# RESEARCH - VIEWS

**By Jacob Nettikkatt,**

**Many people, especially my students, have wanted to know my views on research, because all of my six inventions have been achieved only through my personal research at home as a hobby, without any external help. One of them i.e. 'The Scientific Methodology to teach a Foreign Language' contains more than 5,700 discoveries and inventions. So, I give below my views on that topic.**

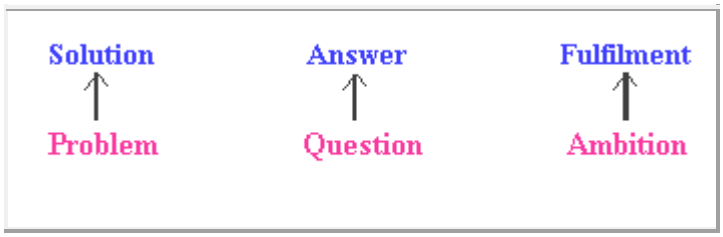
## Purpose of Research ?

**Briefly we can say that the purpose of research should be to produce science i.e. to produce knowledge or ideas or thought ( or application of it ) which helps increase speed, accuracy, easiness, efficiency, or security in any field, or bring about new items, new usages, new order, comfort, economic gain etc. whenever and wherever wanted. We can divide all these items into three headings : (1) to find a solution to any problem which is to be confronted; (2) to get the answer for any question that has to be answered; (3) to fulfil any type of ambition which one has. So, usually the question of research will come only when there is a problem, or a question or an ambition to be tackled. If research is done for one of these three purposes, it can be meaningful, objective and result producing.**

**Since the recent past, maximum research has been done for the third item. Genuine research has resulted in the invention of electricity, numerous types of machinery, equipment, instruments, telephony, telegraphy, photography, telescope, vehicles, rockets, weaponry, computer, e-mail, medicines, medical treatments and thousands of progress-promoting and destructive items in the world.**

## What is research ?

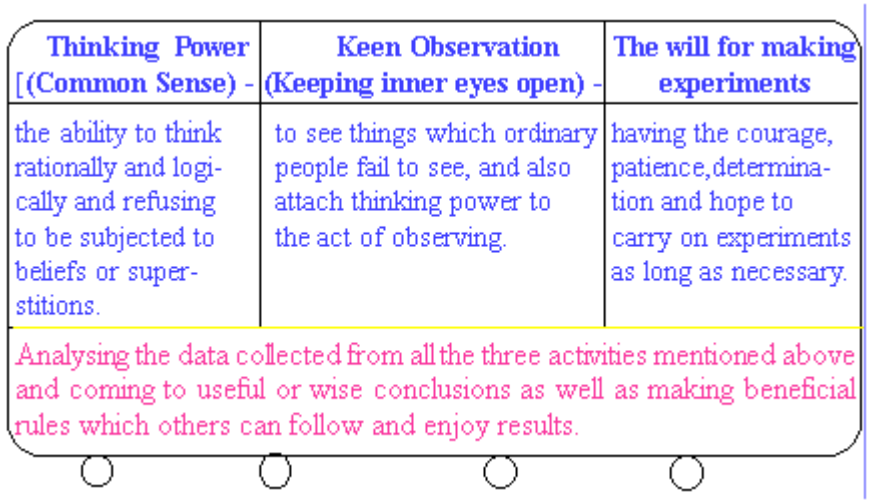
Having understood the purpose of research, we can now define it as '**a journey to or search for solutions from problems; or for answers from questions or for fulfilment from ambitions'**. We can make a diagram to represent this definition as shown below :




## Research Vehicle for the journey :

**For every comfortable journey, we need some vehicle. The most ideal vehicle for this purpose is a 'mini-train' having three double-decked compartments, each containing some requisite ingredients for producing results out of every research, as shown below :**

**THE RESEARCH VEHICLE**




**The fare to be paid for a journey by the 'research mini-train' is not in terms of money, but is the possession of certain basic qualities for good research, such as : courage, patience, perseverance, hope, rational and logical sense, readiness to accept new ideas and to undergo changes, resistance to stagnation in thoughts, a determination not to surrender to failures, readiness to do hard work until success is achieved etc. There must be an uncompromising attitude and a genuine passion in the researcher to achieve results.**

## Methods of research :

**Research can be done in different styles as decided by the researcher according to his own conviction. Thinking on the subject concerned is certainly one of the methods. Observing available situations, facts or data is another method. Making suitable experiments is yet another method. Asking relevant questions on the topic and finding out the answer is another method. Making enquiries, conducting surveys or collecting samples connected to the subject is an allied activity. Enquiries, investigations or surveys may be done directly on the concerned items, at the concerned place or from the concerned people by personal enquiries, interviews etc. or indirectly through correspondence, especially by designing appropriate forms for their filling in. Relying on data prepared by different agencies is less safe.**

## Qualification for research :

**The highest qualification for doing research, especially productive research, is 'aptitude' for research, demonstrated from previous activities or achievements. Stipulating Postgraduate academic qualification without testing the candidate's aptitude is undesirable, and can be a cause for failure, especially where top scoring is possible from learning by heart questions and answers**

**for examinations. Organising a special written test to know the real worth of the candidate and an interview to test the personality will be the right step.**

