SKILLS REQUIRED IN A RESEARCHER FOR DEVELOPING INNOVATIVE APPROACHES TO RESEARCH

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ABSTRACT:

Research explains, predicts and creates new knowledge in a world where new ideas, new processes and new technologies can be communicated and implemented with unprecedented speed, the capacity of a society both to create and introduce beneficial innovations is vital to economic success. Most of this innovative capacity is derived from research. Research is done to open new frontiers of knowledge, so it should help in adding something new to the existing theory or concept. Research should also facilitate the discovery of inconsistencies in the currently accepted ideas and findings. It should help educationists, teachers and students to achieve certain practical values from the findings. In order to develop innovative approaches in research it is essential to develop certain skills in the researcher. Interdisciplinary work would help give insight in research. Although each discipline-arts-science-social science, medical sciences have their own specialist skills, there are few basic skills which all researches must acquire. These include project formulation, project execution, mapping and management. Researchers need to develop academic skills like critically reflecting on literature, designing a research proposal. They should be able to evaluate their own work and that of others. Researchers also need to develop problem solving skills so that they can devise strategies to work towards a solution to problems. The initiative skills i.e. having the confidence to make decisions and to act on them also need to be developed in the researcher.

Keywords: Research, Innovative Approach, Presentation Skills.

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Research, is based on logical and critical thinking. It is based on evidence. It is aided by systematic methods of logical inquiry and reasoning. If we want, to produce quality research we need to maintain high academic standards. Human resources are the key factors needed for the research culture to evolve. (Rajan, P.K 2006)

An old Chinese proverb rightly says, 'It is better to light a candle than to curse the darkness". Therefore, there is a need to develop few basic skills which will help all researchers to develop innovative approaches to research. Developing basic skills would help develop research competency in scholars. Research competency, is essential if we want to produce quality research. Research competency is a multi-dimensional competency that includes awareness about the educational issues and problems, a vision to see their interrelationships, skills to formulate research projects, analyse data and report research findings (Rajan, 2006)

Research is done to open new frontiers of knowledge. Every new project should add something to the knowledge already existing. The researcher should be so trained that he/she has an innovative approach to research.

Unfortunately in India, all research projects do not give new information. For example, dissertations are compulsory at the M.Ed. level in most Universities. The topics selected are a mere repetition of the previous ones. The problem selected for the project is according to the *'Band Wagon'*. Each band remains for a limited period of time and then passes away. In order to ensure quality in research, it should not be confined to one band only. There should be identification on Thrust areas (Laxshmi 2006). This is possible only if the researcher develops certain skills for project formulation, execution and management. The skills that the researcher can develop include ICT skills, thinking skills, decision making skills, cognitive skills and analytical skills. The present paper discusses the following two skills:-

1. **Developing Thinking Skills**
   a. developing capacity for observation
   b. developing logical skills
   c. developing awareness of language
   d. developing an understanding of the nature of framework.
2. **Developing Decision Making Skills**
   a. Choice of Tools
   b. data collection
   c. data storage skills
   d. data analysis skills
   e. data presentation skills

THINKING SKILLS

These can be developed by paying attention, to four basic aspects of thinking:

(i) The capacity for observation

Keen observation is indispensable for research. A researcher needs to develop the capacity for systematic and minute observation. Observation is essentially *disciplined perception*. It involves knowing what to look for, how to look for it and then to know how to organise what we have found. The researcher can develop worthwhile observation if he/ she learns to form a framework of ideas to guide his/ her observations The researcher should develop the skills of organising the observations into a coherent pattern.

(ii) Logical skills

A researcher needs logical ability to examine the validity of arguments. The richest data will be useless, unless it is organised in a coherent argument. The ability to think coherently requires a mastery of rules of inductive and deductive logical skills.

(iii) Awareness of language

Language is not just a vehicle of communication. It is the very medium of our thought. The clarity of thought is proportional to the clarity of our language. Therefore, in order to think competently the researcher should be able to understand, the way language functions in different contexts. Skilful thinking demands that the researcher

cultivates the ability to understand the ambiguities and distortions that can arise from the conflation of the different uses of language. The researcher should develop the skills of writing. He should be in a position, to write grammatically correct sentences in English language. He should also develop the skills of making proper use of vocabulary and grammar.

(iv) An understanding of the nature of frameworks

The researcher should also develop the ability to understand the role of conceptual frameworks, where all thinking takes place. Human beings get conceptual frameworks from diverse sources such as religion, science, culture and art. Some of our frameworks we inherit as part of our tradition, while some we acquire in the process of education. The researcher should develop the skills to critically look at conceptual frameworks. This would help the researcher to take particular conceptual frameworks particularly from different fields, systematically dismantle them, study their hidden, often unexamined assumptions, analyse their logical structure, observe their rhetoric (i.e. the way they use language for persuasion) and investigate the objectives served by them (Syed 2011)

By developing these abilities the thinking skills of the researcher can be enhanced.

DECISION MAKING SKILLS

The major task of the researcher is to collect data and analyse it on the basis of data presentation. The researcher gives the findings of the study. The researcher needs to make a proper choice of tools and data collection techniques. It is thus essential that he/she develops decision making skills which include:

(i) Choice of tools

Firstly, there have to be certain instruments for collecting data. The instruments can be tests, inventories, interview schedules, questionnaires, observation schedules etc. It is important that the researcher chooses a well constructed and tested instrument, since quality of data can be only as good as the instrument itself.

(ii) Data Collection

Data can be collected from various sources. However, it should be valid and reliable data. The researcher should be so trained that the data collected is valid. The validity of the data depends on the kind of questions asked. The researcher's skills should be so developed that the questions be asked directly on the issue on which data is required. The question of reliability and dependibility is based on whether the same question will get the same response, if repeated. Depending upon the situation, the respondents may have to be taken into confidence before data is collected. This is particularly important where data on individual performance is concerned. In such cases, the researcher needs to develop skills in data collection.

(iii) Data Storage Skills

Research is a long term perspective and data needs to be stored for comparison over the years. The data can be stored manually on files or electronically on computers. It is obviously useful to store data on computers for easy retrieval. Computers can also be used to carry out necessary analysis. The researcher needs to be trained in skills of data storage so that he/she can make use of this data.

(iv) Data analysis skills

A researcher needs to be trained in data analysis skills. This requires a wide range of application of statistics ranging from a very simple descriptive, statistics like central tendencies, dispersal percentage and frequency distribution to extremely complicated predictive methods like regression analysis of variance, analysis of covariance factor analysis etc. The researcher needs to be trained in predictive analysis for generalisation of research.

(v) Data Presentation skills

This is another very important skill which the researcher needs to be trained in. The data can be presented in many forms like tables, graphs, pie-diagrams, bar-charts, line-charts etc. The researchers can develop skills to meaningfully present data through graphs, which being visual, make for more effective communication (Mukhopadhyay, 2005)

In order to develop innovative approaches to research these skills can be developed in the researchers. Research would not be of quality if done by any person whose basic concepts are not sound. The researcher should have knowledge of fundamental principles of research, besides developing the above mentioned skills. The use of Information and Communication Technology can be made for developing the skills. A data base of researchers already available in the state can be created and updated every year. This group can be empowered. To provide leadership to all research initiatives in the state. Such efforts have been undertaken in the state of Gujarat and a compendium of research as well as Knowledge Atlas has been created and made available to the academic community (Jyanti, Patel 2013).

Thus, in order to develop innovative approaches to research it is essential develop thinking skills and decision making skills among researchers.

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