

INNOVATION IN THE FASHION SHOW DESIGN, A COLLABORATIVE PROJECT BETWEEN ARCHITECTURE, FASHION AND DESIGN STUDENTS

S. Nuere, G. García-Badell, M. Blanco, H. Navarro, R. Díaz-Obregón,
L. de Miguel

Universidad Politécnica de Madrid (SPAIN)

Abstract

Nowadays, new pedagogical methods are necessary, especially in order to bring students closer to real problems, and to make them work into interdisciplinary teams, as they will be do in professional life.

It is true that product design, fashion design, and architecture students are used to work with problem based learning methodology. Therefore, they learn to face real problems as if they were working in a professional network. However, each discipline of design face different kind of challenges, so each kind of students focus creativity in a different way, without working with students of other disciplines.

In that sense, Universidad Politécnica de Madrid (UPM) offers great opportunities for pedagogical innovation. UPM has three different Schools specialized in different aspects of creativity: Industrial Engineering and Product Design (ETSIDI), Architecture (ETSAM) and Fashion Design (CSDMM). The present project was actually thought in order to make students work together, in interdisciplinary teams as if they were facing a real professional problem.

Professional Fashion shows are a big issue, which requires designing spaces, performances, and other fashion aspects, not only clothes. Architects, product designers, and fashion designers need to work together on it. On the other hand, Mercedes Benz Madrid Fashion Week (MBMFW), the Spanish Fashion Week, is nowadays working on some renewal strategies. Therefore, it seems an interesting opportunity for working on it, asking students to face this renewal as a professional team would do.

Therefore, the students are asked to propose new designs (considering spaces, facilities, and fashion and artistic performances) for the different fashion brands that participate in the MBFW Madrid. As mentioned, students have to be organized into interdisciplinary teams, with architecture, fashion design, and product design students, working actively in order to solve their own challenge.

On the other hand, considering pedagogical methods, the first challenge was to organize more than 150 students from three different backgrounds. In that sense, the challenge was concentrated in one month of intensive work with weekly activities in the different venues of the University (Architecture, Product Design, and Fashion Design). Then, each week, students were asked to go to a different University centre, where a professor taught them some specific methods and knowledge. Big teaching spaces were prepared for group work and discussion, as in real professional meeting spaces.

Moreover, in order to make the challenge be closer to a real professional problem, a final session was planned in which each student group had to present its proposal to a professional jury. The jury was chaired by Charo Izquierdo, the Director of the real Mercedes Benz Madrid Fashion Week (MBMFW), who gave a professional feedback, similar to how she does in her professional practice.

According to the material developed by students, and also in accordance to Charo Izquierdo criteria, the final results were really impressive and innovative. Collaborative and interdisciplinary work was really rewarding for students, not only as a new experience, but also because of the level of every proposal.

Keywords: Problem based Learning, Long life learning, Pedagogical innovations, fashion, design, architecture.

1 INTRODUCTION

Since 2005 the Universidad Politécnica de Madrid (UPM) promotes educational innovation projects. Since then, each year, all the professors of the community can present proposals that will be evaluated. Once accepted you will have one year to develop it. This last year the University has

promoted a new line of innovation based on challenges trying to involve different schools. We have to say that in this university there is a strong sense of identity in each school so it is very hard to mix actions between schools.

In the last call in January 2018, we proposed a joint innovation project from the three schools of the UPM mentioned: the School of Engineering in Industrial Design (Escuela Técnica Superior de Ingeniería y Diseño Industrial, ETSIDI), the School of Architecture (Escuela Técnica Superior de Arquitectura de Madrid, ETSAM) and the Center of Fashion Design (Centro Superior de Diseño de Moda de Madrid, CSDMM-UPM).

The objective was to release a project based on the realization of a fashion show. A professional fashion show is a big issue, which requires design spaces, performances, and other fashion aspects. Architects, product designers and fashion designers students are perfect to work together on it.

More than 150 students have worked in this proposal during one month. Some master classes have been taught every week starting from the concept of a fashion show design, introducing later on the concept of artistic performances in order to give students creative tools to develop their proposals. All the proposals were evaluated in the end by the current director of the Mercedes Benz Fashion Week of Madrid, Charo Izquierdo.

