ABSTRACT

Research is defined as the deliberate study of other people for the purpose of increasing understanding and knowledge on a specific field. This study could cover many different areas. A researcher might be interested in attitudes and behavior – why do people think in a certain way and why do they behave in a certain way? Or the researcher might be interested in numbers – how many people use a service? Perhaps the researcher needs to try to predict how this number of people could be increased to calculate the funding needed to set up the service. Also, the researcher might be fascinated by the personal history of a neighbour and have a burning desire to record her history and pass it on to others. It will also appeal to others who have already conducted research and who are interested in finding out more about other research methods that can suite their personal research style.

Key words: Research methodology, effective research strategy, research planning, research ethics, purpose of research.

Introduction

Different people have different reasons for conducting research. Some are required to undertake a project as part of their course work. Others might have to conduct a study as part of their employment. Some are simply fascinated by something that they have observed and want to find out more. This paper offers advice on how to turn ideas into a workable project and how to keep motivation level high, especially if there is no real inclination to become a researcher. It discusses the issues involved in thinking about your research and defining your project, before moving on to the methods – how do you actually do your research, analyze your findings and report the results? Over the decades there has been a great deal of discussion on what constitutes research, how it should be conducted and whether certain methods are ‘better’ than others.

Another trait an excellent researcher needs to possess is a flair in scientific writing. It is easier for English-speaking researchers to produce high quality articles because the ultimate barrier in presenting research result which is the language barrier is very little. Most of reference articles are also widely available in English language which can be quite difficult for other researchers who are non-english-speakers to understand, mostly from the lack of vocabulary (Okamura, 2006). Many writers commented that by mastering the English language, writing process becomes relatively easy (Ab-Rahman et al., 2011). This situation leads to the development of strategies practiced by these researchers to overcome this particular problem. Okamura (2006) came up with two strategies for this purpose which are learning and writing strategies, specifically for Japanese scientists. Even though these strategies prove to be helpful, however some problems do still exist such as lack of time to polish their English language in a highly competitive environment.

Lei reported four writing strategies that have been adopted by Chinese researchers in the 2008 article focusing on mediated-actions writing namely artifact-mediated, rule-mediated, community-mediated and role-mediated strategies. These strategies can be explored in depth by referring to the author’s article.

Competitive nature is another must-have attribute for an excellent researcher (Liao & Cheung, 2002). Research produces intellectual property which will contribute to the country’s economic growth. It is therefore important to be aggressive in optimizing research and development and this is a role scientists have to fill. The process after research and development is another important aspect in a research cycle which is disseminating research findings. Two common mediums used by researchers to perform this task are research articles and research theses, which once again emphasize the importance of writing skill in an excellent researcher (Koutsantoni, 2006). The most principle reference for researchers in the academic community is usually research articles especially when it comes to refer newfound scientific claim. According to Koutsantoni, theses’ role is to provide their producers with valued professional credentials and membership discourse communities.
which many consider as “major intellectual enterprises”. Being competitive usually derail researcher from one of the most important aspect of scientific research which is ethics. This topic can conjure an endless heated debate among academics but every researcher knows what is right or wrong when a research is conducted. Some dilemmas regarding this problem might occur from only one individual in the research group so it is important for the head researcher to monitor the research flow and perform inspection on peculiar research behavior (White, 2009).

**Define Your Projects:**

Research can be a long process and takes up much of your time. It is important to stay interested in what you’re doing if you are to complete your project successfully. However, if you want to conduct some research because something has fascinated you, or you have identified a gap in the research literature, then you are lucky and should not have a problem with motivation.

Many research projects fail because people don’t take enough time to think about the issues involved before rushing to start the work. It is extremely important to spend time thinking about your project before you move on to the planning stage. Through careful thought you should stop yourself wasting time and energy on inappropriate methods as your research progresses.

**The Five ‘WS’:**

When you start to think about your research project, a useful way of remembering the important questions to ask is to think of the five ‘Ws’:

![Five Ws](image.png)

**Fig. 1:** Five Ws that can be elaborated in research.

Once you have thought about these five ‘Ws’ you can move on to think about how you are going to collect your data. The obvious answer to this is to choose a topic which interests you. Most of you do have this choice within the limitations of your subject – be creative and think about something which will fascinate you. Think about your personal characteristics, likes and dislikes, strengths and weaknesses when you’re planning your research.

If your research is to be employment based, the chances are you will have work experience which you’ll find useful when conducting your research project. For example, if you have been a student for three years, you will have developed good literature search skills which will be very useful in the research process. However, this is not an exhaustive list of factors motivating people to undertake research studies. Many more factors such as directives of government, employment conditions, curiosity about new things, desire to understand causal relationships, social thinking and awakening, and the like may as well motivate (or at times compel) people to perform research operations.

