

TRABAJO FINAL DE GRADO

Administración y Dirección de Empresas

Facing Real Challenges in Higher Education: A Competition-Based Learning Methodology

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Extended Abstract:

The purpose of this research is twofold: On one hand, (1) the aim of this research is to describe and analyze the successful implementation of an application of a game-based learning methodology with university students, on the other hand, (2) the aim of this research is to connect students with social entities, associations and companies and increase the knowledge and involvement of young people in this sector.

Regarding the first point of this research, it is known that the benefits of game-based learning (GBL) are well justified in literature however, there are no abundant studies of its applications in different disciplines in Higher Education (HE). The teaching methodology analyzed in this research proposes a problem scenario within a play framework adding the main element of competition. This study implements a real case with students enrolled in the subject of Human Resource Management (HRM) during their third year of university studies. Students have had to face the resolution of a challenge in the field of HR proposed by a social enterprise. The activity, proposed as a competition, details also the student's perception by focus groups and surveys.

Regarding the relationship with the social entity, the real challenge faced by the students was proposed by SaóPrat. Most university students are misinformed or have very few knowledge about social activities or companies in their town, so, taking this into consideration and knowing that this methodology needs the implication of a company or association, the university contacted a social entity to develop this project. SaóPrat is a non-profit, socio-educational entity, declared of public utility, which was born in 2004 in El Prat de Llobregat (Barcelona). The students had to prepare a report with the following information: (i) Catalogue of competencies according to the needs of the entity SaóPrat – Build a list of competences (reduce to 15 transversal competences); (ii) definition of each competence; (iii) for each job position the association needs, they must propose 4-5 transversal skills.

The lecturers and the responsables of SaóPrat carried out one main session (2 hours) with the students. After this session, the students had to work in teams outside the classroom with the online support of the lecturers (on average a total of 16 hours per

team). Approximately, 20% of the work was done during class hours, while the rest was performed after classes.

The grading of the work had a higher weighting than other work carried out during the course within the continuous evaluation grade. The work was evaluated by the HR lecturers and the 3 best opted to make a final presentation in the social enterprise and present their projects to the SaóPrat board members. The grades of the presentations were decided through a discussion between the two lecturers of the subject, who proceeded with the selection of the three best proposals (considering different criteria: structure, content and format). The oral presentation in the organization was assessed by the lecturers and the manager of SaóPrat. The grade of the whole exercise (work and presentation) is considered the mark of the final exam of the subject, leaving these students free to take the final exam. Lecturers consider that this assessment is motivating for students to work hard and achieve excellence results, while, at the same time they increase their knowledge to social activities outside the university.

After implementing this methodology, different interviews, focus groups and surveys were done to all affected parties: lecturers, students and SaóPrat association.

Regarding the lecturers and the teaching methodology, the feedback collected shows that students positively assessed the new methodology and practical approach. The possibility of dealing with real organization's problems increments the student's motivation to learn. They consider that they have been able to acquire the core content of the selected topic by applying it in real situations. The empirical findings support the efficacy of game playing in HE and also shows that students enjoyed with this type of learning.

Regarding the students, different conclusions were extracted. Firstly, since the company involved in the projects had a social aim, some students felt more encouraged to excel on their work as they knew they were helping a company with fewer resources. On the other side, when talking about the methodology implemented, one of the points that was most brought up by students was the fact of having a real-life experience. Dealing with real company problems helped students understand better how a real HR department

works. Students stated that although it was more time-consuming than a traditional course, they enjoyed it more and found it dynamic and interactive.

Finally, during the day of the final presentations, and after all the proposals were presented and evaluated, an interview was conducted with SaóPrat responsables. To start, SaóPrat responsible mentioned the easiness of the relationship between the company and the university, and the facilities placed by the college institution. When asking for an improvement, they mentioned including a mid-point presentation from the students, arguing that this would allow the students to experience even more a real work experience. Although at the beginning of the project, SaóPrat responsible was somehow uncertain about the outcome of the activity, the responsible of the entity declared that the students' proposals were way over their initial expectations and SaóPrat considered the quality of the work presented very high and really useful for their company.

Following this research, some initiatives between the university students and the social entity have taken place.

On one hand, when discovering and learning about the social entity's mission, some students asked to join SaóPrat Association for their internship period in order to implement the solution proposed throughout the course.