2 METHODOLOGY

2.1 Learning Methodologies

Nowadays we should motivate pilot experiences that could promote new pedagogical tendencies. We want to improve the quality of the education of the degree and master students with new methodologies. If we consider that society requires interdisciplinary connections between all fields of knowledge, it is well known that we should reproduce this concept in our model of learning.

One of the competences included in the Degree and Master studies is the necessity of forming the students in a lifelong learning. It is important to create learning environment where students could solve real problems. They also have to face working with other students from different fields of knowledge. New strategies must be encouraged to continue advancing in the impulse of educational innovation adapting to the new times.

One of the most common ways of introducing innovation into the University is by the call of innovation projects. Different actions have been set so as to impulse the innovation processes. New changes in the teaching structure have to be introduced and new methodologies have to be taught. Currently, new strategies are being designed to continue advancing in the promotion of educational innovation. New times and new pedagogical trends may require to respond to the needs of continuous training and adaptation to methodological changes.

The ultimate goal of the call is to promote pilot experiences that boost new pedagogical trends with the aim of improving the quality of teaching and the results in achieving learning objectives of our undergraduate and graduate students, specifically the call promotes experiences based in Challenge Based Learning and Design-Thinking methodology.

Between the main objectives we find:

- Promote the improvement of student motivation by promoting experiential learning and its applications to professional performance.
- Facilitate an integrated way the development and evaluation of transversal competences of the students of the official degree and postgraduate degrees of the UPM, according to the model proposed by the UPM.

The Challenge was based on different methodologies so as to look for the better way of improvement. Heijke, Meng and Ris established that High Education should give to students not only practical and theoretical knowledge related to their field but also significant skills and competences for their future professional career [1]. Between the best known methodologies we want to point at the ones that have been in the base of our innovation learning project. Challenge Based Learning is a collaborative learning experience in which teachers and students work together to learn about compelling issues, propose solutions to real problems, and take action. [2].

As Johnson & Adams point at, "Challenge Based learning is a multidisciplinary approach to education that encourages students to leverage the technology they use in their daily lives to solve real world problems. By giving students the opportunity to focus on a challenge of global significance and apply themselves to developing local solutions, Challenge Based Learning creates a space where students can direct their own research and think critically about how to apply what they learn." [3]

Nowadays the educational models are exhausted and it is necessary to introduce changes that stimulate learning, motivate the student and therefore get them to become more involved in their educational process.

It is interesting to introduce new methodologies to generate innovative ideas to favour the effectiveness and give solution to the real needs of the user, such as Design Thinking. In this sense, the interdisciplinary "challenge" is presented as a project where the statement is a concrete problem, how to present a fashion collection in an innovative way within our city. The resolution of the problem then benefits from different profiles, students of fashion design for their knowledge (especially in terms of parades), architecture for their ability to analyse the city and its buildings, students of industrial design for their skills to the time to propose concrete design solutions, with their artistic training and their analytical capacity in the visual field. Finally the result (and its evaluation) will materialize in concrete solutions, specific designs for specific collections.

The proposed challenge, allows working in four subjects of three schools of the Universidad Politécnica de Madrid through a project of "design-thinking" and with a clear informative objective. These subjects are "Architecture analysis", "Design Grounds II", "Artistic Drawing" and "Visual Communication". Each team will propose the challenge according to their subject but without forgetting the other degrees.

The idea is to work in interdisciplinary teams, with members of the three schools and the four academic programs involved, that benefit from each other, adding their skills and knowledge to better solve the problem posed. Interdisciplinary nature is fundamental in this challenge, and the solutions to the proposed statement will favour collaboration between students of different profiles. The intention is to create an inter-school relationship in order to strengthen ties between different structures within the UPM, but above all it aims to simulate real professional environments, where different profiles work on joint projects, working from differentiated subjects but with common aspects, which facilitates an evaluation of the project according to the competence profile of each case.

Others methodologies are also involved as experiential learning with the conviction that when you experience both success and failure, you acquire meaningful learning. With the nature of the challenge it is obvious that cooperative and collaborative learning are introduced with the clear intention of improving the proposals. Students must face approaches alien to theirs but equally valid to solve a single problem.

2.2 Competences

As we can see in the web of the learning innovation web of the Universidad Politécnica de Madrid, there are some competences established as general for all the degrees [4]. The difficulty of implementing these general competences will be increased by the fact of working with mixed groups belonging to different degrees. We will expose in a general way the ones involved in the approach of our innovation project.

