Readings in History and Philosophy of Science and Technology Education: *Does Science Teaching Need History and Philosophy of Science* by Peter Slezak

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1. What makes science and mathematics education daunting tasks among educators. Cite evidences from the reading material.

The utilitarian view of teaching science leads to “anti-intellectualism” according to Slezak (n.d.). This view of teaching can be countered by HPS. Having said this, the integration of HPS in the curriculum makes science and mathematics teaching a daunting tasks among educators. Slezak (n.d.) discussed the following aspects to consider in integrating HPS in the curriculum: “The Inevitability of HPS in the Curriculum”, “Naive Philosophy of science”, “Close Mind or Open Mind”, “History of Science as Subversive”, “Contextual Approach: Is Content Knowledge HPS-free?”, “Paradox of HPS in Science Teaching”, “A Role of History: The Bias of Science Textbooks”, “Science and Subjectivity”, “Should the History of Science be Rated X?”, “Realism vs Instrumentalism”. With all these, Slezak (n.d.) nonetheless posits that this will “convey a picture of science as the highest achievements of the human intellect” spurring students and teachers to appreciate science and mathematics leading to ‘enriched culture and human lives’ (Matthews 2001).

We cannot teach the content of science and mathematics without explicitly addressing issues about these subjects (Slezak, n.d.). For example, how will you teach the content of calculus – abstract in its notations – and let your students have a sense of purpose in studying it without discussing its origins, the different mathematicians who contributed to its development and success, and the issues about it that were settled through the years? This is where HPS comes in, making it inevitable in the curriculum.

1. What are the traces of HPS in the development of curriculums (basic & higher education)?

Matthews, Michael R. 2001. “Science Teaching: The Role of History and Philosophy of Science.”

Slezak, Peter. n.d. “Does Science Teaching Need History and Philosophy of Science?”