

[Keynote Speech]: Guiding Teachers to Make Lessons Relevant, Appealing, and Personal (RAP) for Academically-Low-Achieving Students in STEM Subjects

Authors : Nazir Amir

Abstract : Teaching approaches to present science and mathematics content amongst academically-low-achieving students may need to be different than approaches that are adopted for the more academically-inclined students, primarily due to the different learning needs and learning styles of these students. In crafting out lessons to motivate and engage these students, teachers need to consider the backgrounds of these students and have a good understanding of their interests so that lessons can be presented in ways that appeal to them, and made relevant not just to the world around them, but also to their personal experiences. This presentation highlights how the author worked with a Professional Learning Community (PLC) of teachers in crafting out fun and feasible classroom teaching approaches to present science and mathematics content in ways that are made Relevant, Appealing, and Personal (RAP) to groups of academically-low-achieving students in Singapore. Feedback from the students and observations from their work suggest that they were engaged through the RAP-modes of instruction, and were able to appreciate the role of science and mathematics through a variety of low-cost design-based STEM (Science, Technology, Engineering, and Mathematics) activities. Such results imply that teachers teaching academically-low-achieving students, and those in under-resourced communities, could consider infusing RAP-infused instructions into their lessons in getting students develop positive attitudes towards STEM subjects.

Keywords : STEM Education, STEAM Education, Curriculum Instruction, Academically At-Risk Students, Singapore

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