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XI WORKSHOP IN OPERATIONS MANAGEMENT AND TECHNOLOGY

LIBRO DE ABSTRACTS

Santander, 2020

ACEDEDOT

UC UNIVERSIDAD DE CANTABRIA

XI WORKSHOP IN OPERATIONS MANAGEMENT AND TECHNOLOGY

"Mejora Continua del proceso enseñanza-aprendizaje en el ámbito de Operaciones."

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Este libro contiene los resúmenes de los trabajos presentados en el "XI Workshop in Operations Management and Technology", de la Sección de Dirección de Operaciones y Tecnología (ACEDEDOT), de la Asociación Científica de Economía y Dirección de la Empresa (ACEDE), celebrado en la Universidad de Cantabria, los días 26 y 27 de marzo de 2020.

XI Workshop in Operations

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Presentación

La Asociación Científica de Economía y Dirección de la Empresa (ACEDE), conjuntamente con el Departamento de Administración de Empresas de la Universidad de Cantabria, organiza el XI Workshop de la Sección de Dirección de Operaciones y Tecnología de ACEDE (ACEDEDOT), que tendrá lugar en la ciudad de Santander los días 26 y 27 de marzo de 2020.

El objetivo del Workshop es reunir investigadores y docentes en el área de Operaciones y Tecnología, para establecer un entorno de trabajo y un foro de discusión académica e investigadora, propiciando el intercambio de experiencias e ideas. El enfoque es doble, abarcando tanto temas de investigación como metodologías docentes asociadas al binomio enseñanza-aprendizaje.

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XI Workshop in Operations

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ABSTRACTS

Simulando experiencias reales en clase:
Ejemplo práctico de la cadena de ensamblaje

Simulating real work experiences in class:
The case of an assembly line

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Abstract

Engaging students in their learning process is one of the main challenges university professors face when teaching. Aiming at generating new practices that help scholars addressing this problem, in this work we report a hand-on learning experience implemented in a course on Operations Management. The original feature of our experience is that it shows how to simulate a "real work" environment in the field of supply chain management. Results for the last two academic years are reported, both in terms of academic performance and students' satisfaction. We conclude with some recommendations and suggestions that are expected to help academics design activities that are more valuable.

Keywords: Learning; Simulation; Assembly line; Active learning

Situación de la Investigación en Dirección de Operaciones en España en 2019

Overview of Operations Management Research in Spain in 2019

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Abstract

This paper analyzes the situation of the operations management discipline in Spain at scientific level. Data regarding the number of academic papers published in recent years, as well as the topics and research methods that have most frequently been used in those articles have been collected. The analysis of the data shows a better situation than the one at the beginning of the century, although stagnant since the crisis of 2008.

Keywords: Research; Operations management, Research review, Spain.

Propuesta de Técnicas de Gamificación para la asignatura "Dirección de Producción"

Proposal of Gamification Techniques for the subject "Operation Management"

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Abstract

The aims of the work is to offer the teaching community the steps to follow to gamify a subject of Production Management, aimed at helping our students acquire and reinforce the competences required by the European Higher Education Area. The originality underlies the application of gamified systems in the subject Production Management, as well as in the demonstration that it is not necessary to be in possession of an advanced technological support to design games that motivate, involve and encourage the students' learning process. In that sense, the Lego pieces offer an extraordinary opportunity to involve the student in their own learning process by facilitating the acquisition of skills.

Keywords: Learning; Research; Gamification; Production Management; Competences

Campus Virtual, dispositivos móviles y prensa online como impulsores del aprendizaje: Aplicación de conceptos empresariales para estudiantes de Ingeniería

Virtual Campus, mobile devices and online press as learning levers: Use of business concepts for Engineering students

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Abstract

Through a combination of technology-based tools (Virtual Campus and smartphones) and the use of online resources (mainly, economic press), we intend to improve the understanding and learning of "Business" concepts (including key aspects of Operations Management and Production) by first-year, Industrial Engineering students. To do so, we develop an activity that, on the one hand, challenges students to work autonomously outside the classroom and favors their knowledge and use of new technologies; specifically, valuable functionalities of the University of Oviedo's Virtual Campus. On the other hand, we make a positive use of mobile devices inside the classroom, where students' oral presentations are videotaped with their smartphones in order to provide them with pertinent and, more importantly, immediate feedback regarding their communication and oral expression skills.

