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A Framework for Self-Organized Learning Environments to Develop Soft Skills in Geographically Distributed and Multicultural Engineering Teams

(2022) *IEEE Global Engineering Education Conference, EDUCON, 2022-March*, pp. 508-512.

DOI: 10.1109/EDUCON52537.2022.9766562

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Abstract

This paper presents a novel framework for self-organized learning environments implemented for a virtual summer program conducted jointly by two universities involving fifteen students from various engineering majors and countries. The framework comprises eight elements: competency-centered, challenge-based learning focused on sustainable development goals, self-organizing teams, domain frameworks such as cultural awareness and disciplined agile exploratory lifecycle, self-assessment, competency evaluation, academicians as coaches and consultants, and feedback by appreciation and coaching. The framework assessment consisted of initial and exit surveys. The survey results indicated that the students demonstrated improvements in multicultural perspective, intercultural communication, and working in multicultural teams. © 2022 IEEE.

Author Keywords

Diversity and inclusion in engineering education; Educational innovation; Higher education

Index Keywords

Computer aided instruction, Engineering education, Life cycle, Surveys; Challenge-based learning, Diversity and inclusion in engineering education, Educational innovations, Engineering teams, High educations, Learning environments, Self organized learning, Self-organizing teams, Soft skills, Summer program; Students

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Editors: Jemni M., Kallel I., Akkari A.

Publisher: IEEE Computer Society

Conference name: 13th IEEE Global Engineering Education Conference, EDUCON 2022

Conference date: 28 March 2022 through 31 March 2022

Conference code: 179170

ISSN: 21659559

ISBN: 9781665444347

Language of Original Document: English

Abbreviated Source Title: IEEE Global Eng. Edu. Conf., EDUCON
2-s2.0-85130494383

Document Type: Conference Paper

Publication Stage: Final

Source: Scopus

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