On the other hand, after seeing the positive outcome of this project for both, the students and the social entity, SaóPrat Association and the university have agreed to implement this methodology again during the next academic year.

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1. Abstract

The benefits of game-based learning (GBL) are well justified in literature however, there are no abundant studies of its applications in different disciplines in Higher Education (HE). The teaching methodology analyzed in this research proposes a problem scenario within a play framework adding the main element of competition. The main aim of this research is to describe and analyze the successful implementation of an application of a game-based learning methodology in the subject of Human Resource Management (HRM) during the academic year 2018/2019. Students have had to face the resolution of a challenge in the field of HR proposed by a social enterprise. The activity, proposed as a competition, details also the student's perception by focus groups and surveys. The feedback collected shows that students positively assessed the new methodology and practical approach. The possibility of dealing with real organization's problems increments the student's motivation to learn. They consider that they have been able to acquire the core content of the selected topic by applying it in real situations. The empirical findings support the efficacy of game playing in HE and also shows that students enjoyed with this type of learning.

2. Acknowledgments

First, and most of all, I would like to thank Dr. Marta Mas Machuca, for her guidance, assistance and expertise over this last year. Thank you for encouraging me to research in such a topic like this and thank you for your patience. Without your help, this paper would have not been possible.

Secondly, I would also like to express my gratitude to all members in the B-SMART Project (Teaching Innovation project awarded by the Fundación Puig) for their contribution and for facilitating and encouraging knowledge transfer between university students and businesses.

In addition, a thank you to all SaóPrat responsables for opening their company to us and for their active participation in this competition. Thank you for your help and your willingness to involve students in real life challenges.

I would like to thank all the students enrolled in the Human Resource Management class, thank you for your hard work during this semester and thank you for your feedback. Without your collaboration and engagement this paper would have no sense.

And finally, I would like to thank all my family and friends, who in one way or another have supported and encouraged me to work on this paper.

3. Introduction

3.1. Personal Motivation

As a student myself, I have experienced different methodologies implemented in class and I have seen how professors use different games, resources or ideas to make classes more active and interesting. This, together with being the class representative in college, has shown me that, in general, there are two type of problems. First, we have those students that consider professors boring, and that say that their way of teaching is too traditional. These students usually agree that there is a need for new teaching methodologies in order to increase their engagement and to adapt to the new trends and technologies arising these days. However, these same students usually state that some professors have taken the need of using new methodologies to an extreme, and apply new methods (case studies, team works, real life projects...) in an excessive way with the purpose of being innovative and expecting students to engage in these activities.

The different opinions from students, the uncertainty surrounding this topic and the willingness of finding an efficient way to engage students in their courses, have been the main motivations during this research.

3.2. Aims and Scope

Motivated by the points mentioned above, the purpose of this research is to describe and analyze the successful implementation of an application of a game-based learning methodology in the subject of Human Resource Management (HRM) during the academic year 2018/2019, in order to identify the advantages and disadvantages it has, and hoping it may help professors improve their lectures and increase students engagement in their courses.

3.3. Structure of the Document

This research is divided into four main sections: (1) Theoretical Foundations, (2) Methodology, (3) Assessment and Results and (4) Discussion.

The first section (Theoretical Foundations) briefly describes the actual situation regarding new teaching methodologies; the section is mainly centered on the existing research on Game-based Learning, Competition-Based Learning and Action-Based Learning methodologies.

The second and third sections cover the empirical research done on this matter. A real case involving CBL and ABL methodologies was applied and analyzed during a Human Resource course in a Higher Education University. While the second section explains the methodology used, the third section analyzes the impact this methodology had on the students, the lecturers and all other parties involved in the project.

Finally, the fourth section includes a brief summary with the main conclusions of this research, as well as its limitations and the main areas to which future research could be oriented.

4. Theoretical Foundations

4.1. New Teaching Methodologies

As Tham & Tham (2012) mentioned on their pilot study on Game-Based Learning (GBL) in Singapore, it has been proven that students born in the digital world are neurologically different to those students from previous generations. Due to the easiness of accessing both, internet and the global digital environment, students in the 21st century are provided with immediate information and feedback and are always rewarded instantly for their efforts. This causes students to lose interest in traditional educational methods and to prefer a more active and motivating methodology, rather than passively listening in class (Kenwright, 2016).

