

Lean Gamification between Industry and University

Ahmed Deif

Industrial Technology and Packaging Dept.
California Polytechnic State University, CA, USA
adeif@calpoly.edu

Abstract

The impact of Lean gamification and its role in teaching Lean thinking in higher education was the main objective of this study. The study attempts to understand under what circumstances different game elements can drive Lean thinking learning behavior among students. More specifically, the study investigates the challenge lean thinking educators can face when importing the gamification approach from industry to higher education. In addition, this study will offer a diagnostic evaluation of selected Lean physical games using motivation, cognitive and social processing assessment criteria. Various insights are revealed during the analysis of the reported data as well as investigating the interaction between surveyed students and the selected games along the three evaluation criteria. The recommendations gathered from the conducted analysis are related to both; Lean gamification as a pedagogical approach for lean thinking in higher education and Lean games design for this specific segment of learners

Keywords

Lean Education, Gamification, Assessment

Biography

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Ahmed Deif is an assistant professor of Industrial Technology at California Polytechnic State University. Dr. Deif received his Ph.D. and M.A.Sc in Industrial and Manufacturing Systems Engineering from the University of Windsor, Canada and his B.Sc. from The American University in Cairo in Mechanical Engineering. His current research interests are in optimal operation management, lean gamification and dynamic analysis of manufacturing systems. He has more than 50 publications in books, international journals and refereed conferences. Dr. Deif has a diverse portfolio in his industrial experience ranging from automotive industry to steel industry to electronic industry and finally assembly industry at various engineering and consultancy capacities. As a lean and six sigma certified expert, Dr. Deif helped various industries in improving their production performance in various places across the world. Dr. Deif is a senior member of the Society of Manufacturing Engineers (SME), Institute of Industrial Engineers (IIE), professional member of Industrial Engineering and Operation Management (IEOM) society, Association of Technology Management and Applied Engineering (ATMAE) and research affiliate of the International Academy for Production Engineering (CIRP). He is also a reviewer for many international manufacturing journals