Keywords: *Learning; Autonomous learning; New technologies; Mobile devices; Smartphones; Virtual Campus.*

Evaluación entre iguales y autoevaluación como herramientas reflexivas de aprendizaje

Peer and self-evaluation as reflective learning tools

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Abstract

This exploratory and descriptive research studies the impact of self-evaluation and peer evaluation in the learning process of university' students. The experiment was designed focused on a process of reflection based on their own mistakes and those of their partners.

The experiment was carried out in the subject of Fundamentals in Business Administration that is a first year subject of the Degree in International Commerce in the University of León.

Although from the student point of view, results have not been as expected, the improvement of student participation in their own learning has been achieved.

As teachers, ways of improvement have been identified, such as the application in a controlled environment or the development of a table of common mistakes to facilitate the reflection process.

Keywords: Autoevaluación, aprendizaje, evaluación entre iguales

Análisis de las acciones de mejora relacionadas con los roles de los equipos de trabajo

Analysis of the improvement actions related to team roles

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Abstract

For the development of student teamwork competence, we propose both a set of tools and the analysis of the result of their use in the context of the Action learning methodology. In this work we analyze the improvements related to the assignment of roles by the work teams during two courses in the context of the subject Operations Management. Action Research methodology allows teachers, based on the analysis of problems detected by the students and the way they seek solutions, to propose improvements in the design of the subject. results show very few actions assigned directly to a team member either by name or by the function in charge.

Keywords: Action Learning; Research; Teamwork; Roles; Functions

Humor y docencia: ¿Merece la pena reírse en clase?

Humour and teaching: Is it worth laughing in class?

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Abstract

This paper reviews the most recent literature about the use of humour in university teaching. Issues such as different types of humour, the functions that can be played and the effects generated both in students and teachers will be addressed.

The main conclusion is that if humour is relevant (according to the content of the subject or related in some way to the student's life), it is carried out in a measured manner in quantity and moment and is properly planned to anticipate the possible response, students will react positively and improve both their learning and the overall environment of the class. An improvement in the credibility of the teacher and the desire of the students to attend the classes will be achieved.

Keywords: *Learning; Humour; Teaching.*

Un Análisis de las Relaciones entre Gamificación y Resultados del Aprendizaje

Gamification and Learning Results: An Analysis of Relationships

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Abstract

This study is aimed at analyzing whether gamification tools as a teaching methodology are contributing in a positive way to the students' learning process. A statistical analysis of relationships between the participation of the students in gamified activities and their final grades is developed. As a main result, a statistically significant relationship between participating (or performance) in gamified activities and the results in the final test is supported. This analysis was carried out for the subject 'Industrial Organization' which includes the competences of Operations Management for students of Industrial Engineering.

Keywords: *Learning; Gamification; Grades; Teaching*.

Enseñanza basada en proyectos como metodología en programas de máster en *management*

Project Based Learning as a teaching methodology in master in management programs

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Abstract

Contemporary business education requires a combination of advanced academic and theoretical knowledge with its practical application. Both academic concepts and principles and real business application will prepare students to look for jobs after graduation. Experiential learning has become a relevant aspect in higher education, especially in master programs, where it is no longer acceptable to emerge with just a theoretical business background. There are different forms of experiential learning in business higher education. Project Based Learning is one of them, a content specific approach, where students are actively involved during the learning process, studying and analysing real problems and questions from real businesses and teamworking to provide the best solutions to them. This approach develops not only technical or hard skills, but also soft skills are enhanced, as students are responsible for communication, social interaction with different stakeholders (team members, business managers, customers, suppliers, etc.), public presentations and sharing knowledge, commitment, engagement and motivation.

