

Case Report

Mastering Skills for New Researchers

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EDITORIAL

Research utilizes a cyclical process of steps in order to conduct a study to prove or disprove a hypothesis or answer a specific question [1-2]. It consists of reviewing literature, formulating questions, setting up experiments, collecting and analyzing data, testing hypotheses, and forming an interpretation of information. There are many challenges associated with the research process. The researchers are responsible for dealing with any problems to ensure the success of their projects. When being introduced to an unfamiliar field of study, new researchers often find themselves initially confused on how to begin. For instance, they may not know how to extract information from a large amount of literature to develop a project outline. Without proper guidance, one might become frustrated and lose interest or motivation.

Mastering research skills is crucial for the immersion and enjoyment of new researchers in their respective fields of study. Establishment of skills will provide them with a sense of direction and focus in the early stages of a project. What kind of skills should the new researchers develop? First, it is important to master the basic abilities associated with the use of IT tools in order to improve the organization of information whether for reading, synthesis or presentation. Literature tools such as library catalogs can make finding or reading literature much more efficient. Analytical tools are great for working with large amounts of data. Bibliographical tools are useful for writing manuscripts. The software tools available through Microsoft Office will help make the information more presentable to an audience. A fundamental understanding of how to use these IT tools is extremely important in order to expedite the research process. Second, it is necessary for new researchers to become familiar with research management skills. These include budget and project management, preparation of research proposals, and handling data. For your own research project, you will be in charge of defining research proposals, achievable aims, the budgets, the time it will take, and the resources required. You will have to provide a step by step plan of how you intend to carry this out. You will also need to be able to collect and organize the data immediately while simultaneously handling large amounts of data efficiently and effectively. Additionally, the methods of experimentation and data collection are important. The progress of your project is directly affected by your performance in data collection. Without these skills, your research project may not

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even get off the ground. Whole research helps to develop and utilize all of these techniques. Mastering these skills together will help you refine the success of your project in the fastest, easiest and most secure way.

The researchers should focus on the skills that are relevant to their experiments. How must they go about mastering these skills? Both theory and practice are required for this to happen. Initially, you must search the literature to learn from other people's experiences about how to get good skills. Next, you need to practice the skills following the instruction. It is important that you do not spend all of your time on the practicing or the theory entirely, however. A combination of theory and practice is a better way to form a professional skill. In addition, you need to develop your own way to learn skills. By utilizing theory and practice, you are preparing yourself to avoid small problems for a long time. The more prepared an individual is, the more successful their skills will be.

To hone these skills, new researchers need to focus on the following key techniques:

- **Critical thinking:** Knowing that theory is important and will lead you in a future direction. Refining the skills is in your best interest and you need to learn them. Making judgments about the value of information.
- **Finding experts:** Finding the right people and right sources you need.
- **Practice:** After learning the skills, you need to practice, practice, practice. Knowing that the quality of your practice is as important as the quantity. Finding the key points in your practice. Finding the smartest and most effective ways to problem solve through your work over time.
- **Independence:** Being able to work without close supervision. Having the will to improve your learning on your own.
- **Communication:** Learning the experience from mentor. Communicating with others about your skills and the skills they possess.

- Confidence: Having the confidence to master the skills well. Presenting work as a profession. Putting forward ideas to senior staff members. Discussing what you think as a result of your learning.

Mastering skills is a necessary part of doing research. More importantly, it is one of the easiest and fastest ways to open the door of research for new researchers. Developing these skills as a professional is very important. This will eventually prove to be a benefit for the researchers as they develop their careers as well.

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