

Innovative Learning Environment for Problem-solving Collaboration

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Abstract

It is true that increase in technological advancement increases continues to make the world we live in a better place to live. This experience and outcome is attributed to contributions from STEM fields. Therefore, it is imperative to aspire to encourage the increase of skilled workers in STEM disciplines. “The technology-driven economy and skilled workforce in STEM fields are the driving force for innovation of a nation.” Thus, a shift of paradigm is called for in all facets that will help to ensure that the US continues to sustain leadership of the world economy stemming from the possession of the “most innovative and technologically capable economy in the world.”

Through many research findings that supported the claim that “the US lags behind many less developed nations in STEM education in elementary, secondary and higher education Science, engineering, technology, and mathematics” is not only worrisome but requires immediate attention. This should be a concern to other nations aspiring to impact the global economy positively. Provision of a conducive learning environment where students can explore, learn about STEM related concepts in manners that will help sustain their interests to develop knowledge and skills for a future career in STEM related fields is important. This learning environment should provide the opportunity to learn how to problem-solve challenges from real-world situations. Through effective facilitation of student’s activities when engaged in learning would create critical thinkers with increase STEM literacy. This will enable the next generation “to do much more than just learn.”

Innovative learning space is a “success-oriented approach that places “problem-solving through collaboration as a priority” (Schmitz & Goddard, 2022). According to Schmitz & Goddard (2022) “The overarching idea was to create a welcoming learning environment and encourage group work that engages students in collaboration from their first moments in class. This innovative learning environment (ILE) is a flexible designed facility with required space that is sufficient to house both students and learning tools to enable student’s active involvement in learning. Therefore, the ILE is a state-of-the-art research and educational facilities, designed to enhance the collaboration and partnership among students, faculty, staff, and the community (Schmitz & Goddard, 2022). This paper will address the characteristics and factors that support effective innovative learning environment for problem-solving collaboration in STEM education