Teamwork involves the creation of groups of people who meet, collaborate and interact in a specific way for a specific purpose. These groups of people generally have complementary skills and knowledge committed to a common responsibility. Consequently, in a work team there is an interdependence of the parties, with individual and group objectives that are the ultimate goal of the development of teamwork. This competence is related to relationship skills such as communication, commitment and motivation, self-control, relaxation, negotiation and conflict management.

Creativity can be defined as approach and respond satisfactorily to situations in a new and original way in a given context [5]. Students have to act in an original and imaginative way. Therefore, this competence is closely linked to problem resolution, innovation: novelty and adequacy and the ability to change and break stereotypes. We can bring up Elliot's quotation from 2001 "I think that if the engineers are not creative, they are not engineers". [6]

Students need the ability to transmit knowledge and express ideas and arguments clearly, rigorously and convincingly, both orally and in writing. They need to use the graphic resources, as drawings,

tables or graphics and the necessary means appropriately and adapting to the characteristics of the situation and the audience. It is a competence related to the transmission of ideas, approaches and solutions.

The general purpose of the problem-solving competence is to improve the student's confidence in their own thinking, enhance the skills and abilities to learn. It is also interesting to understand and apply knowledge and favor the attainment of a high degree of intellectual autonomy that allows them to continue their training process. It also contributes to the development of other basic skills such as teamwork, creativity, analysis or leadership. Solving a problem involves performing tasks that demand processes of more or less complex reasoning and not simply an associative and routine activity.

The concepts of analysis and synthesis refer to two complementary activities in the study of complex realities. The analysis consists of the separation of the parts of these realities in order to know their fundamental elements and the relationships that exist between them. The synthesis, on the other hand, refers to the composition of a whole by meeting its parts or elements. The capacity of analysis and synthesis allows us to know more deeply the realities with which we face, to simplify its description, to discover apparently hidden relations and to build new knowledge from others that we already possessed.

Planning and organization is the process of defining the procedures required to achieve the objectives and goals. The organization and planning of the work integrate competences in terms of the establishment of objectives and the choice of the most convenient means to achieve these objectives before taking action.

3 CHALLENGE DEVELOPMENT

3.1 Proposal

On October 16 the Rector of the Universidad Politécnica de Madrid published the approval of the 2017 aid for educational innovation and the improvement of quality of teaching, choosing level 2 of request: Projects promoted by other groups of teachers of the UPM, not belonging to the Innovation Groups Educational given that the participating teachers belonged to different schools.

This call was aimed at supporting the development of different lines of work, from which numbers E4 Challenges Based Learning and number E5 Design-Thinking were chosen. This year the most important change that the UPM has introduced is the modality of learning based on challenges in order to propose projects where more than one School could be involved. The intention was to promote an interdisciplinary / multidisciplinary didactic approach, so as to cover two or more subjects, of the same degree or of different official UPM degrees.

In the case of the pilot experiences of Challenge Based Learning, given its marked multidisciplinary nature, within the framework of this call 2017-2018, the Universidad Politécnica de Madrid wanted to prioritize the E.4 proposals that integrate actions in various subjects of official degrees, with a focus on inter-subjects, inter-departments, inter-degree and inter-school, with special consideration to the participation of students and teachers of official degree programs. The application for the project will specify the collaboration that indicates the interdisciplinary among subjects or content areas of the UPM.

Our starting data were the following:

195 students divided in 15 groups of 13 students. Students come from 4 different subjects of 4 different academic programs (3 Bachelor Degrees Programs and 1 Master Degree Program):

“Architecture Analysis”: 80 second-year students of the Ba Degree of Architecture Grounds.

“Design Fundamentals II”: 30 second-year students of the Ba Degree of Fashion Design.

“Artistic Drawing”: 75 first-year students of the Ba Degree of Engineering in Industrial Design and Product Development and the Ba Double Degree of Engineering in Industrial Design and Mechanical Engineering.

