Teaching IoT/Embedded Engineering skills through project based learning: A case study

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Statement of the Problem: In India, Engineering programs are the most popular carrier choice for students. However, the employability of these students is a big challenge. As per the latest Indian government report, only 35% of UG students have the necessary real-world employability skills. Many of the students are lacking in designing, problem-solving, critical thinking, and hands-on skills. To address these gaps, we have made several changes in the curriculum framework, which has helped us filling employability gaps. The purpose of this case study is to present our experience with colleagues and other educators around the world.

Methodology & Theoretical Orientation: We have introduced many new co-curricular components and problem-based learning teaching methodology in the existing curriculum, which has improved the designing, problem-solving, critical thinking, and hands-on skills of the students.

Findings: Our findings are as follows:

1. Students need challenging problems

2. Structured mentorship can improve the students' engagement

3. Additional training on creative thinking can help the students in learning different skills.

Conclusion & Significance: Incorporating additional co-curricular activities, problem-based learning teaching methodology, and introducing additional training and hands-on workshops helped us address employability challenges. Our initiatives have improved the number of students' the internship and overall employability of the students.

Biography

Saurabh N Mehta has more than 19 years of professional, research, and teaching experience in wireless system development all together. He is currently working as a chief academic officer and professor in the department of electronics and telecommunication at Vidyalankar Institute of Technology, Mumbai. He is responsible for integrating academia and industry collaboration, research program, planning, and educational training for vidyalankar institute of technology, Mumbai. He earned his B.E., M.S., and PhD. degrees in Electronics Engineering from Mumbai University, Mumbai, India, Ajou University, South Korea, and Inha University, South Korea, in 2002, 2005, and 2011, respectively. He has over 80 research articles published in books, journals, national and international conferences, and several technical contributions to IEEE standards. He has been a reviewer, technical committee member, and editorial board for many international/national conferences and journals. Currently he is also serving as Secretary at IEEE Bombay Section.