Innovative Teaching and Learning for Lean Manufacturing Course

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Abstract. Lean manufacturing is an approach for analyzing the process to make a continuous flow of production line with the customer demand rate by reducing wastes and continuous improvement. With requirements of manufacturing sector that requires graduate students to be able to apply both theory and interdisciplinary to solve problems, traditional teaching and learning may not be suitable. This paper presents innovative teaching and learning for lean manufacturing course. The structure and sequence of contents is organized to create motivation for learning. A variety of teaching and learning methods (active learning, game-based approach and project/problem-based approach) and innovative tools are applied to create an engaging learning environment, to simulate the environment that closes to real-case problems in a factory and to encourage students to have an inspiration in learning. Because the teaching and learning approach is changed, a traditional assessment is changed too. The concept of assessment Of/For/As learning is applied to evaluate and give the feedback to students. Final exam is designed as problem-based approach to evaluate students. The result of the implementation shows that students can achieve learning outcomes of the course. An average score of students increases by 9.62% comparing with the previous class. In addition, from the questionnaire, using a variety of teaching and learning methods with innovative technologies helps students more understand the content of the course, and inspiring students though challenge activities can motive them to have an inspiration in learning and more participation in class

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