Quality Research in higher education

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INTRODUCTION

Research is systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles, or theories, resulting in prediction and possibly ultimate control of events (Best and Kahn, 1999). Research indicates ardent curiosity and fertile imagination. It is a attitude of scientific enquiry. Research is a systematic, controlled and empirical procedure to seek hidden facts emphasizing prior planning which envisages the quick and systematic pattern. Research needs sustained procedure, which engulfs lot of thinking and activities (Matheswaran, 2008). Research investigates ideas and uncovers useful knowledge. It is personally rewarding and socially beneficial. Most would accept that research is an essential component for a well-rounded academic culture in any higher education institution; it contributes extensively to knowledge bases and is good for the individual researcher's profile, work satisfaction and career development. If utilised properly it should also be good for the employing institution's profile and contribute, either indirectly or directly, to its income generation. Research has mainly five functions-analytical and explanatory, synoptic, evaluation, forward looking and advisory. The last two are important from the viewpoint of innovation and reform.

Experience of research leads to quality teaching, and quality teaching imparted to the young in turn enriches the research. Research brings transformation and development and also enhances the quality of education. Both research and teaching go together (APJ Abdul Kalam, 2007). Research should definitely inform the teaching-learning process and in turn be supplemented by actual classroom teaching, for there exists a dialectical relationship between the two.

Today's competitive world demands good quality education. It means good academic environment, campus life, classrooms and its environment, appropriate pedagogy, support services and infrastructure, modernisation of library, updation of library books, journals and reference materials, etc. Today improving the quality of education and campus life is the major concern of higher education. Quality is primarily the responsibility of higher education itself (Hegde, 2009). Research matters more than anything else in defining excellence in institutions of higher education. It is one of the major components of higher education in which the combined intelligentsia of a group of finds solution to various problems of society and nation. Research is an important parameter in ranking of universities world wide. In many countries, the universities are regularly assessed for their quality of research output. Recently, the National Knowledge Commission of India (2007) in its report on Higher Education stated that "Universities must become the hub of research once again to capture synergies between teaching and research that enrich each other. This requires not only policy measures but also changes in resource allocation, reward systems and mindsets." The Commission also stated that the importance attached to research has eroded steadily over time and the volume of research in terms of frequency of publication and quality of research reflected in the frequency of citation or the place of publication, on balance, is simply not what it is used to be.

Much more has been said about the deterioration in quality of research till date. Unfortunately it is still continuing in our universities/institutes/colleges. Presently, the quantity of research in linguistic, sciences, social sciences and engineering & technology is large but its quality is very poor. There are inadequate facilities for research in colleges and universities, and also there are few competent people to guide it. 90 percent research supervisors are incompetent to guide their research scholars. They do not know even fundamental knowledge of research and statistics. How the research problems are selected and synopsis is made in some universities, is also an alarming bell for research. Consequently, research itself has to suffer and ultimately the quality of higher education (Danik Jagaran, 2008). On the other hand, it is a fact that some researchers lack in their commitment and may not have the research aptitude; they might have joined research to get a gainful employment or promotion in their career. There not sufficient research journals, encyclopedias, subscribed e-journals, internet facilities for students etc. in most of universities' departments and colleges. There is no central clearing house of researches completed/being pursued and as such there has been considerable duplication of work. These are some glimpses about the research which is still continuing in higher education except a few exceptions. Consequently, the very credibility of university research and its relevance are aggressively questioned now-a-days.

Quality Research

According to Oxford English Dictionary, quality means 'degree of excellence.' The quality of any product can be quantified, measured and compared with other product. But it is difficult to measure the quality of education, as it is a service. According to Malcom Frazer, "Quality in higher education is an complex idea but above all it is about what students have learnt as a result of their interaction with their teachers, departments and university. Quality is a multiple concept in higher education. It embraces the quality of input such as students, faculty members, the infra-structurer and the process of education, covering learning activities, extra-curricular activities, community development activities etc. and the quality of output, in terms of students who obtained their diploma/degrees". But quality of all these input and output components of higher education depends upon quality of research being done in the field of higher education relating to its input and output component.

