Motivation for Research and Publication: Experience as a Researcher and an Academic


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Abstract

Research is conducted to identify problems or to find answers to ‘uncertainties’. Studies are conducted because there is uncertainty about a phenomenon that either has, or has not occurred. Research also aims to use the best method to solve problems, whether or not experiments are conducted. Meanwhile, the main purpose of writing and publishing is to disseminate research findings and to share new knowledge with other researchers in their respective fields. The most important product that should be highlighted is that the results of research should benefit the community. This paper collects some of the views of researchers who are lecturers from Malaysian Higher Learning Institutes, who have been successful at the national and international levels and who have produced high-quality publications. These views were obtained through interviews (face to face, phone and email) and can be used as tools to motivate young researchers.

Keywords: motivation; research; publication; teaching; writing;

1. Introduction

Every investigation begins with ideas that are further developed and inspired to address a variety of situations and circumstances. Research is also a systematic effort to get answers to a certain problem. Sakaran (2000) defined research as a process for finding a solution to a problem after making a deep analysis and conducting studies of relevant factors. In general, research is a method designed to ensure that the information obtained is reasonable and supported by the quantitative and qualitative data, and that involves a systematic process. It includes the process of designing research methods, collecting and describing data and reporting information. Thus, research could find answers that resolve the uncertainties of a problem.

Research and publication have now become major tasks for academics in addition to teaching. These three roles are mutually related to each other. New knowledge is being discovered at the same time that existing knowledge is
developed through research. Research is not only done to obtain a degree, in fact it has become a task that is obligatory. It is an undeniable fact that excellence in research and production of high quality publications are able to enhance the reputation of an institution of higher learning. A researcher must make wise choices of a suitable form of publication for every result obtained. The processes of publishing research findings differ from one another according to several criteria. According to Ogden and Bartley (2007), a conference paper is easier to produce than are journals and books. However, the quality is lower unless the paper is subjected to strict editing. The most important benchmark for quality in academia is the quality of publication. Zaini (2009) stated that the secret of success in academia is publishing, publishing and publishing. Opthof (1997) explained that reputable universities require publication of research findings in indexed, high-impact journals for job promotion purposes. However, post-conference papers can be upgraded to publications in high-impact indexed journals by presenting the paper in a conference or seminar to obtain comments and feedback for improvement.

This paper communicates beneficial advice and motivational statements made by successful researchers to share this information with new researchers. These successful researchers were selected from different higher learning institutes in various fields to obtain a broad point of view concerning research. Examples of the questions asked of these researchers were “What is the best way to disseminate research findings?”, “How can great research publications be produced?” and “What are the tips for becoming a successful researcher and academic?”. The purpose of these interviews was to seek the views of reputable academics in order to include these views in the research management modules prepared for the Ministry of Higher Education, Malaysia.

2. Excellence in Research, Writing and Teaching

Every successful academic has an individual approach to handling his or her career tasks. An academic has many complicated tasks that must be completed before a certain deadline. Beginners might find this expectation overwhelming because these tasks might seem unrelated to each other. A beginner might be able to complete all the tasks given, but the quality of the finished products might be low. The purpose of all the interviews conducted for this paper was to gather information from successful researchers and academics about the ways in which they manage their jobs as lecturers and researchers. The views and advice received from those role models can be summarized as follows.

2.1. Research Motivation

- Manage time and work systematically. For example, in time management, a systematic timetable will make life more manageable. Software such as Google Calendar can be used for this purpose.
- Researchers must keep in mind that the main motivation in developing their research is their deep interest in the field, not because of money.
- Every researcher must have a high degree of confidence and must never give up easily even at one time a research will seem to reach a dead end. However, if the researcher is sincere about gaining new knowledge, the research will eventually be a success.
- Researchers should never keep quiet about their newly acquired knowledge and must always be willing to share information with their colleagues. Cooperation is an important asset for the success of a team project.
- There is no shortcut to gain excellent research results, thus time and energy sacrifices are essential.