Keywords: *Learning; Research; Project Based Learning; Experiential; Higher Education; Master*.

Prueba de evaluación oral de las competencias: una propuesta para dirección de operaciones

Oral evaluation of competences: a proposal for operations management

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Abstract

The adaptation to the European Higher Education Area has allowed greater interaction with students by structuring part of the work in small groups. This has favored the use of oral evaluation tools in different evaluation tests, but in turn has almost completely eliminated their use in the final exams. In this work we show our experience in the voluntary use of a final oral exam in a compulsory subject of the area of operations in a degree of the University of Salamanca.

Keywords: *Learning; oral exam; rubric.*

Estudio multinivel de la percepción de los directivos sobre las estrategias desarrolladas en cadenas de suministro

Multilevel study of managers' perception on the developed supply chain strategies

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Abstract

The implementation of the right Supply Chain (SC) strategies have been proven to help companies to improve their performance and even their sustainability. However, even though some practices are known to improve company's performance, in practice, they are hardly implemented and considerable differences are found for different SC levels. This work investigates the perception of such strategies at different SC levels taking into account some contextual variables such as company's size. Results point out that the perception of the importance of green practices is uniform for different SC levels meanwhile in the case of lean practices, there exist a large discrepancy on the importance of such practices between different SC levels.

Keywords: *Research; Supply Chain Management, Green, Lean, Resilience*

Una selección de factores para medir la dimensión social en un contexto de Logística Inversa

A selection of factors to measure the social dimension in a context of reverse logistics

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Abstract

The reverse logistics (RL) process, focused on dealing with returns and recovery products, is becoming increasingly important. This process can improve the supply chain sustainability by considering the triple bottom line: profit (economical dimension), planet (environmental dimension) and people (social dimension). However, the literature review shows that the social dimension is not always considered in the same level as the other two dimensions. This paper aims to analyze the use of the social dimension in the RL process with the objective of proposing a set of basic social impact factors that the supply chain decision makers might consider, therefore achieving more sustainable results. For this, some relevant works in the RL field that handle the social dimension are reviewed, from which the approached factors and the reasons for its choice are identified. The identified factors have been grouped by similarity, distinguishing between internal and external factors.

Keywords: *Reverse Logistics, Social Factors, Sustainability, Social Responsibility, Triple Bottom Line, sustainable development.*

Aprendizaje Orientado a Proyectos: aplicación a la asignatura de Logística

Project Oriented Learning: application to the Logistics subject

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Abstract

The objective of this work is to present a Project Based Learning (PBL) activity to apply in the module "Logistics". Specifically, the use of this methodology contributes to the development of students' abilities and is more effective in the development of skills. Therefore, at the end of the activity, it is expected that students have acquired knowledge about logistics, have strengthened their professional skills, such as teamwork, search and analysis of information, oral and written communication and creativity, and have become aware of the importance of certain attitudes and values such as initiative, tenacity, perseverance and commitment.

Keywords: *Learning; Aprendizaje Orientado a Proyectos; AOP; Competencias; Logística*

La Interacción entre la Creatividad y el Trabajo en Equipo en el Design Thinking

Interaction between Creativity and Teamwork in Design Thinking

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Abstract

In recent years, Design Thinking has been established as a teaching tool capable of develop students' transversal skills like creative thinking and teamwork, among others.

The aim of this work is to analyze how the developing of these transversal skills through Design Thinking influence on the student performance. With this purpose, we analyzed a sample of 194 students from three different degrees of the University of León.

The results showed that creative thinking and teamwork developed through Design Thinking do not influence student performance individually. However, it has been revealed that these two transversals skills interact between them and combined, they do impact on the student performance. Finally, we also discovered that the impact of that effect is different depending on the academic discipline.

