

Ateneo de Manila University

Archium Ateneo

Chemistry Faculty Publications

Chemistry Department

6-2016

Science as a Non-issue

Fabian M. Dayrit

Follow this and additional works at: <https://archium.ateneo.edu/chemistry-faculty-pubs>



Part of the [Science and Mathematics Education Commons](#), and the [Science and Technology Law Commons](#)

Science as a Non-issue

Despite their fundamental importance for national development, science and technology (S&T) were non-issues in the recently concluded Philippine national elections. Neither the candidates nor the electorate thought of S&T as relevant to the pressing challenges of the country, such as poverty, inclusive development, climate change and the environment, and national competitiveness. The questions were hardly even raised. Science is obviously not in the public consciousness.

Unfortunately, this obliviousness of the general public – including the well-educated – towards science is quite prevalent. For many, science is an esoteric subject that they struggled through in school and forgot about after the final exam. For many, science is only for the scientist, and this is the problem.

That science seems not to even matter to the majority of our people is a critical commentary on the failure of science education and science communication in our country. It brings up the question of whether the new K-12 system and STEM will be able to improve this situation. Is this just going to be more of the same? This also brings up the question of whether we scientists are doing the right things in communicating the importance of science. What have we not done right and how can we do better?

Perhaps our mistake is that we have been only teaching science as a fixed body of facts to be memorized, instead of concepts to be understood and a habit of thinking to be applied. Facts are easy to teach and assess in an exam. Facts are also easy to forget. Because scientific facts are taught as being objective (isn't science supposed to be objective?), science loses the excitement of discovery. The teaching of scientific concepts, on the other hand, requires a deeper understanding of science; and the teaching of the scientific method requires that the teacher use it themselves. Teachers can only do these properly if they themselves think like scientists. Unfortunately, we mistake knowledge of scientific facts with the understanding of science. Our science education does only the former but fails to emphasize the latter.

The understanding and appreciation of science are crucial if people are to use science in their careers, especially if they do not become scientists. As the TIMMS 2015 Science Framework stated: “The development of an understanding of science is important for students in today’s world if they are to become citizens who can make informed decisions about themselves and the world in which they live. Every day they will be faced with a barrage of information, and sifting fact from fiction and understanding the scientific basis of important social, economic, and environmental issues is possible only if they have the tools to accomplish this.” This should be the primary goal of science education.

Scientists have an especially important role to play in the public understanding and appreciation of science. Scientists need to emphasize that more than just being a body of knowledge, science is also a way of doing things and is the most reliable way of understanding and solving many of our problems. Scientists should collaborate with both government agencies and private entities, such as libraries, museums, and the multi-media, to raise the public understanding and appreciation of science. We must get the public and our leaders to use a more scientific approach in discussions, debates, and decision-making.

How then can we bring science into the public consciousness? The answer is not just to teach more science, but to show how the scientific method applies to their individual lives, as well as to the nation and the world as a whole. And with a better understanding and appreciation of science, knowledge will come more naturally.

FABIAN M. DAYRIT
Professor, Department of Chemistry
Ateneo de Manila University
Academician, National Academy of
Science and Technology
Editor, Philippine Journal of Science