During the past years there has been an increasing concern about the students engagement in courses in Higher Education (HE), and awareness in the lack of students' motivation, achievements, attendance and participation has become a clear priority for educators (Nadolny & Halabi, 2016; Tham & Tham, 2012). In order to overcome this potential disengagement of students, alternative teaching methods have been recently addressed by different authors with the objective of re-engaging students in HE (Ebner & Holzinger, 2007; Nadolny & Halabi, 2016).

4.2. Game Based Learning

There are different types of teaching methodologies to be used by professors in HE courses. However, different studies have shown that learning with games provides a high variety of benefits (Tham & Tham, 2012). Using a GBL methodology has proven that students maintain a higher level of participation and enjoy this kind of learning; as well as increasing their attention span, improving collaboration and social interactions and encouraging a healthy competition (Ebner & Holzinger, 2007; Kenwright, 2016; Schmitz, Felicia, & Bignami, 2015).

Over the past two decades, there has been a high increase on lecturers' interest between games and education (Hwang & Wu, 2012; Kenwright, 2016). However, little evidence has been found of their application in HE or post-secondary level (Ebner & Holzinger, 2007; Wiggins, 2016).

Although there are many definitions for GBL, a general and simple definition is the one provided by Wiggins (2016) in his study on the use of games, simulations, and gamification in HE.

This study defines GBL as a type of learning in which actual games are used in the classroom to enhance learning and teaching.

When defining GBL, Ebner & Holzinger (2007) compared this methodology with problem-based learning. They stated that games include many characteristics of problem solving, i.e. an unknown outcome, multiple paths to a goal, construction of a problem context, collaboration in the case of multiple players etc., and they add the elements of competition and chance to take into consideration. On the other hand, Tham & Tham (2012), who analyzed the effectiveness of GBL as an instructional strategy for engaging and motivating students in HE in Singapore, adopted the following definition provided by Carson Learning Services (2006): Game-based learning is the process of taking an idea and creating an activity to deliver that idea in a manner that is motivating, challenging and fun, and has a measurable learning objective as a foundation.

GBL can often be confused with gamification. Although several authors use both terms interchangeably (Wiggins, 2016), Kenwright (2016) states that GBL is about the game and its cognitive residue, while gamification is about encouragement and the new technologies that stimulate this. When designing game solutions for the learning environment, there are different aspects to be considered. Although not all authors mention the same characteristics, they all mention similar fields. For example, Kenwright (2016) in his study on GBL in HE, mentions the four part structures from Allen: (1) Context, (2) Challenge, (3) Action, and (4) Feedback; Nadolny & Halabi (2016) state that there are five characteristics that affect students' response to GBL methods, these are: (1) Playfulness, (2) Comparative pedagogy, (3) Instrumentalist, (4) Grade Status and (5) Performance; and finally, Tham & Tham (2012) mention the six characteristics according to Prensky (2001), that lead to a strong engagement of students on games: (1) rules, (2) goals/objectives, (3) outcomes/feedback, (4) conflict/competition/challenge/opposition, (5) interaction and (6) representation/story.

Although most authors differ on the exact definition for GBL, most authors agree on the fact that these games provide students with the possibility of solving real-life challenges and compromises within a safe environment and avoiding the fear of the real-world consequences (Ebner & Holzinger, 2007; Kenwright, 2016; Nadolny & Halabi, 2016). The main benefit of GBL has been identified as the students' engagement and motivation in the course (Ebner & Holzinger, 2007; Kenwright, 2016; Nadolny & Halabi, 2016; Wiggins, 2016). Nevertheless, different benefits have been observed in many studies: class attendance and participation (Nadolny & Halabi, 2016), creativity (Nadolny & Halabi, 2016), collaboration and social interactions (Schmitz et al., 2015) and others such as attention spam, mental flexibility, productivity, and healthy competition (Kenwright, 2016).

Finally, it is important to consider the dangers of this methodology. For instance, as Kenwright (2016) mentions in his study, when technology is used professors should consider the expertise their students have as it could become a barrier in the learning process. Also, GBL can be time-consuming both, when preparing the course and tracking the progress. GBL is only successful when solutions are well designed; limitations and challenges arise when the game has not been thought thoroughly and curricular objectives are not achieved, so it is important to plan carefully in order to achieve the academic objectives (Kenwright, 2016).

4.3. Competition-Based Learning

Burguillo (2010) defines CBL as a methodology where learning is achieved through a competition, but the learning result is independent of the student's score in such competition.