Keywords: *Learning; Design Thinking; Creativity; Teamwork; Interaction*

Participación en un proyecto de investigación a través del aprendizaje basado en proyectos: Plataforma Circular Market

Participation in a research project through project-based learning: Circular Market platform

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Abstract

This paper presents an experience developed by engineering students related to the development and validation of a platform for the implementation of the circular economy principles in companies, within a research project. The students collaborated in two of the key tasks of the project: the design of the platform and its validation. These tasks were carried out under the project-based learning methodology (PBL), as part of their training process.

As a result, the students have improved their skills by being part of a research project. This paper contributes to prove that PBL methodology is a good way to involve students in university research work.

Keywords: *Learning, Project Based Learning, Research project, Engineering, Circular economy*

Implementando competencias mediante el desarrollo de un bloc digital con Evernote

Implementing competences by developing a digital notebook with Evernote

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Abstract

In this paper we introduce Evernote as a technological tool that can be used in university teaching for developing competences in students. This cross-platform application allows you to write, collect, consult and present, from a single workspace, all kinds of information and keep it tidy and accessible in a very simple way. With this functionality, the innovative experience was designed to help students support a digital notebook, in which, throughout the course, they would collect documents that exemplify the concepts taught in Operations Management and Marketing Management II. In particular, it intended to convey to students the utility of Evernote application in their learning process and in the acquisition of specific and generic competences. Our results show that the specific competences involving widening and strengthening the learning of the aspects in the subjects are the most highly rated by students. Followed by generic competences named personal, instrumental and systemic. Evernote has proved being useful in the student's learning process, being highlighted by students as an interesting and a different experience.

Keywords: Learning; Evernote; Digital Notebook; Competences

Tecnologías de la Industria 4.0 y programas de estudio

Industry 4.0 Technologies and curricula

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Abstract

Technological advances through Industry 4.0 are providing a greater range of technologies that are being imposed as essential. The current workforce must adapt and train its skills and knowledge for these changes. In this process, Universities acquire a central role, as they are the first agents that should reflect the needs and concerns of the society. However, Universities programs are not producing the numbers of specialists required and need to improve when it comes to balancing the skills provided. This study pretends to verify if Spanish Universities are reflecting in their curricula the needs that are currently being generated in society around digital technologies

MOOCs en Gestión de Operaciones: análisis de tendencias con técnicas de minería de texto y Analítica Web

Operations Management MOOCs: trends analysis with text mining techniques and web analytics

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Abstract

MOOCs (Massive Open Online Courses) aim to enlarge the scope of quality education and offer unique opportunities for people to access to free and open educational materials. The training in operations management does not escape this trend. This work seeks to perform an analysis of the training offer of the main MOOC platforms and the interest in this type of courses among Internet users. This is achieved using different text mining techniques and methodologies and the analysis of mentions in social networks and user search trends. In particular, different libraries of the R software and the Google Trends tool are used. From this analysis it was firstly shown a growing interest in recent years for this type of training alternatives.

Keywords: *Learning; Operation Management; Text Mining; Trends; Web Analytics*

Benchmarking para la sostenibilidad universitaria: el caso de la Universidad de Oriente (Cuba)

Benchmarking for University sustainability: the case of the Universidad de Oriente (Cuba)

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Abstract

The 2030 Agenda agreed by the United Nations in 2015 has been a turning point in raising awareness about sustainable development. More and more universities in the world have accepted the challenge and are incorporating sustainability in all their fields of action. One of the improvement techniques that may be most useful for the implementation of sustainable development goals is benchmarking. This paper presents the study of a case of application of benchmarking tools for the adoption of initiatives to improve sustainability in the university environment, specifically in a Cuban university. Since the study is still in an initial phase of its development, this document presents the objectives, methodology and expected results.