“Visual Communication”: 10 students of the Master of Engineering in Industrial Design

The following is a detailed schedule of how the Innovative Project has been developed:

February/March 2018:

Call announcement to UPM students for a scholarship for collaboration in the Challenges project. In this call, the granting of the scholarships will be 1200 Euros, involving 160 hours of student work, which must be developed before the end of the project. The maximum date for the end of the scholarship must be December 31, 2018. Selection of Scholar who will collaborate with the project. One student from the School of Industrial Design was selected to collaborate with the project. Scholar Training. Assignment of tasks. Even though the student was from the School of Engineering in Industrial Design, he helped all the teachers in any action they needed.

Meetings with those responsible for the subjects involved for the coordination of the creative process.

April 2018:

Development and execution schedule of the Challenge project.

- Preparation of training actions in the different subjects involved: interschool classes, where teachers contribute, from their different fields, notions to all the participants of the challenge. Joint coordination activities with all the students involved (a minimum activity in each school). Approach to the problem and definition of equipment. Resolution, concrete proposals and staging where appropriate.

Since February 2018: Recording of all actions. Data collection: field notebooks with notes from students, teachers, external audiences. Development of the solution, selection of concepts for being developed and architectural environments by team.

May 2018:

- Preparation and presentation of posters of the proposals at the International Fashion Congress of Madrid, CIMODE, organized jointly with the School for Fashion Design in Madrid.

June 2018:

Data analysis and writing of research article. Presentation in Congress. ICERI November 2018.

3.2 Development

Main objectives of the proposal "Innovation in the presentation of fashion collections, definition of artistic performances and other concrete proposals in our architectural environment"

- Improve learning through collaborative work between the different Degrees involved in the Challenge.
- Promote interdisciplinary nature.
- Encourage learning through experiential work.
- Integrate new methodologies to generate innovative ideas such as Design-Thinking.
- Train students of new tools in problem solving.
- Integrate other educational spaces as valid learning spaces.
- Discover the creative advantages of working with degrees that are alien to their training.
- Analyse architecture as an instrument of action.

Taking into account the students came from different degrees, it was necessary to introduce all of them in the different fields where they should develop their proposals. Explain the characteristics of a fashion show and all the agents involved in it is essential to be able to have a well-defined starting point. Likewise and considering the characteristic exposed in the approach of the challenge, it was also important to present a general vision of artistic actions that could have a place in a project of these characteristics, such as performances.

Therefore the challenge development was as follow:

April, 4: As the Challenge was related to the world of Fashion, the first master class to introduce all the students in this world was given by the professor Héctor Navarro. At the beginning of the challenge, he taught about the history of Fashion Shows including the more traditional to the more contemporary proposals. A wide view of this kind of event could facilitate the immersion of all kind of students in the challenge proposal (Figure 1). After the master class, students started to work in groups initiating their own projects (Figure 2).



Figure 1. Héctor Navarro presenting the history of fashion and students attending the master class (Pictures: Silvia Nuere).



Figure 2. First working session at the CSDMM and professor García-Badell attending a group (Picture: Silvia Nuere).

April, 11: One week later, Raúl Díaz-Obregón taught a class related to all new ways of expression included in the world of art, as performances, happenings, etc. looking for making relations between the different fields of provenance of the students. They could see fashion shows where art was really important, and was also related to the fashion designer collection or fashion shows where architectural ambience was a principal element (Figure 3).



Figure 3. Second working session at the ETSIDI (Picture: Raúl Díaz-Obregón).

Once they had a vision of the different possibilities around a fashion show, they had to choose a fashion designer to make their own proposal. They had to investigate their style, their winter, summer, and autumn collections in order to propose a specific moment of what should be their ideas. During the whole process different social networks were used to spread the different moments lived throughout the development of the project (Figure 4).



Figure 4. Second working session at the ETSIDI - Instagram (Picture: Manuel Lage).

Presentation: April, 18

The last session consisted of the presentation of the 15 proposals prepared by the students. Each group presented its solution justifying all the decisions made during the process: from the choice of the fashion designer, the collection to be presented, the place of celebration, the design of the furniture or auxiliary elements, lighting, music, etc. The director of the Mercedes Benz Fashion Week of Madrid, Charo Izquierdo, attended to the explanations and then asked questions about the ideas presented, from a professional perspective as well as when she is in her work environment. The students had to answer their questions giving viable answers to the questions posed. A total of 30 posters were exposed with the most relevant information of each project, both written and visual. During the whole process, from the beginning of the project until the final presentation, the students made videos, collecting in a visual way their lived experience. (Figure 5, 6, 7 and 8)



Figure 5. Final presentation of the student proposals with Charo Izquierdo at the ETSAM (Picture: Silvia Nuere).



