authority of educational institution and in the views of students about the role and authority of teachers due to technology. They found a decrease in the dependency of students on teachers. The role of teachers was changing and authority of teachers was decreasing due to highly digitalized student community and digital competencies. The digitalization of education system was accepted by the students. In 2011, Sheeja had discussed about the advantages of distance learning, recent trends in distance education and major issues of distance learning. The investigator stated that distance education was a new approach to access the quality and equity in education and to study regardless of geographic, socio-economic and other barriers. The scope of distance education was expanded due to ICT revolution but there were many issues which was need to be resolved to get a better distance education system, which were quality ,dropout rates, students concerns, assessment of students, cost effectiveness, problems related to technology,

infrastructure. The similar findings were discussed by Jonaki & Ptasenjit (2016). In 2017, Vivekanand & Ruvn had also done a study on the topic '*Emerging Trends of E-Learning in India'.* This paper was a theoretical paper focused on the emerging trends of learning, technological e-learning trends and analysis of technological trends of e-learning in India. The investigators concluded that anyone can get benefits from e-learning at anytime and in future it will save money and time of learners. E-learning is very beneficial to teachers and students and best tool to learn according to learner's own way. In 2014, Singh in his research paper *'Emerging Trends and Innovations in Teacher Education'* had discussed about the present scenario of teacher education in India, problems of teacher education, emerging trends and innovations and gave some suggestions to improve the teacher education.

Studies related to Trend Analysis/ Analysis of Research Articles or PhD Theses:

In this category those studies are included which are based on the trend analysis or any type of analysis of PhD theses and research articles in different areas. The researcher has further divided this category into four parts based on the different research filed as written and discussed below-

In the first category the studies related to trend of researches in distance education/ MOOCs were discussed. In 2008, Karatas had done a trend analysis on internet based distance learning researches. The purpose of this work was to reveal the trends in researches related to interaction in the internet-based distance learning. For this purpose, the articles related to this field, published in three most outstanding journals in 2003, 2004 and until March 2005, were examined. The researcher had analysed the articles with respect to topic, method, data collection tool, statistical techniques used for data analysis, used software, country where study was conducted and other variables. The researcher found that evaluation was the most frequent topic. Case study was the most preferred method followed by evaluation and developmental methods. Percentage and factor analysis were the most frequent statistical techniques followed by ANOVA, content analysis, t-test and correlation. Surveys and semi-structured interview were mostly used as a tool for data collection. Most of the studies were conducted in USA followed by Canada. The most conducted interaction types were social, learner-instructor, learner-learner and learner- content interactions. Zawacki, Baecker & Vogt (2009) had also done a similar study entitled as *'Review of distance education research (2000 to 2008): Analysis of research areas, methods, and authorship patterns'.* A total of 695 articles published in five journals of distance education, were reviewed. The researchers found a significant imbalance between three research levels (micro, meso and macro level). The trend was found towards more empirical research, collaborative research, qualitative studies and multiple author articles. In 385 articles first author were men and in 310 first authors were female. USA, Canada, UK, Australia and china were the most productive countries in distance education research. Also Karatas, Ozcan, Polat, Yilmaz & Topuz (2014) had done a trend study entitled as '*Trends in Distance Education: Theories and Methods'.* The objective of this study was to reveal the trends in researches conducted on distance education theories between the periods 2007-2012. To fulfil the objective, the articles were analysed on the basis of theories, number of distance education studies, research methods, statistics, data collection procedure, research design, educational level, sample size, duration of research, variables, learning environments and clarity of problem statement. The researcher found another similar study conducted by Bozkurt, et. al in 2015. The purpose of their study was to reveal the current trends of researches in the field of distance education during the year 2009-2013 through analysing the research articles published in seven journals. The investigators found that the distance education was the most frequent keyword used in DE research articles. There