Keywords: *Benchmarking, Sustainability, University, Research*

Incorporación del Desarrollo Sostenible a la gobernanza universitaria. Una experiencia de investigación en acción en una universidad cubana

Incorporation of Sustainable Development into university governance. An action research experience at a Cuban university

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Abstract

This paper presents the first stages of an Action Research project that pursues increased awareness and training in the importance of the role that universities play in the development of sustainability objectives and the need for the 2030 Agenda to be gradually incorporated into the governance of university centres. The experience is being developed in the Universidad de Oriente in Santiago de Cuba by the Universidad Internacional de Andalucía (UNIA). The project uses various questionnaires and other tools to make an initial diagnosis and to measure the success of training and awareness activities. Since this is a research in progress, only some initial results on the sustainable development degree of UO are provided.

Keywords: *Action Research; Sustainable Development; University governance*

Diseño de una experiencia de formación en liderazgo sostenible en la Universidad

Designing a training experience in sustainable leadership at University

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Abstract

This paper addresses a training experience in sustainable leadership in the framework of a project on University Sustainability promoted by the Universidad Internacional de Andalucía (UNIA) which is being carried out at the Universidad de Oriente of Santiago de Cuba. A sustainable leader in the university field must promote sustainability in their institution as well as train more sustainable leaders who will influence the environment from their future decision-making positions. The results regarding the improvement in sustainability awareness will be known once the training workshops have concluded. It is expected that the recipients of the training —the university leadership cadres and teachers and administration staff— who can promote changes through their different responsibilities, acquire an accurate understanding of the subject and that it contributes to actions that will subsequently be executed within of the University.

Keywords: *Learning; Sustainable Leadership; University*

Utilización de la metodología AHP (Analytical Hierarchy Process) en la enseñanza de toma de decisiones complejas en Dirección de Operaciones

Use of the AHP (Analytical Hierarchy Process) methodology for teaching complex decision-making processes in Operations Management

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Abstract

The aim of this work is to provide the students with a multi-criteria decision making tool, based on Analytic Hierarchy Process (AHP) methodology, for complex decision-making processes in Operations Management. AHP consists of structuring the decisional problem into different hierarchical levels such as a main goal, main dimensions, sub-criteria and alternatives, followed by a pairwise comparison at each level that is performed by experts. The proposed framework has been applied as a practical case in class to assess the sustainability of the photovoltaic supply chain in different countries, based on the three dimensions of the Triple Bottom Line (TBL): economic, social and environmental. This tool provides the students with a powerful tool for making sustainable decisions in different areas of the Operations Management discipline.

Keywords: *Learning; Decision making; Analytical Hierarchy Process; Triple Bottom Line; Sustainability; Supply chain.*

Calendario de exámenes y rendimiento de los alumnos: el caso de una asignatura vinculada al área de Dirección de Operaciones y Tecnología

Exam calendar and student performance: the case of a subject about Operations and Technology Management

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Abstract

Most students postpone exam preparation to the dates prior to their celebration. The objective of this work is to analyze whether the institution's academic organization, specifically in relation to the academic exam calendar, can influence the performance obtained by the students in the final exam. For this, the academic results of a subject related to the area of Operations and Technology Management from the academic years 2011/12 to 2019/20 are analyzed only in the ordinary official announcement.

Keywords: *Research; exam calendar, student performance, academic organization*

Fundamentos teóricos centrados en la gestión del conocimiento de los programas de mejora en operaciones

The knowledge-based roots of Operations Management Improvement Programs

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Abstract

This paper analyzes the theoretical roots of operations improvement programs from a perspective of the knowledge-based view of the firm. In this way, different variants of programs based on the Japanese production philosophy (TQM, Six Sigma or Lean Manufacturing) are compared with Industry 4.0. The differences and similarities are analyzed regarding the sources of knowledge, transfer mechanisms, practices to integrate and apply knowledge and, finally, the expected results of such application. The implications of this analysis lead us to determine that both types of programs have very different theoretical foundations, although, using knowledge management strategies as a baseline, it would be necessary to deepen the possibility of their complementarity.