## Procedure of research :

**First of all the basis of research i.e. the problem or the question or the ambition must be defined well or understood very clearly, completely and convincingly. Then the researcher should apply his mind objectively and deeply on the topic; study the available books or writings on the topic and make suitable notes, observe minutely the available situations or conditions in the area of research; raise relevant questions and search for answers; if any need for experiment is felt, carry it out in a planned manner. All these steps have to be continued till sufficient quantum of information or ideas or data come out. Then, they have to be collected and recorded systematically. After that they have to be classified rationally and logically, to be analysed from different angles. After that, a rational, logical and satisfactory conclusion has to be arrived at. And finally a rule has to be made out of the concluded matter so that other people can use the result of the research by complying with the rule. But before stopping research and announcing the rule to the public or publishing it, a test run of that rule should be made to ensure satisfactory result every time it is applied.**

## Pre-requisite of research :

**One pre-requisite for doing productive research is to learn what others have done in the field selected for our research and then to understand what achievements they have obtained; if they have failed, we have to know where, when and how? The need to know their failures is more than their achievements, because that helps us prevent our own falling into the same pits which they have fallen into.**

## Outcome of research :

**If you travel by the 'research mini-train' and do research on the principles mentioned above, you will surely become a scientist (one who has produced science and not merely understood it) for practical purposes in any walk of life, no matter whether somebody confers designations on you or whether you end up with a PhD degree. A person doing research or a University allowing anybody to do research mainly for a PhD degree should be regarded as a misuse of the degree or the right to confer degree, because the public or the nation which supports such research financially, will not have any gain out of that. Similarly, it will be beneficial if Universities in a country are ranked on the basis of 'what contribution they have made in the field of production of science' and not on the basis of the number of PhD degrees conferred by them. It will also be desirable if the University announces through the media what 'contribution to science' has been made by a candidate, before conferring PhD degree to him. I make this proposal, because I have met a person in Calcutta who received a PhD degree for commenting on a**

**drama written by an average Bengali dramatist, who himself was not a PhD holder. That gives the impression that getting a PhD degree from a University is not a higher task than graduating now a days. For a high grade of contribution of science, a more valued and distinguished degree can be devised so that there will be an urge in the candidate to produce more science and make the world richer.**

## Utility of research in everyday life :

**The belief that 'research is an exclusive activity either in a University or in a recognised Research Institute' is an obsolete idea to be dumped into the dustbin. The research principles mentioned herein are useful in every walk of life, starting from the housewife in a kitchen to the highest manager in a factory or organisation as also from the smallest technician to the greatest technologist. They are equally applicable and useful for leaders, teachers, artists, farmers, workers and all who wish to be successful in life. Because, everybody will have to confront problems in their work or profession and only if they have a research mind, they can find out a solution and go ahead with their work efficiently; otherwise, they will have to depend on somebody else, which will be more costly and delaying the process often. Also in their daily life, they will have to confront questions for which they may not have ready answers. Such questions may be from their own children, from students, from subordinates, colleagues, friends or relatives. If we are able to give the answer, our position becomes stronger and we will be on the way to success.**

## Funding of research activities :

**The method of funding of research activities by the Governments of individual countries, especially through Universities, is subjective rather than objective. It is like 'putting the cart before the horse', because they budget the fund according to their financial capacity or availability of fund with them, and not on the basis of estimated requirement for specified objectives. When a certain amount is provided for research and allotted to a University during a particular year, the Research Department will be compelled to find out people with the prescribed qualification, just to liquidate the fund received by them within the specified time limit. They will do that mainly to avoid lapsing of the fund and accumulating blame on them for the lapse of the amount. These factors may partly be responsible for the present system of inviting Postgraduates with high percentage of marks (whether they have any taste & capacity for research or not) and register name for research mainly to avail the fund allotted and to get a psychological satisfaction of being called a "Scientist" or to get a PhD degree. There starts the drainage of national resources of hundreds of crores of rupees every year with no beneficial return.**

**If research proposals are submitted together with the estimated cost in advance, as done in many Research Institutes, and fund is granted later on, there will be a chance to verify whether the**

**proposal is viable and worthwhile, and the chance of wasting the fund can be avoided, at least to a great extent, if not totally.**

## Conclusion :

**There has to be a rethinking on a few headings relating to research. One such item is the idea of having a guide compulsorily. It can be left to the candidate to decide to opt for the guide. The strongest reason for this suggestion is that at present it is the Guide's brain power that will be prominent and reflecting in the research, whereas it should be the exclusive work of the candidate himself. Another valid reason in this case is that if the Guide aspect is compulsory, he may get a chance to misuse his authority and victimise the candidate, if he does not like him or his activities. The scope for this is more when the candidate has more advanced thinking than the Guide himself, in which case a wonderful research work may be jeopardised.**

**If the rationale for having a Guide is to make uniform preparation of the thesis, a standard format can be provided to every researcher who will be free to demonstrate his own ability in handling that.**

**Another point is that the thesis prepared by the researcher should not be merely notes on what he has read from different books and a conclusion, but what new thoughts or ideas he has produced on the subject. Greater importance should be given to production of science than for mere library activity. In short, research should take the society or the world at large forward and not keep it stagnant or deteriorate the conditions.**

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