

Implementation of Learning by doing method in the Graphical Engineering field

Abstract

Regarding the different options to approaches with excessively theoretical contents that are applied in teaching, there are several innovative learning strategies for active students' involvement. According to most of the business look for professional profiles [1] in which applicants not only have an academic background but also good personal skills, such as initiative, undertaking, communication skills, commercial vision, and so on.

This paper presents the experiments that aim to achieve the objectives and catching skills by the Learning by doing technique, through a contextualization of the subject "Container and Packaging" in the Industrial Design Degree. Moreover, a close relation between university and business is achieved. In this way students acquire the requirements demanded by the company.

A particularization of an industrial design methodology proposed by the Technological Institute of Packaging, Transport and Logistics (ITENE, Valencia) has been implemented for the design of packaging and packaging. Besides using this method, students take on a project-based learning (PBL) work under the role of company. Then, they realize the redesign of the container of a manufactured product close to his residence province. This practice will not only look for improving the student's ability to research and solve problems, but also to manage the professional and personal relationships that occur within each work group. These situations are necessary in the training process since they will be to be fought daily in their future professional life.

Keywords: PBL, methodology, packaging, learning by doing

References

1. Fundación Everis: III Ranking Universidad-Empresa (2017)
2. Navarro, P. Homepage: Guía práctica de diseño de envases y embalajes para la distribución de producto. ITENE, 2017., last accessed 2018/01/10

3. DuFour, R., DuFour, R., Eaker, R., Many, T.: *Learning by doing. A handbook for Professional Learning Communities at Work*. Publisher: Solution Tree Bloomington, (2006); ISBN 978-1-932127-93-5
4. Martín, N., Saorín, J.L., de la Torre, J.: *Prototipado digital, fabricación e impresión 3D*. Universidad de la Laguna (2014)
5. Bonet, A., Meier, C., Saorín, J. L., de la Torre, J., Carbonell, C.: *Tecnologías de diseño y fabricación digital de bajo coste para el fomento de la competencia creativa*. *Arte, Individuo y Sociedad*, 29(1) 89-104 ISSN 1131-5598 (2017)
6. Blikstein, P.: *Digital Fabrication and 'Making' in Education: The Democratization of Invention*. In J. Walter-Herrmann & C. Büching (Eds.), *FabLabs: Of Machines, Makers and Inventors*. Bielefeld: Transcript Publishers (2013)
7. Hortal, M.: *Desarrollo básico de una metodología de evaluación técnico-ambiental de envases y embalajes mediante la combinación de instrumentos legales, normativos y medioambientales*. X Congreso Internacional de Ingeniería de Proyectos. Valencia (2016)
8. Rodríguez, D.: *Prácticas Disruptivas e Intervenciones de Diseño en Estampación Digital, Imagen de Marca y Prototipado SIGraDi* (2013)
9. Hallgrímsson, B.: *Diseño de producto. Maquetas y prototipos*. Promopess (2013)
10. Bortolato, M., Lenti, C., Morelli, R., Verger, G.: *EL PROTOTIPADO RÁPIDO EN PLÁSTICO ABS COMO HERRAMIENTA DIDÁCTICA*. *2ª Jornada de Experiencias Innovadoras en Educación en la FCEIA* (2009)
11. Lorenzo, C.: *MMOL Platforms: Open 3D Learning Technologies in Educational Practices*. *Arte y Humanidades. Technological Innovation in the Teaching and Processing of LSPs: Proceedings of TISLID'10*. (2) 235-242 UNED ISBN: 978-84-362-6217-9 (2011)