Keywords: *Research; OIP, Industry 4.0, Lean Manufacturing, Knowledge Management*

Casos en formato Cómic en Dirección de Operaciones. Satisfacción de alumnos y profesores en su aplicación al proceso de aprendizaje en estudios de grado y postgrado

Comic-Cases in Operations Management. Satisfaction of students and teachers in their application to learning process in undergraduate and postgraduate studies

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Abstract

The Comic-Cases in Operations Management are a teaching innovation, and therefore there is no previous evidence to show the perception of students and teachers about their application to the learning process. This work shows the application experience, of this presentation format of Case Studies, to students of undergraduate and postgraduate studies. These groups of students (undergraduate and postgraduate) worked both with the traditional case presentation format in text mode, and with the case-comic innovation. A survey was conducted in Web format to the students of both groups, which captures their perception of the comparison between both formats and shows the satisfaction of the students with the new format. The results of a survey of professors of Operations Management are also shown.

Keywords: *Learning, Study of Cases, Innovation, Comic-Cases, Operations Management.*

Las dinámicas interactivas en la internacionalización de la docencia de Dirección de Operaciones

The interactive dynamics in the internationalization process of Operations Management teaching

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Abstract

This paper proposes how interactive dynamics in Operations Management teaching, specifically group dynamics, can be an important strategy for the development of key competences of university students such as the teamwork and the English linguistic competence. This activity raises international and intercultural learning contexts and awareness of the importance of acquiring linguistic skills for the development of their employments. The group dynamic activity is designed and implemented in the first weeks of class, in the degree of Business at the University of Granada, third academic year, with a class structured in subgroups of local students, so that it serves as a basis for creating a climate of interaction, cohesion and complicity between students and professor, dimensions that directly affect the teaching-learning processes, beyond mere conceptual and cognitive aspects.

Keywords: *Learning; interactive dynamics; group techniques, learning of English, teamwork, operations management teaching.*

El impacto de las estrategias medioambientales sobre la sostenibilidad y la competitividad en la industria.

The effect of environmental strategies on sustainability outcomes and competitive performance in manufacturing.

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Abstract

This paper examines the relationship different sustainability practices i.e., internal practices, supplier monitoring and supplier collaboration, adopted by a firm in response to various environmental strategies with three sustainability outcomes (regulatory performance, contamination performance and manufacturing performance) and then investigate on the association of those outcomes with competitive advantage in the manufacturing industry. The dataset is obtained from an international research project in 16 countries, across three industries. We ran PLS-SEM method to examine this relationship. Results showed that supplier collaboration was significant on manufacturing sustainable performance, which was the only performance measure that had a significant impact on competitive advantage. Internal sustainability practices did have a significant effect on emissions and regulatory performance, but not on competitive performance of firms.

Keywords: Environmental strategies; Sustainable supply chain management; Sustainability outcomes; Competitive advantage

Fábricas transportables para la construcción de la paz

Moveable Social Manufacturing for Peacebuilding

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Abstract

Moveable social manufacturing is a new research topic, which can be related to both research in manufacturing and research in cooperative movements. With regard to social sustainability, moveable social manufacturing has advantages over fixed distributed manufacturing.

Moveable factories includes production equipment being transported in large carry cases, in the back of a truck or inside shipping containers. Also, production equipment can be skid-mounted. This involves complicated production equipment being mounted on a pallet, onto rails, and/or in a frame. Although moveable factories have received little attention in the literature, they have already started to be used in challenging environments from Afghanistan to Uganda, or fragile regions like Somalia. In summary, this a key element for peacebuilding.