Although some studies have suggested that adding the element of competition to a game-based learning environment improves students' engagement, motivation and learning performance (Burguillo, 2010; Cagiltay, Ozcelik, & Ozcelik, 2015), there is still very few research on this area (Vandercruysse, Vandewaetere, Cornillie, & Clarebout, 2013).

After studying the relationship between instruction and competition as a game element and the importance of students' perceptions in relation with motivation and learning outcomes, Vandercruysse et al. (2013) determined there is a need for more research on the effectiveness of the elements that constitute an educational game, rather than on educational games as such.

4.4. Action-Based Learning

Another concept to consider when talking about teaching methodologies is the approach known as Action-based teaching or Action-based learning (ABL).

Reynolds & Vince (2011) state that this approach emphasizes learning that is questioning of structures and organizational practices, by applying it in the workplace and encouraging collaboration and collective learning. Meanwhile, Lier (2007) defines ABL as an approach that puts human agency in the center of attention.

Educational systems often consider students as an input consuming and output producing of homogeneous entities. However, every learner has their own personality, life and aspirations, and these characteristics emerge faster during out-of-class activities (Lier, 2007).

After analyzing the synergies and contradictions of Action-based learning in Management education, Reynolds & Vince (2011) stated that by using an ABL methodology, students offer an opportunity to apply learning from their own processes to the wider context they wish to understand and change.

The degree of motivation of students is an essential factor in academic achievement (Busato, Prins, Elshout, & Hamaker, 2000), and as stated by Lier (2007), by applying an ABL approach, learners are listened, respected and treated as agents of their own right. These learners, whose actions are self-initiated rather than commanded, will become strong in terms of intrinsic motivation and autonomy.

With the objective of making a positive difference in education and improving the conventional way of learning, Christian Acosta-Flama founded *Telanto* three years ago.

Telanto is a collaboration platform between companies and universities with the main objective of connecting company challenges to students all over the world so that students can learn by solving real company challenges.

In Christian's own words:

"I founded TELANTO after identifying a growing need amongst universities to switch their conventional teaching practices towards digital action learning and allowing organizations instant access to a global talent pool of students to leverage remarkably new ways of Open Innovation, Employer Branding and Recruiting Practices."

By applying this methodology, both, companies and students benefit from it. On one hand, students learn to face the type of problems they will find when they start their first job and, at the same time, they are able to add to their curriculum extra experience before even graduating. On the other hand, companies are easily able to find new and young talent.

Keeping in mind that "there is no learning without action and no action without learning" (Acosta-Flama, 2019), and due to the lack of research in this area, the main aim of this research is to describe and analyze the successful implementation of a CBL methodology combined with an ABL approach in HE. This research explains the experience of a class activity in which students learn in a practical way how to define the work competences. Students must define the general competences of a social enterprise and their assignment to each job description.

This activity is part of the Teaching Innovation project awarded by the Fundació Puig (B-SMART) where students are expected to work in the classroom on real business challenges. The experience reported took place at the Universitat Internacional de Catalunya during the academic year 2018/2019. Students participating in this project were enrolled in the Human Resource Management course, a compulsory subject included in the third year of the Degree in Business Administration and Management.

5. Methodology

In order to analyze the aspects mentioned above and to understand how students' engagement is affected by using a CBL methodology, a competition was proposed to all students attending a specific higher education course in the International University of Catalonia (UIC).

5.1. Description of the Competition

The real challenge was proposed by SaóPrat. It is a non-profit, socio-educational entity, declared of public utility, which was born in 2004 in El Prat de Llobregat. The students had to prepare a report with the following information: (i) Catalogue of competencies according to the needs of the entity SaóPrat. Build a list of competences (reduce to 15 transversal competences); (ii) definition of each competence; (iii) for each job, they must propose 4-5 transversal skills.

The 55 students enrolled in the subject were group in groups of 5/6 proposed by the lecturers (based on previous team-works). Creativity, justification of the choice of competencies and detail of the methodology followed were valued. During the group work, it was recommended to apply some element of design thinking methodology. Lecturers provided students the required material (Drive Folder with all the documents of the job description, organizational chart, etc.), post-it, DIN 3 papers, etc.