was a strong difference between research areas. In reference of research design most of the studies were conducted with qualitative design and survey was a mostly used descriptive research model. Questionnaire was preferred mostly in quantitative researches and document analyses & interviews in qualitative researches as a data collection tool. The most focused variables were satisfaction and learner perception and the most targeted population was undergraduate students followed by post graduate students and academicians. Sa'don, Alias & Ohshima (2014) had done a work aimed to identify the database pertaining to MOOC in higher education institutions (HEIs) from selected electronic database; to analyse the emergent trends of MOOCs in HEIs and to emanate nascent research trends on MOOCs based on the systematic literature review of MOOC in HEIs. The nascent research trends in MOOCs comprised pedagogy, assessment and accreditation, engagement or motivation, knowledge sharing, cultural diversity, technology, social interaction, participant retention, learning analytics and policy and instructional design. In 2016, Bozkurt, Keskin & Waard also conducted a study entitled as *'Research Trends in Massive Open Online Course (MOOC) Theses and Dissertations: Surfing the Tsunami Wave'*. The research question of this study was-'What are the most employed research trends in theses and dissertations published between 2008–2015, while looking at research methods, research themes, research models/designs, as well as theories, concepts, frameworks and models.' To review and reveal the trends of MOOC researches the theses and dissertations were examined through document analysis and further investigated through content analysis. A code frame was developed and standardised by the researchers to quantify the data. In reference of research methodology, 49% of qualitative, 21% was quantitative, 18% was mixed, 8% was review and 4% of other research methodology. Case study was the most frequent model.

The second category included the studies related to trend of researches in Library & Information Science. Kumar (2014) had written a research article entitled as *'Recent Current Trends in LIS Research in India'* aimed to give detail analysis on recent trends in library information science (LIS). The process of knowledge classification, cataloguing, documentation, library administration, internet, information literacy, change in management and library Security were discussed in this study. The researcher found that the utility and security of libraries was increasing by means of the programmers and mass Literacy programmers etc and in India, the library information science education & training were changing rapidly. Singh (2015) had done a *'Bibliometric Analysis of Ph .D Theses in LIS during 1993-1997'*. A total of 169 PhD theses in library and information science (LIS) conducted in Indian Universities over the period 1993-1997 were analysed. The researcher found a downfall in the year 1997. Jiwaji University, Gwalior was ranked first and most of the theses were conducted by Karnataka state. Most of the theses were conducted upon the area of academic/public/special libraries. The researcher found unsatisfactory research production in LIS as compared to science.

The third category included studies related to trend of researches in other diciplines. In 2004, Masood had worked on the topic *'A Ten Year Analysis: Trends in Traditional Educational Technology Literature' in Malaysia.* The objective of this investigation was to determine concepts that have emerged, grown or diminished in the area of educational technology. The investigator found that the 'teaching or learning perspectives' concept cluster appeared steadily though out the decade, where as 'instructional methods' was the concept cluster which increased and at the third rank of content analysis of concept clusters. 'Learners outcome' was become twice after 1997. 'Delivery systems or media format' was the top

ranked concept cluster of content analysis. The investigator found the trend that educators and trainers both were taking interest in computer- based instructional development tools. Gupta & Koul (2007) had written a research paper entitled as '*Research studies on creativity in India since 1990(A trend analysis)'.*The researchers had reviewed researches conducted on creativity in India and published in various journals during the years 1990- 2005 to find the trends. As data collection tool a master matrix was developed. The researchers found that most of the researches were conducted during 1990-1995 and general creativity was mostly preferred. Most of the researches conducted with the Bacquer Mehdi's test of creativity. Maximum studies were done on students at secondary level. Researchers found that in most of the researches, educational implications had not been highlighted and in terms of quality and quantity there was a decrease in researches related to creativity. Kurup & Arora (2010) studied the *'Trends in Higher Education (Creation and Analysis of a Database of PhDs)'* and had given a holistic view on the characteristics of doctoral degrees obtained by individuals in various areas across 10 years (1998-2007 on the basis of gender, different disciplines in different universities over the specific period of time and explained the rise or drop in number of doctorates awarded in selected universities during specific periods and gave some recommendations. Drysdale, Graham, Spring & Halverson (2013) have been worked on the topic *'An Analysis of Research Trends in Dissertations and Theses Studying Blended Learning'*. In this study they analysed 205 dissertation and theses related to blended learning written through 2011 and submitted to ProQuest on or before April 3, 2012 and gave an overview of these three trends – demographic trends, Methodological Trends and topical trends. Erdogan (2015) had done a work aimed to study the research trends in researches of problem-based learning during the period 2002-2013 in Turkey with respect to type of studies, learning domains, research designs, research domains, subject groups, group sizes, and length of treatments. The investigator found that there were 41master's and 18 doctoral dissertations and the highest number of researches were conducted in the year 2011. Most of the problem-based learning researches were done in the science domain. Quantitative design was the most frequent research design. Elementary education students were the most focused subject and cognition was the most focused domain after cognition & affect. The group size of 41-80 was mostly used in PBL researches. In reference of the length of the treatment, 4 weeks and 6 weeks were preferred. Arockiasamy (2015) had done a research on the topic *'Research Trends in Social Sciences: A BibliometricAnalysis of Ph.D. Theses submitted to the Bharathidasan University, Tiruchirappalli.'* This study was done to see the research trends in social sciences in reference of principal forms of literature used in Doctoral theses, subject wise distribution, research areas, gender wise & year wise distribution, most productive guides and affiliating agencies, most frequently cited journals and geographical distribution of researches. Commerce, History, Economics, Social Work, Sociology, and Education, these subjects were taken into consideration for this study. A total of 664 doctoral theses were analysed, conducted in above six disciplines in Bharathidasan University during the years 1986-2014. Literature analysis technique was used to study the trend.