A research providing solutions to the societal problems/ contributing in the domain of knowledge is called quality research. While everyone pleads for improving quality, there is little agreement as to what constitutes quality in research and how it is brought about. To some, quality is the result of rigourous adherence to norms and procedures. If research is not scientific in terms of methodological sophistication, it is said to lack of quality. To others, the quality of a piece of research consists in its relevance and usefulness, it's impact on educational practices. If the findings of research cannot be used to improve the practices in the higher education, the research lacks quality. Quality research most commonly refers to the scientific process encompassing all aspects of study design; in particular, it pertains to the judgment regarding the match between the methods and questions, selection of subjects, measurement of outcomes, and protection against systematic bias, nonsystematic bias, and inferential error (Boaz & Ashby, 2003; Lohr, 2004). Hence, we look at the quality of research in terms of three components of research: the research problem, the methodological design and the research report.

Good research reflects a sincere desire to determine what is overall true, based on all available information, as opposed to bad research that starts with a conclusion and identifies supporting. A good research document empowers readers to reach their own conclusions by including (Litman, 2008):

A well-defined question.

Description of the context and existing information about an issue.

Consideration of various perspectives.

Presentation of evidence, with data and analysis in a format that can be replicated by others.

Discussion of critical assumptions, contrary findings, and alternative interpretations.

Cautious conclusions and discussion of their implications.

Adequate references, including original sources, alternative perspectives, and criticism.

National Center for the Dissemination of Disability Research (2005) has mentioned the following standards for assessing the quality of research:

Pose a significant, important question that can be investigated empirically and that contributes to the knowledge base.

Test questions that are linked to relevant theory.

Apply methods that best address the research questions of interest.

Base research on clear chains of inferential reasoning supported and justified by a complete coverage of the relevant literature.

Provide the necessary information to reproduce or replicate the study.

Ensure the study design, methods, and procedures are sufficiently transparent and ensure an independent, balanced, and objective approach to the research.

Provide sufficient description of the sample, the intervention, and any comparison groups.

Use appropriate and reliable conceptualization and measurement of variables. Evaluate alternative explanations for any findings. Assess the possible impact of systematic bias. Submit research to a peer-review process. Adhere to quality standards for reporting (i.e., clear, cogent, complete).

While there is no consensus on a specific set or algorithm of standards that will ensure quality research, the more research studies are aligned with or respond to these principles, the higher the quality of the research. (Feuer & Towne, 2002; Shavelson & Towne, 2002).

The significance of research for a fast developing economy like India is well understood hence receiving due attention in terms of planning, offering facilities, resources funding, monitoring and encouragement. The issue of relevance, implication and quality of research becomes all the more presssing in today's global scientific age and competitive world. Deficiencies in the pursuit of the research gradually weakens teaching and training activities and, indeed, it renders these activities largely frozen in time, irrelevant and least useful for the society. Today, the ability to create new knowledge and the capacity to apply it for development has almost become the barometer of affluence. It has rightly been said that the

intrinsic strength and the affluence of a nation can be attributed to the strong knowledge base created by independent and original contribution to the knowledge (Basa, 2003). Quality control in research is thus not only important but also very urgent.

In order to promote excel Hence in research UGC and various funding agencies like ICSSR, NCERT, ERIC, AICTE, DST, CSIR etc. have taken several steps to improve the quality research work in institutions of higher education, which includes rising of amount of fellowships, increasing number fellowships, improvement of supervision, monitoring and evaluation, increasing facilities for research scholars etc. Recently, UGC has directed all Indian universities to conduct entrance exam for M.Phil/Ph.D. programme, which will be proved mile stone in the path of improving quality of research in higher education.

The UGC has also established seven autonomous inter university centers for promoting research in frontier areas. The regulatory bodies of higher education and universities in the new millennium must take the task of channelising the higher education and research, to make society realize the qualitative fruits of new innovations and ideologies and transforming India into a knowledge society.

Suggestions for Qualitative Improvement in Research in Higher Education

There must be a centralized "Aptitude Test" for Ph.D. aspirants on national/state level and research scholars should be allotted to different universities on the basis of their grading given to him keeping in view their research output in terms of publications, citation counts, etc. Top rankers should be given to top graded universities/colleges and so forth. Also, there must be some coursework of one/two semester on research methodology, statistical analysis, report writing etc. along with some research paper publications in national/international journals by the researcher before submitting the thesis for evaluation to the university/institutes.