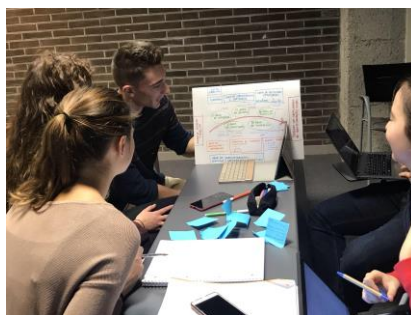


Figure 1: Project development - Source: Own Elaboration (2018)

The lecturers and the responsables of SaóPrat carried out one main session (2 hours) with the students. After this session, the students had to work in teams outside the classroom with the online support of the lecturers (on average a total of 16 hours per team). Approximately, 20% of the work was done during class hours, while the rest was performed after classes.



Figure 2: Challenge presentation by lectures and SaóPrat responsables - Source: Own elaboration (2018)

The grading of the work had a higher weighting than other work carried out during the course within the continuous evaluation grade. The work was evaluated by the HR lecturers and the 3 best opted to make a final presentation in the social enterprise. The grades of the presentations were decided through a discussion between the two lecturers of the subject, who proceeded with the selection of the three best proposals (considering different criteria: structure, content and format). The oral presentation in the organization was assessed by the lecturers and the manager of SaóPrat. The grade of the whole exercise (work and presentation) is considered the mark of the final exam of the subject, leaving these students free to take the final exam. International students who take the course first must take the exam in all cases. Lecturers consider that this assessment is motivating for students to work hard and achieve excellence results.



Figure 3: Presentations at SaóPrat Facilities - Source: Own Elaboration (2019)

The lecturer's dedication changes when it comes to preparing this type of methodology. In the first place, the lecturer must know in depth the needs of the company and the problems to be solved in order to adapt them to the contents, level and demands that can be asked of the students. On the other hand, the role of the teacher changes. Instead of having an active position in the teaching process, he or she takes on the role of facilitator in this process. Finally, the teacher must reflect on the mechanisms for evaluating learning and the incentives (prizes) that must be established for the

activity to be inspiring and attractive to students. Competition should be approached as something positive, in order to raise the score and not to penalize (Burguillo, 2010). In conclusion, this type of methodology affects the teacher's usual way (competition vs. traditional class).

The setting up of the project is described in the following figure:



Figure 4: Setting up the project - Source: Own elaboration (2018)

5.2. Survey

During the day of the final exam and the final presentations, all students were given a survey to answer. The survey was made up of 23 statements grouped in five dimensions that had to be answered using a Likert scale from 1 to 5; one meaning the student totally disagreed with the statement and 5 meaning the student totally agreed. The first group of questions involved aspects related to competition. The second dimension covered aspects related to teamwork and collaboration, the third one analyzed the evaluation and knowledge acquired and the fourth compared the GBL methodology with traditional teaching. Finally, the last dimension included general questions about the course.

This survey was created based on the research done by Burguillo (2010), Ebner & Holzinger (2007) and Kenwright (2016). These three studies analyzed game-based learning in education and provided relevant elements to take into consideration when applying GBL methodologies in class. The information provided by these authors served as a guide to elaborate the following survey in order to be answered by students:

Category	Element	Name
Competition	C1	In general, I like to compete.
	C2	I liked the theme chosen for this project.
	C3	By having a competition between the different teams of the challenge, I took the activity more seriously than if I did not have to compete.
	C4	It has been easy to understand what the project consisted of and how the competition and presentations of the project had to be done.
Team	T1	I like that the professors have decided my work team.
	T2	This activity has improved the relationship with my classmates.
	T3	This activity has given me the opportunity to meet new people.
	T4	All team members have worked fairly.
	T5	I prefer to work as a team than individually.
Evaluation System	E1	The time dedicated to doing this project is adequate in relation to the weight it has in the subject.
	E2	The mark of the project is adequate in relation to my effort and work.
	E3	I think it is fair that the winning/finalist students do not have to take the final exam.
	E4	I think that students who take the final exam end up with more knowledge than those who do not take the final exam.
CBL Methodology	V1	This competition has made me invest more time in homework/tasks than I would have invested in a traditional class.
	V2	There is a part of luck or randomness in the results of this competition compared to the results of studying for a traditional class.
	V3	I found it to be a more dynamic activity than a traditional class.
	V4	This type of methodology has made me feel more motivated to work and learn.
General Satisfaction	SAT1	This activity has helped me to better understand the concepts of this subject.
	SAT2	This activity has helped me to better understand the problems of a company.
	SAT3	This activity has helped me to better understand how a company works.
	SAT4	I think the methodology has been adequate.
	SAT5	In general, I consider useful the activity carried out.
	SAT6	I am satisfied with how the activity has been carried out.