**How to Achieve the Purpose of Research:**

It is important for every researcher to determine the best method or technique to achieve the research objectives. A good research meets certain criteria and must be ethically accurate (Ab-Rahman et al., 2011b). This is to ensure that the goal of the research is current and can be accustomed to research that will be carried out in future. Furthermore, the objectives can be fully achieved. There are several methods that can be practiced to achieve the purpose of research shown in Figure 2.

Researcher needs to bear in mind that it is important to always follow the systematic procedure and take necessary steps to produce a smooth research operation. Furthermore, the result obtained will be more satisfactory and answering the objectives. Thus, research methodology is designed due to the fact that it contains every steps that should be taken to achieve all research objectives.

Research methodology will be thoroughly discussed in a simpler way in the following chapter. Figure 3 shows the steps that should be taken to carry out research in a simple manner and therefore, produce an excellent result.
Identify goal
Research objective and goal have to be clearly identified to ensure that the researcher is on the correct path towards achieving the goal.

Set the period
The period to achieve the goal must be planned carefully in order to eliminate overlapping tasks. A systematic planning allows a consistent and proactive research.

Read more
Every researcher knows the importance of having vast amount of knowledge and new ideas through extensive reading. This really helps a lot in solving every problem encountered throughout the research.

Honest and trustworthy
These attributes need to be instilled in both personal and research life. It is important that researcher be aware and always abide by the rules involved in the research.

Effort and Determination
Support all the planning with the utmost effort and ongoing determination. Researcher needs to channel all the energy and focus into the current effort to produce greatness in the future. It is important never give up and accept every mishap as a positive challenge.

**Fig. 2:** How to achieve the purpose of research.

**Fig. 3:** A systematic research procedure.

*a. Research Problem:*
Interesting issue usually becomes the ultimate booster for research to be done on it. Research problem is very important and is the main factor to decide whether a research should be continued or axed.

*b. Research Objective Determination:*
Research objective is usually mentioned in the first line of the abstract to express the main idea of the research. Objective needs to be defined clearly and accurately because it holds the whole research together.

*c. Literature Material Reference:*
This is defined as referencing critically and systematically on documents that contain information, idea, data and information retrieving methods related to the field of research.

*d. Research Design:*
This part is determined by the research objective. For research that employs different a variety of designs, the researcher has to decide which design is the most suitable for the research purpose.

*e. Instrumentation:*
Research instrumentation depends on the executed research.

*f. Data Collection/Field Work:*
These should be done with the simplest recording method to make it easy for analyzeation process.
g. **Data Analysis:**

This process employs raw data and transforms it into something useful which enables the researcher to suggest a solution which will back up the result. More than three readings are required to ensure the analysis credibility.

h. **Research Result:**

Result obtained can be presented in a number of forms such as report, proceeding paper, journal article, and so forth. This can disseminate the information to the public and becomes references for others who are working on similar studies.

Figure 4 shows the planning and management involved in research. These are done to ensure that all the processes are going smoothly and systematically. A carefully planned research will facilitate the researcher to meet the objective successfully.

*Fig. 4: Research Process Management (Zina O’Leary, 2004).*

**Research Strategy:**

Research strategy is an approach that is related to the research execution and activities involved in a certain period of time. A good strategy contains principles that support the research execution rationally, efficiently and possess tactics to achieve a purpose in an effective manner. The applied strategy can also help to enhance the research level which is shown in Figure 5. Also, there are a number of techniques that researcher can apply to optimize the research findings.

*Fig. 5: Strategies Applied in Research.*
Conclusion:

Everyone at some point in life becomes a researcher. Surviving to exist also requires complicated research with countless trial and error. This shows that it is not an impossible thing to become an excellent researcher. In term of scientific research, it is undeniable that there will be a set of rules to follow and a great amount of aspects to consider. It is important to note that there are still unexplored strategies for a researcher to practice in making a mark in the research world. Curiosity plays an important role in defining a researcher because this will keep the research going. It drives researcher to learn better English, collect more data, analyze better results and so forth. When a good strategy has been devised, researcher has to be prepared to do some little tweaking when the plan does not run smoothly because every research will encounter unexpected bumps along the way. The flexibility of the plan is what makes a good researcher because rigidity will only limit the scope of the research.

Rapid technology advancement requires researcher to be competitive in the research and development area, which will not only benefit the researcher but also to the faculty and the community. Researcher should take a positive outlook from this situation because more opportunities for more products are created and there is no right or wrong. The courage to get up from mistakes is what makes a successful researcher because this is a clear indication that the researcher really understands his or her research inside out.

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References