Figure 6. Manuel Blanco and Charo Izquierdo at the ETSAM (Picture: Silvia Nuere).

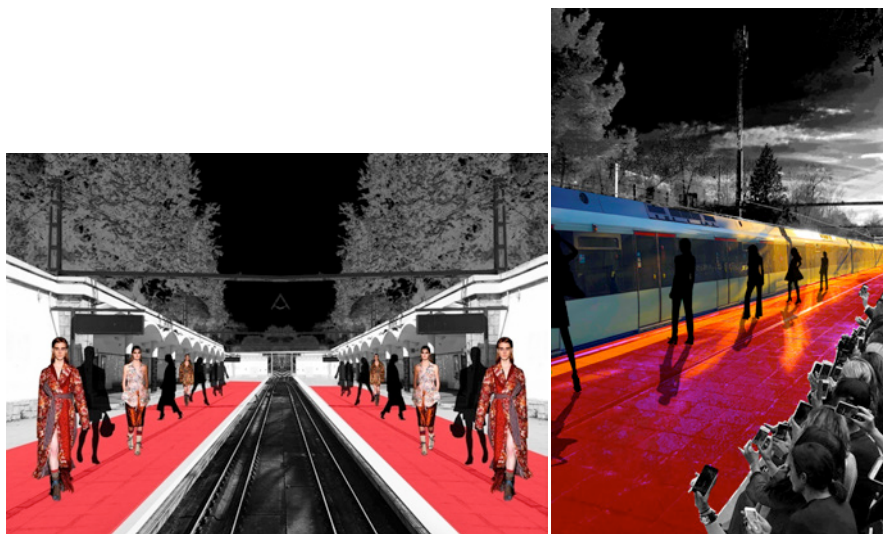


Figure 7. Student group 7 proposal of a Fashion Show in the underground of Madrid.

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Figure 8. Student group 6 proposal of a Fashion Show in the Crystal Palace of Arganzuela.

4 RESULTS

When all the student projects were presented, a survey was set in order to know their feelings during the innovation learning project. Some questions were related to the general concept of the proposal as for example the organization to make it possible. We were also concerned about the sense of working with three different schools and therefore working in groups with different mates.

We would like to highlight some of the results that we think are the most interesting ones in order to improve in futures. Even though the survey was answered by a 28% of the students, we consider it a reliable tool, as we have also pick up information during the process obtaining similar results.

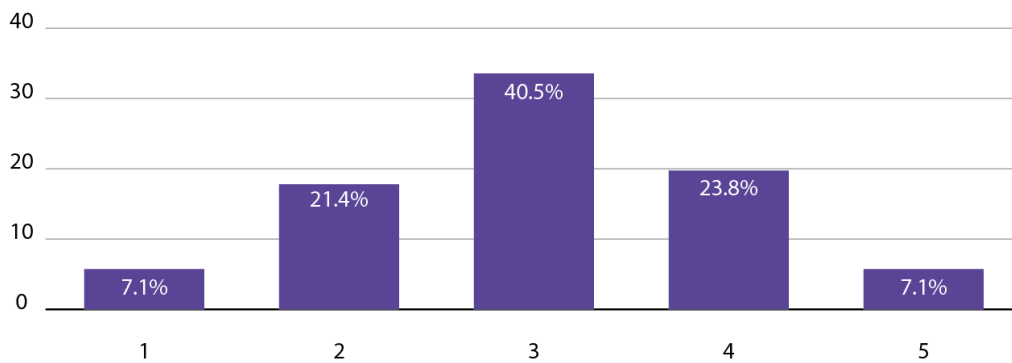


Figure 9. Global evaluation.

Considering the general appreciation of the concept of working with students different from their degrees, the general feeling arose that 71% answered in a positive way (Figure 9). They have appreciated working in mixed groups trying to learning from other degrees, with a positive result of a 76.2%. The fact of having a professional in the fashion sector has motivated them and generated more confidence when it comes to work, considering that their proposals would be evaluated beyond the classroom's own qualifications.