Table 1: Survey Elements answered by students - Source: Own Elaboration (2019)

From the 55 students enrolled in the course, 33 out of 38 answers were obtained from those students that had to take the final exam (86% of response rate) and 16 out of 17 answers were obtained from those students that did the final presentation (94,11% of response rate).

	Male	Female
Spanish Nationality	13	4
Exchange Student	18	14

Table 2: Distribution of students who answered the survey - Source: Own Elaboration (2019)

5.3. Focus Groups

In the same way, different focus groups were done with most of the students, in order to complement all the objective results obtained in the surveys.

After the final exam was completed, students were asked to voluntarily attend a brief focus group. Groups of three to five students were created and a brief informal conversation took place. The purpose of this focus groups was to have students express those opinions and experiences that had not been able to be transmitted through the survey.

Likewise, those students who did not take the final exam but did the final presentation at SaóPrat facilities', were asked to participate in a focus group (again, in a voluntarily way). In this case, the groups were formed by a larger number of students. The limited time in the facilities only allowed for two focus groups, causing this groups to be of eight students each.

Data Collection Method	Date	Duration	Participants	Nationality
Focus Group 1	January 16 th , 2019	3 min 47 seconds	Final Exam Students	Spanish
Focus Group 2	January 16 th , 2019	3 min 09 seconds	Final Exam Students	Spanish & Exchange Students
Focus Group 3	January 16 th , 2019	3 min 16 seconds	Final Exam Students	Exchange Students
Focus Group 4	January 16 th , 2019	6 min 29 seconds	Final Exam Students	Spanish & Exchange Students
Focus Group 5	January 16 th , 2019	3 min 43 seconds	Final Exam Students	Spanish & Exchange Students
Focus Group 6	January 16 th , 2019	6 min 50 seconds	Final Exam Students	Spanish & Exchange Students

Focus Group 7	January 16 th , 2019	3 min 23 seconds	Finalist Students	Exchange Students
Focus Group 8	January 16 th , 2019	5 min 12 seconds	Finalist Students	Spanish & Exchange Students

Table 3: Focus Group Data Collection - Source: Own Elaboration (2019)

6. Assessment and Results

With the purpose of analyzing the efficiency and results of this teaching methodology, a survey and different focus groups were organized with the students, the lecturers and SaóPrat responsables. The objective of this section is to present these findings.

6.1. Quantitative Results

6.1.1 *Exploratory Factor Analysis*

Lee Cronbach developed Alpha in 1951 with the purpose of measuring the internal consistency of a test or a scale (Tavakol & Dennick, 2011). Since then, the alpha coefficient has become the most common methodology for estimating the reliability of a multi-item scale (Peterson, 1994).

Cronbach alpha is expressed as a number between zero and one (Tavakol & Dennick, 2011), and the closer Cronbach's alpha coefficient is to one, the greater the internal consistency of the items in the scale (Gliem & Gleim, 1992). Although, in general, authors recommend a value higher than 0.7 (Oviedo & Campo-Arias, 2005), some authors consider values between 0.5 and 0.7 as a result showing moderate reliability (Brownlow, Hinton, & McMurray, 2014).

As mentioned earlier, the methodology used in this research involved a survey that had to be answered using a Likert scale. So, considering the research done by Gliem & Gleim (1992), who stated that when using a Likert-type scale, the Cronbach's alpha should always be calculated and reported in order to obtain the internal consistency reliability for any scales or subscales; this section reports and analyzes the Cronbach's alpha for the scale used during this research.

As it can be seen in table 4, all categories show a Cronbach's Alpha higher than 0.6, meaning that the items have an internal consistency between them. While the categories involving competition and team, have the lowest result (0.61 and 0.626 respectively), the items related to the Evaluation System and the CBL Methodology both show a Cronbach's Alpha slightly higher than 0.7, proving a high reliability. Finally, the category analyzing general satisfaction of students has a Cronbach's alpha of 0.93, meaning that the scale items have an excellent reliability (Brownlow et al., 2014).