Keywords: *Moveable social manufacturing; Peace building*

¿Cómo influyen las dimensiones de la calidad del servicio en la satisfacción del cliente en hotelería? Un análisis preliminar en un hotel en Cuba

How do the dimensions of service quality influence customer satisfaction in hospitality? A preliminary analysis in a hotel in Cuba

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Abstract

The goal of this research is twofold: 1) identify the dimensions of service quality in the hotel sector, and 2) establish their influence on customer satisfaction. To determine the critical service quality dimensions, twenty-two variables valued by customers in a hotel in Cuba satisfaction surveys have been used. Then, an Exploratory Factor Analysis has allowed the identification of four dimensions and their influence on customer satisfaction: workers responsiveness, food in specialized restaurants, tangible items and food in buffet restaurants. The results suggest that, in order to improve customer satisfaction, management should prioritize the improvement of workers responsiveness and tangible elements.

Keywords: *Research; Service Quality; Customer Satisfaction; Hospitality, Cuba*

Protocolo: revisión sistemática de literatura sobre B-CORP

Protocol: Systematic Literature Review about B-CORP

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Abstract

The B Corp movement is becoming increasingly important nationally and internationally. In fact, the number of certified companies has radically increased (34,78%) from 2017 (2300 B-Corp companies) to 2019 (3100 B-Corp companies). Taking this fact into consideration, the aim of this study is to present a research protocol for conducting a systematic review of literature on B Corp companies. Specifically, the inclusion and exclusion criteria applied that allow reaching the final sample of 50 articles are specified. The codes that will be used in the analysis phase are also made explicit.

Keywords: *Research; B Corp; Protocol; Systematic Literature Review*

Gestión de procesos en buques mercantes: propuesta de flujograma de las basuras generadas a bordo (MARPOL)

Process management in merchant vessels: Proposal of on board generated waste flowchart (MARPOL)

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Abstract

The prevention of discharges of pollutants to the sea, by ships, has generated a large amount of regulations, both global and European or national. MARPOL 73/78 is the framework on which this regulation is based. It establishes the obligation, on the part of the ports, to provide ground stations receiving the waste generated by the ships, when they dock.

The objective of the work is to present a flowchart proposal of the process that must be developed on board merchant ships to prevent pollution caused by garbage generated on board. This process regulated in Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL), where the conditions for the discharge to the sea or the retention on board of such wastes are established

Keywords: Research; Process management, MARPOL, Marine pollution, Ship waste, ship garbage.

Gestión de procesos en buques mercantes: propuesta de flujogramas de las sustancias nocivas líquidas generadas a bordo (MARPOL)

Process management in merchat vessels: Flowcharts proposal of the harmful liquid substances generated on board (MARPOL)

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Abstract

The evolution of maritime transport and the current awareness of the deterioration of the oceans implies a continuous adaptation of the rules, in order to protect the marine environment. The MARPOL Convention, as this regulations basis, includes in its Annex I "Regulations for the prevention of pollution by oil", in its Annex II: "Regulations for the control of pollution by noxious liquid substances in bulk" and in Annex IV : "Regulations for the prevention of pollution by sewage from ships", defining the conditions for unloading to the sea or retention on board for subsequent delivery to the port receiving facilities. The objective of this work is to develop a proposal of flowcharts of the processes that determine the conditions of discharge to the sea or retention on board for delivery to a port reception facility.

Keywords: *Research; MARPOL, Discharges, Hydrocarbons, Noxious liquids, Sewage*.

Innovación docente mediante blockchain

Teaching innovation via blockchain

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Abstract

Blockchain has irrupted in recent years as one of the most prominent technologies that will revolutionize the way we interact. Even though it started in the financial world, it is quickly expanding to other sectors, most prominently, education. This paper aims to introduce this technology along with smart contracts, and explore the implications that blockchain can have in the academic world. From intelligent badges to secure online certifications, teaching and learning will enter into a new dimension with the help of this technology.

