Letters to the Editor

The Researcher and the Future

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Research is a life-long activity generating new knowledge for the benefit of mankind. It aims at new trends, new processes, new products and new activities adding value to human life. Universities as centers for generation and dissemination of knowledge possess the advantage of having active young minds willing to take challenges and curious to move in new directions under the guidance of well-read, experienced and disciplined senior Faculty. A perfect blend of the two groups could lead to success in research. Research is an unending knowledge hunt by the intellectuals through the exercise of their minds to be converted into new practices.

Almost every research plan is based on a hypothesis, carefully designed to fill the existing gaps and aiming generation of new knowledge arising from in-depth perusal of the existing knowledge. The practice in research begins with a hypothesis based controlled experiments having defined specifications targeting an outcome. Experiments practiced in the laboratories, the fields, the pilot plants or the factories convert the ideas generated by the minds into outcomes for the public good. In scientific research, one possessing the highest ability to recognize, predict and logically practice new ways and means and novel ideas become the early winner. Researchers owe their greatness, not to their skills in solving problems through experimentation but their wisdom in choosing a project with the problem to be solved. This is where the exercise of the mind based on long term experience as a researcher becomes important. As "Chance favors the prepared mind", researchers with active minds get the benefit of valuable research outcomes. Prepared minds contribute much to developing the strength of academic activities.

The practice of research is chaotic and may even lack a clear sequence of events, though it started with a hypothesis and a work-plan. Experimentations in research involve frequent backtracking and repetitions to clear the muddy areas or to confirm the accuracy and validity of findings. Though the research projects appear to be well defined through the development of proposals, there is no clear endpoint to it as the generated information compels modifications of the original plan and redefines the variables as new questions and new knowledge arise.

Engagement in research requires the capacity for and the expression of original thinking. Data analysis needs to focus on the identification of new interactions leading to the construction of novel solutions. This is where the attitudes and activities of the mind of researchers pay back in the long term.

In this background repeating the activities linked to known knowledge is of secondary value. The ability of scientists to pick the unusual results in experiments and the curiosity to examine them leads to new scientific developments. At this point, the exercise of the unbiased mind leads to success. The newly generated ideas and the results supporting them, provides the opportunity to expose them to rigorous scientific review leading to quality publications. Universities with young minds, knowledgeable

academics, and the freedom to think creatively have a significant role in this exercise. It goes far beyond the lectures, examinations, classes and high paying jobs in the national or international systems.

Meaningful research findings appear in millions annually in printed journals, as open access articles or in other digital materials as information. The new information has a cost attached to it to justify the high level of contributions to be borne by the State, the researcher and the beneficiary. In modern business-oriented cultures, there is always demand for something that could be converted to money immediately. In any discipline, however narrow it may be, it is years of research, thousands of publications linked to each other and built on top of each other, finally results in distilling an outcome of high global value.

Therefore, the researchers need to recognize that their contributions may not produce applicable results tomorrow but become strong bricks in developing the 'research wall'. The strength of the bricks decides the strength of the wall on which the roof could be laid. In this process, the question that requires an answer is how the new "brick" differs from the old one in strength, shape and durability. If research is done to end up repeatedly proving what has been already practiced decades back, the progress loose its value. This is where strong peer review and exercise of the mind yield benefits, for the researcher and the research.

Depending on the level of development of a country or society, it may take years for research outcomes to be recognized for beneficial applications. In developing countries, this duration may even be long as 25 years. The researchers or research teams need to remain active and continue communications if the satisfactions of their findings are to be enjoyed. Publishing continuously is the driving force towards a better future for the researcher.