The fourth category included studies related to trend of Education researches. Kumar (2015) had done a trend analysis of PhD these conducted in faculty of education of Banaras Hindu University during the years 1971- 2015. The objective of this study was to study the trends of researches with respect to area of research, type of research, research method, gender of the researcher and time span. A total of 235 PhD theses conducted till March 2015, were analysed by the researcher. A combined method of historical and descriptive analysis was used to study the trend. A self developed checklist was used by the researcher to collect the data.The

researcher found that 94% theses were belongs to applied research and only 6% researches were basic. In reference of research area, Psychological foundations of Education were the most focused area. The researcher also found that descriptive method was mostly used research method and the maximum number of researches was submitted during the year 1981-1990. The researcher also found that 57% of researches were conducted by the male researcher and 43% were the female researchers. In Turkey Egmir & Erdem & Kocyigit (2017) had done a trend study entitled as *'Trends in Educational Research: A Content Analysis of the Studies Published in International Journal of Instruction'*. The study was aimed to analyze the articles published in International Journal of Instruction (IJI) from year 2008 to 2017 with respect to countries where study was conducted; number of author in study; topic of the study; research method & design; data collection technique; data analysis technique; sampling technique; sample size and sample type . A total of 197 research articles were included in this study through purposive sampling and analysed through content analysis. Percentage and frequencies were calculated to reveal trends.

Discussion and conclusion:

    The author has divided all reviewed studies into two category and further divided second category i.e. Studies related to Trend Analysis/ Analysis of Research Articles or PhD Theses into four sub categories which are shown in the following table-

Category/sub category	No. of studies	In India	In Foreign
1. Studies related to Trends in Education	7	7	0
2. Studies related to Trend Analysis/ Analysis of Research Articles or PhD Theses	16	6	10
2.1. studies related to trend of researches in distance education/ MOOCs	6	0	6
2.2. studies related to trend of researches in Library & Information Science	2	2	0
2.3. studies related to trend of researches in other diciplines	6	3	3
2.4. Studies related to trend of Education researches	2	1	1
Total reviewed studies	23	13	10

Table- 1 shows categorization of reviewed studies

From the review of above studies it is clear that there are several studies related to trend analysis or analysis of researches in different areas and also there are some studies in which current trends were revealed in different educational fields. The maximum studies related to trend analysis of researches are conducted in other countries while only few researches belong

to Indian context especially in the field of educational researches. The investigator found only two studies related to trend analysis of educational researches, one belongs to abroad India and another was conducted in India at master's level in Faculty of Education of Banaras Hindu University, Varanasi. This study was considered only few variables to trend analysis. There is no study which represents the trend of educational researches in India for recent years. As per the above observation and discussion it can be concluded that the study related to trend analysis of educational researches are very few. Here we can see the knowledge gap that this type of study is not done in broader context and in broader manner i.e. with various points of view. The investigator found only one study on the same theme conducted on the educational researches of only one university with few variables.

Keeping all these views in mind the investigator decided to conduct a research on the trend analysis of educational researches with various variables, submitted in three major universities of Varanasi, India.

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