Some of the questions related to their experience were opened so they could write their own answer. Leaving aside the positive feelings we have also found some negative aspects. We will explain below the most remarkable ones that have been repeated more frequently:

- The organization and management of the project have to be improved.
- There is a problem with the schedule of all the master classes because it is difficult to find common hours where students are completely free. They had to work by their own and looking for appointments that could satisfy everybody.
- Little time to properly develop such an ambitious project.
- The groups were too numerous.
- Sometimes it was difficult to come up with a solution with students from different grades and courses levels.

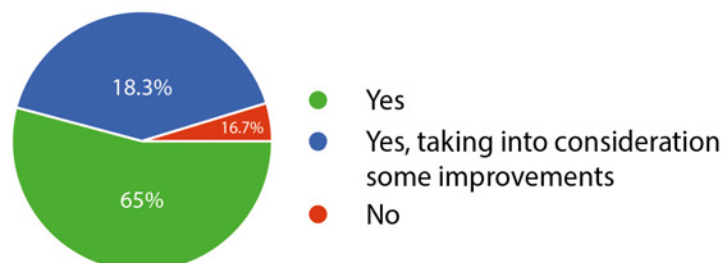


Figure 10. Would you like to repeat this experience?

Despite these criticisms, we do not consider that the innovation project has not satisfy the students. The last question in our survey was related to the intention of the students of participating again in a

project of these characteristics, taking into account the potential areas for improvement. Strikingly, 83.3% answered affirmatively to this question (Figure 10).

5 CONCLUSIONS

At the beginning of this article we pointed at the need of establishing different communication nodes within the university to search for a more real, current, close and living educational environment, made with the indispensable help of students. We demand the necessity of breaking the plots of highly education, introducing new ways of teaching closer to the real situations they will have to face in their professional career.

The advantages of learning based on challenges have been rooted in the very nature of the process since students have researched, provided solutions and interacted with the real world, that is, a proposal evaluated at the end by a professional in the fashion sector. They have also been trained in values, having the responsibility, involvement and commitment to seek a joint solution. A great variety of competences and innovative methodologies have been integrated, marked in their beginnings by the Universidad Politécnica de Madrid. Knowing that the director of the Mercedes Benz Madrid Fashion Week would evaluate their proposals, the students obtained stimuli to work in a professional manner, moving away from the classic evaluations carried out in the classroom. In this sense, the students have acquired an enriching experience that due to the nature of it has favored significant learning.

Taking into account the answers of the survey as well as the comments of the students, it is necessary to improve the approach of a project with these characteristics. We consider that there have been some errors in the organization and the execution time that must be corrected. But we also consider that the fact of working with different schools in a university with a strong tradition in their own identity has led to another type of added problems. We have encountered a lack of flexibility on the part of other professors who are not involved in the challenge to facilitate the meeting of such a large group of students.

In spite of being the first time that a challenge of these characteristics was posed in the Universidad Politécnica de Madrid, we think that a new way has been opened to propose new methodologies, looking for new concepts that include approaching areas of knowledge that are disparate. Despite having had little time and taking into account the great collaborative work done by the students, the director of the Mercedes Benz Fashion Week of Madrid highly valued the proposals presented considering them on many occasions very creative and professional.

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REFERENCES

- [1] H. Heikle, C. Meng, & C. Ris, "Fitting the Job: the role of generic and vocational competences in adjustment and performance". *Labour Economics*, vol. 10, nº 2, pp. 215-229, 2003.
- [2] Apple Education (2008). Challenge based learning. Retrieved from http://ali.apple.com/cbl/global/files/CBL_Paper.pdf, July 2018.
- [3] L. Johnson, & S. Adams, "Challenge Based Learning: The Report from the Implementation Project", 2011.
- [4] UPM Innovation web, 2018. Retrieved from <https://innovacioneducativa.upm.es/competencias-genericas/formacionyevaluacion>
- [5] P. Alsina & A. Giráldez, *7 ideas clave. La competencia cultural y artística*. Barcelona: Graó. pp. 19, 2012.

- [6] G. Gómez, J. Gallo, J. del Hoyo, & M.E.V. Hormaiztegui, "Estimulando la creatividad en la formación de los ingenieros" in *Artículos de las III Jornadas de Enseñanza de la Ingeniería. JEIN 2013* Vol. 1. (Z. Cataldi, & F. Lage, eds.), pp. 222, Bahía Blanca: Universidad Tecnológica Nacional, 2013.