Good quality research can also be ensured by making the research students undergo a detailed orientation and training at the beginning of their study. A part of this training should be in workshop mode and a sizable section of this training must be devoted to development of ICT related skills of research scholars.

Selection of research topic or problem is the most crucial step in any kind of research, which needs lots of effort and time on the part of the researcher. But in the actual situation very little time is spend on this aspect, which leads to selection of topics, which are overdone, and not according to the actual needs of the society, later on affects the quality of research. There should be "National/Regional Digital Database", given on each university website or UGC website, of researches/projects already completed in each and every discipline to check this problem. Also, registration of research topic should be strictly in accordance with teacher's expertise and specialization and not otherwise.

Viva-voce examination is also not so well designed to test the in-depth knowledge of the researcher, as it is only a formality to be fulfilled. This gloomy picture must be redesigned in such a way that it carries some weight.

There is a need to make the grammar of research quite simple and free from pedanticism. Several terms in research grammar should be well defined so that the researchers understand the meaning easily. The issues related to research grammar like research design, sampling process, hypothesizing or statistical designs have to be made streamlined in such a fashion that the researchers do not remain confused.

The selection of research supervisors must be made on the basis of their publications, projects completed and papers presented in seminars/ conferences/workshops etc. The quality of research supervisor should also be adjudged after every five years by their ability to publish certain number (which will vary for universities and colleges depending upon their NAAC grade) of research papers in reputed journals/periodicals.

Coding system must be used in thesis/ project evaluation for ensuring the fair evaluation of the thesis/project. There should be developed some Evaluation Performa for evaluating a research project/thesis/dissertation.

There must be seminars/conferences/workshops etc. on various aspects of research at regular intervals as well as during summer vacation to update knowledge of researchers and supervisors both. From time to time distinguished personalities should be invited for special lectures on various research themes in universities/institutes/colleges.

There is need to develop a quality culture in our institutions. This will require mental infrastructure more than physical infrastructure because quality depends upon our sincerity of purposes, our vision, and conviction to do our duties. The development of such a culture will depend upon the academic leadership of an institution. The leadership must create an environment, which encourage performance.

Hostels with Internet facility for research scholars, regular payment of fellowship, labs with modern equipments and proper infrastructure! facility, co-operation and coordination from the university/institute/college's administration, encouragement to publish research papers in national/ international journals and participation in seminars/ conferences/ workshops etc. are some other important suggestions for improvement in quality of research and ultimately quality of higher education.

Research findings should be used in curriculum organisation, determing teaching-learning pedagogy, creating appropriate learning environment, using audio-visisual aids, examination and evaluation work, determining norms and standards for research programme, university administration, managing higher education etc.

Last but not least suggestion is use of research findings in policy-making in higher education to improve its quality. Reforms and innnovations have to be based upon a proper understanding of the factual position and a clear perception of

future requirements. Research findings should logically have an important part to play in decision-making relating to reforms and innovations in higher education The results of research, however, need to be clearly and forcebly presented in order to guide the political and administrative considerations that, in most societies, influence decision-making. Meta-analysis of researches has made us all the more hopeful that relationship bond between researches and policy-making will be much better. There will be positive changes in the education system because decisions at any level will be governed by the conclusions of researches and not by whims of any person or party (Govil, 2003).

Concluding Remarks

Research is the soul of higher education and of progress in modern society. Research must be a culture in universities/ institutions of higher learning to make India globally competitive. The universities/institutes in the new millennium must ensure the task of channelizing the higher education and research work, to make the society realize, the qualitative fruit of new innovations and ideologies. Unless we take conscious and concerted attempts to make our research programmes rigorous and scientific the quality of our research work would be substantial. In a nut shell, quality research is possible only if there is strong support in terms of books and journals, ICTs equipments and human resources, financial resources, stringent regulations, monitoring and evaluation, commitment for good research on the behalf of supervisor and researcher both, etc. We should not forget the slogan, once upon a time, had been given in the western world "Publish or Perish".

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