2.2. Writing Motivation

- Experience is the key to achieving the skills of producing excellent and high-quality writing. Every day is a part of the learning process.
- Before start writing, we must carefully determine the goal of writing because this goal determines the depth of each writing project.
- Producing great writing depends on the author’s keenness to go all-out in the writing process. A quality product will benefit not only the science community but also the community at large.
- The writer should fully understand what should be written and should choose assignments that have shorter deadlines, such as modules and paper works, so that the motivation to complete the writing will be greater
• The quality of a new author’s writing can be improved by working on a conference manuscript. This experience will build a good writing foundation.
• A trusted mentor can be a good reviewer of the manuscript produced.
• The writing format specified for the assignment should be followed religiously so that the clients or customers will be satisfied.
• Great writing requires high language proficiency and the ability to process research findings that will have a major impact on the readers.
• It is very important that writers cannot plagiarize the works of others and they have to ensure that their works are completely their own. If they have borrowed other writers’ ideas, they must inform the readers.

2.3. Teaching Motivation

• Develop a passion for the most important task in career which is educating. Work that is done with passion will push the person to go all-out when executing the job. If there is a lack of interest, it can be cultivated through understanding of the responsibility of a lecturer.
• Effective time management is an important element in becoming a good lecturer. Lecturers should allocate additional time to write because time spent at the office is allocated to other activities, such as meetings and lectures.
• It is crucial for educators to continue to enhance their expertise in their fields by conducting research, with the hope that the results of the research will produce advances in the area of study and will benefit the country.

2.4. Tips to Become A Successful Academic

• Researchers and educators must pursue 5 key academic activities: teaching, researching, writing, consulting and providing services. It will be difficult to practice all of these activities at first. However in time, it will become much easier to do so.
• Lecturers should focus on their main jobs which are teaching, researching and writing to enhance their expertise in their fields.
• A new and unexplored idea must be seized and handled experimentally. Old or recycled ideas can become useless. Never hesitate and wait for others to push you to explore a new project.
• Researchers have to be prompt and active in completing their research because if the time span is too long, other researchers who are working on a similar project will publish their results first. However, the quality of the research must not be taken for granted.
• Research ethics have to be followed religiously throughout the entire project because we do not want others to find any reason to sabotage our findings.

3. Excellence in Publishing

Another crucial factor in establishing an institution as a reputable higher learning center is to maximize the number of quality publications. Publishing research papers in high-impact journals requires a high level of writing skill, and researchers need appropriate strategies. The ability to write proficiently is an asset for a researcher seeking to publish research findings productively. Boice (1990) stated that researchers should be skilled in the use of good and proper language structures when writing a manuscript. The English language is the primary language in the world of academic journals, so an effective use of written English is a must. Researchers have the opportunity to obtain services from firms such as American Journal Experts to improve their English sentence structure. Peer review is also beneficial and rewarding when publication is the goal. Researchers who have secured large grants need to produce journals of high quality in order to justify the large sum of money that they received. Many researchers would choose to write papers for conferences or proceedings because that avenue of publication is easier. Even though these publications are of lower quality than articles in reputable journals or chapters in books, they can be upgraded by presenting them at a particular seminar or conference where comments and feedback can be obtained. After a rigorous editing process, the quality of these papers will be equivalent to the quality of articles in
journals. The techniques below were implemented by one of the researchers interviewed here to write more than 40 journal papers per year in his research area.

3.1. Multidimensional Assessment

Multidimensional Assessment (MDA) is an approach that can be used to maximize the results obtained from work in research. Its goals can be achieved through doing research and then seeing the results (e.g., a graph) from a variety of different perspectives and points of view (Figure 1). In this way, a relatively modest amount of research findings can be processed in a way that produces a large amount of output. This approach requires creativity from researchers as well as extensive knowledge in a specific area, or alternatively collaboration with researchers from different fields. The results of different points of view can be translated into innovative products such as journal writing technical papers, proceedings and patents. Several chapters describing different aspects of a research area or project can be edited to produce a book. The measures to be taken in applying MDA in research include listing the areas related to research that is conducted and obtaining the views of experts in different fields.

Figure 1 MDA can be applied at the level of research and results

The two simple examples below will help a researcher to understand this technique further.

