

Inquiry-Based Learning for Science, Technology, Engineering, and Math (STEM) Programs: A Conceptual and Practical Resource for Educators (Innovations in Higher Education Teaching and Learning)

By Patrick Blessinger

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Inquiry-based learning (IBL) is a learner-centered active learning environment where deep learning is cultivated by a process of inquiry owned by the learner. It has roots in a constructivist educational philosophy and is oriented around three components: 1) exploration and discovery (e.g. problem-based learning, open meaning-making), 2) authentic investigations using contextualized learning (e.g. field studies, case studies), and 3) research-based approach (e.g. research-based learning, project-based learning). IBL begins with an authentic and contextualized problem scenario where learners identify their own issues and questions and the teacher serves as guide in the learning process. It encourages self-regulated learning because the responsibility is on learners to determine issues and research questions and the resources they need to address them. This way learning occurs across all learning domains. This volume covers many issues and concepts of how IBL can be applied to STEM programs. It serves as a conceptual and practical resource and guide for educators, offering practical examples of IBL in action and diverse strategies on how to implement IBL in different contexts.

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Editorial Review

Review
Contributed by educators from the US, Canada, Europe, New Zealand, and Australia, this volume presents 16 chapters on the application of inquiry-based learning to STEM (science, technology, engineering, and mathematics) programs in higher and K-12 education. They describe inquiry-based learning in an undergraduate honors program in health sciences, first-year undergraduate physics laboratories, biological engineering, chemistry, genetics, math, science education, life sciences, nursing, and environmental science; the role of Arnold Arons in pioneering inquiry-based learning in physics; the use of context-based learning; evaluation practices of inquiry-based science education; and how problem-based learning can enhance inquiry-based learning environments in a nursing course. --Distributed in North America by Turpin Distribution. Annotation ©2015 Ringgold Inc. Portland, OR (protoview.com)

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Users Review

From reader reviews:

David Rivera:

The experience that you get from Inquiry-Based Learning for Science, Technology, Engineering, and Math (STEM) Programs: A Conceptual and Practical Resource for Educators (Innovations in Higher Education Teaching and Learning) is a more deep you digging the information that hide inside words the more you get thinking about reading it. It does not mean that this book is hard to comprehend but Inquiry-Based Learning for Science, Technology, Engineering, and Math (STEM) Programs: A Conceptual and Practical Resource for Educators (Innovations in Higher Education Teaching and Learning) giving you thrill feeling of reading. The article writer conveys their point in specific way that can be understood by anyone who read it because the author of this reserve is well-known enough. This book also makes your own vocabulary increase well. Therefore it is easy to understand then can go with you, both in printed or e-book style are available. We advise you for having this Inquiry-Based Learning for Science, Technology, Engineering, and Math (STEM) Programs: A Conceptual and Practical Resource for Educators (Innovations in Higher Education Teaching and Learning) instantly.

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