Keywords: *Learning; Research; blockchain; docencia; innovación*

La amistad en la universidad. Un análisis de su relación con la transferencia del conocimiento

Friendship in the university. An analysis of their relationship with knowledge transfer.

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Abstract

The social environment where the students interact is important for their performance. It has already been proved that good social relationships contribute to a healthy mental environment. However, how do the students interact and work? In this exploratory study, we try to observe how students' interactions out of the classroom affect their way of working the subjects.

This exploratory study evaluates the relationship among the importance of students' network, their transfer of information, their behaviour, how they are working, and their performance.

Keywords: *red de trabajo; EEES; colaboración*

Metodologías ágiles como instrumento facilitador en el desarrollo de competencias transversales

Agile methodologies as a facilitating instrument in the development of cross-curricular skills

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Abstract

We intend to turn the students into the main agents of their learning process, giving them greater autonomy and power of decision and action in it. This work shows that the use of agile methodologies, such as gamification, design thinking and scrum encourages the development of transversal competencies, such as Access and Information Management, Analysis and Synthesis, Organization and Planning, Proper use of ICTs, Oral and Written Communication, Decision Making, Entrepreneurship, Teamwork and Learning and Autonomous Work. And that all of them exert a positive effect on self-learning.

For this, a sample of 181 university students enrolled in fourth grade course was used. A comparison was made between groups that worked on the subject in a context of agile methodologies and groups in which another type of methodologies was used.

***Keywords:** Learning; transversal competence, agile methodologies, self-learning, teamwork*

El mapa de empatía como primer paso en Design Thinking.

Caso "Eco-Encimeras Elegantes"

Empathy Map as firt step of Design Thinking. Case Study "Elegants Eco-countertops"

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Abstract

In Design Thinking, once the problem of a product has been understood, it should be adjusted to the needs of the user, and, if it is an eco-product, meet special environmental requirements. That is, it is needed to empathize, and collaborate with all the agents involved. Empathy maps, widely used in agile and design communities, are a powerful and fundamental tool for sharing goals. In innovative processes, the person is the center of the whole process.

In this paper, we present a proposal for a working file to introduce empathy maps in our case study teaching practices following the Design Thinking methodology in eco-products like "Elegants Eco-Countertops".

Keywords: Design Thinking; Empathy Map; Case Study.

Cómo dar visibilidad a las experiencias docentes: guías para publicar en revistas científicas basadas en investigación acción

How to make teaching experiences visible: guidelines to publish in scientific journals based on action research

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Abstract

The aim of this paper is to justify action research as an adequate research model (simple and efficient enough) to analyze and disseminate teaching innovation experiences in university contexts, carried out by lecturers-researchers whose main area of knowledge is business management or other social sciences where action research is a well-known methodology. We will justify that the teaching experiences of implementing good teaching/learning practices are perfectly suited to the characteristics of an action research. A checklist of the research report content for publishing in scientific journals will be proposed. Consequently, the article will be useful to higher education academics and professionals.

Keywords: *Learning; Action Research; best practices; publication guidelines; educational innovation; SoTl; scholarship; teaching innovation*

Ciencia ciudadana en ciencias sociales: Proyecto R3aCCiona

Citizen Science in Social Sciences: R3aCCiona Project

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Abstract

This workshop shows the R3aCciona project whose objective is to identify responsible and sustainable practices of 3R (reduce, recycle and reuse) in the citizenry, going so far as to define actions that promote the remaining 4Rs (Redesign, Repair, Recover, Renew) proposed by the Circular Economy. Citizen science is presented as the possibility for citizens to participate in the research process and help create science with their contributions. For its part, the Circular Economy, aim to close the life cycle of products and materials giving them a new life, minimizing the generation of waste. In addition, the project uses in addition to the citizen science methodology, the Photovoice methodology that offer the possibility of participating to the citizen through photography and its analyses.

Keywords: *Research; Citizen Science; Photovoice methodology; Circular economy; Recycling.*

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