Example 1: User-to-Network Security System

If we proposed a solution to the issue of safety in a high-speed telecommunications system, signals are sent to users using laser pulses. Alternative routes are made available to ensure that the signals can be transmitted to the users. The dimensions of diversity in this context can be defined as stated below:
1. Design and characterization of the overall safety system (system view)
2. Design and characterization of the devices used to achieve the goal (device view)
3. Costs for development of the system (development cost view)
4. Factors that affect the damage occurring in the system and ways of minimizing the associated impacts (view the cause of the damage)
5. In addition to the prototype design process and the proposed mechanism, we can also publish about the network security issues (security view)
6. The interface of devices with existing equipment (system view)
7. Programs developed to identify areas of damage (software view)

Example 2: Polishing Rate for Polymer Material

Figure 2 shows the data obtained from experiments on polymer waveguide polishing with SU-8 silicon substrates that have been collected. The graph of the polishing rate for sample 1 to sample 3 is plotted in terms of the changes of length of the waveguide. The waveguide is cut off when the polishing is done using sandpaper of 1.0 μm, 0.5 μm and 0.3 μm sizes for 5 min, 10 min, 15 min and 20 min, respectively. The graph in Figure 2 shows length plotted against the rotational speed used to make the cut. The length of the cut increases as the rotational speed increases.
The graph in Figure 2 also shows that the surface area is cut off at different rotational speeds of 200 rpm, 250 rpm, 300 rpm and 350 rpm. Cracking occurs at a rate of rotation greater than 250 rpm. The polymer layer peels off when the rate of rotation reaches 300 rpm.

Using these three graphs, a variety of analyses of the polishing process can be conducted. The graphs indicate the allowable maximum point that can be used in the experiments to find the best method for carrying out the polishing process. For example, it is not practical to use 0.3 μm sandpaper to achieve a length of 3000 μm for the cut polymer. The most effective approach is to start the process by using sandpaper having a large particle size such as 1.0 μm and a high velocity (non-destructive to the limit), followed by medium-sized sandpaper and finally by small-sized gray paper to obtain a better surface. In addition, polymer is deposited on the glass.

Figure 2 Three graphs showing the differences in cut length when different grades of sandpaper are used
3.2. Workshop on Publication Stimulation

This workshop should focus on the objective of producing high-quality publications, whether in the form of articles in high-impact/indexed journals or in book form. Every member of the research group and students should attend this workshop to discuss strategies for maximizing and enhancing the quality of articles produced. This workshop will be more effective if it includes a variety of research emphases belonging to the same general research investigations. Each participant is required to produce an article to be presented and discussed. An even more effective means to achieve the goals of the workshop is to invite an experienced evaluator to provide guidance and constructive comments so that articles of high quality can be produced. The target date for publication and the name and impact factor of the indexed journals should be discussed in the workshop to ensure that the article is published as planned. If any research topic has 10 workshop members whose expertise is in a field relevant to the topic, the group could target a minimum of 10 articles to be evaluated.

Exposure to the correct way of writing and to high-impact publications can help increase the number of high-impact and indexed articles. This aim can be achieved by hosting a talk by an experienced facilitator. Proper writing techniques and quality should be taught to the researchers in order to produce a high-impact article as one step towards producing articles that are high-impact as well as high-quality. One way to provide encouragement and to achieve better cooperation is to include enjoyable activities in the workday. This approach can reduce pressure and tension in the workplace or laboratory. Some examples of the kinds of activities that can be included are as follows:

1. Presentation and discussion of high-impact journal writing
2. Technical writing presentation which is focused on improvement and idea generation
3. Brainstorming on producing a technical paper
4. Sports that can be in groups

Results that are sought from this workshop include the following:

1. Upgrading the quality of writing in articles produced. Thus, produce articles and publish in high-impact journals.
2. Application of proper techniques of journal writing
3. Addition of information to the manuscript and re-publication as a journal manuscript
4. Integration of relevant fields for future projects and writing

![Figure 3 Initiatives that can be used in publications stimulation workshop to maximize results from existing research](image)

3.3. Monitoring pattern

Monitoring also implies achievement of the desired goals. For example, students must submit a progress report to the supervisors during each week or other specified time period in a certain format. The contents of the report must have an abstract, theoretical layout of the apparatus, results, discussion, conclusions and references. The report that has been prepared with these elements has the potential to be developed into a journal or seminar paper. The time needed to write and present research papers in journals and seminars can thereby be reduced. Students will naturally need to know the other elements of the theory and background as well as the results of research studies.
4. Conclusion

Research, publication and teaching are the main tasks for every academic. Sharing of views, useful tips and advice on research, publication and teaching by experienced researchers indicate a long road consisting of time sacrifices, sincerity and firm commitment to their jobs as researchers and academics.

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