Category	Element	Name	Reliability (Cronbach's Alpha)
Competition	C2	I liked the theme chosen for this project.	0.610
	C3	By having a competition between the different teams of the challenge, I took the activity more seriously than if I did not have to compete.	
	C4	It has been easy to understand what the project consisted of and how the competition and presentations of the project had to be done.	
Team	T1	I like that the professors have decided my work team.	0.626
	T2	This activity has improved the relationship with my classmates.	
	T3	This activity has given me the opportunity to meet new people.	
Evaluation System	E1	The time dedicated to doing this project is adequate in relation to the weight it has in the subject.	0.739
	E2	The mark of the project is adequate in relation to my effort and work.	
	E3	I think it is fair that the winning/finalist students do not have to take the final exam.	
	E4	I think that students who take the final exam end up with more knowledge than those who do not take the final exam.	
CBL Methodology	V1	This competition has made me invest more time in homework/tasks than I would have invested in a traditional class.	0.724
	V3	I found it to be a more dynamic activity than a traditional class.	
	V4	This type of methodology has made me feel more motivated to work and learn.	
General Satisfaction	SAT1	This activity has helped me to better understand the concepts of this subject.	0.930
	SAT2	This activity has helped me to better understand the problems of a company.	
	SAT3	This activity has helped me to better understand how a company works.	
	SAT4	I think the methodology has been adequate.	
	SAT5	In general, I consider useful the activity carried out.	
	SAT6	I am satisfied with how the activity has been carried out.	

Table 4: Exploratory Factor Analysis using SPSS. Reliability Analysis with Cronbach's Alpha - Source: Own Elaboration (2019)

6.1.2 Survey Results

When comparing the survey results between those students who did the final exam and those who didn't, different results were shown. The survey shows that those students, who arrived to the final stage of the competition and presented their projects to the social enterprise, were more satisfied than those students who had to take the final exam.

Regarding the first dimension (competition), it is shown that the finalist students consider themselves more competitive. However, in general, both groups of students confirmed that the fact that the presentations involved in a competition made them take it more seriously than if it had been a simple class presentation (mean of 3.67).

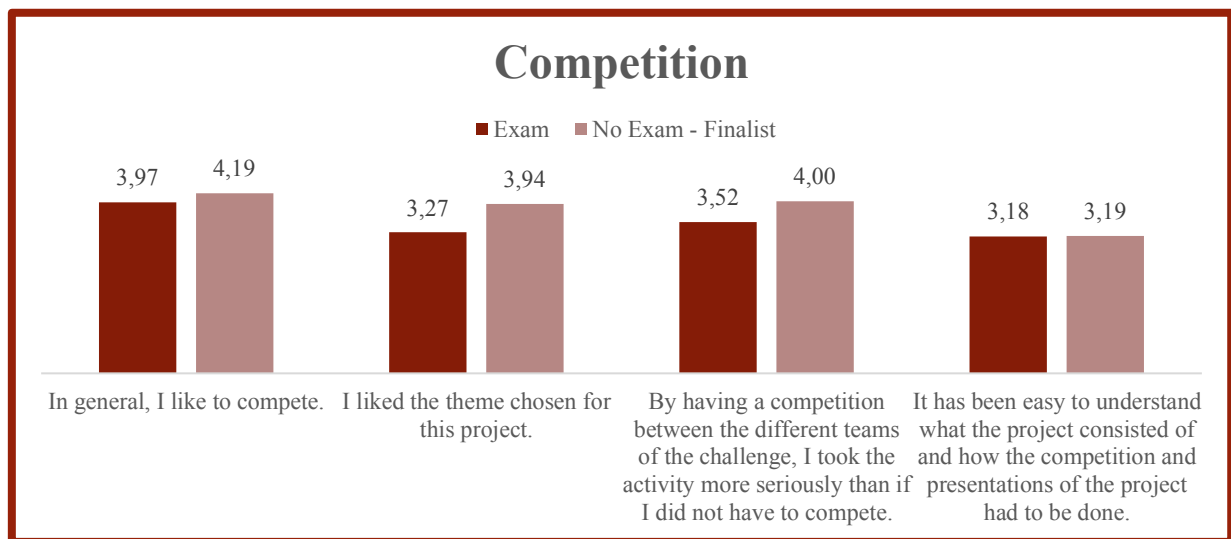


Figure 5: Survey Results Regarding Competition Elements - Source: Own Elaboration (2019)

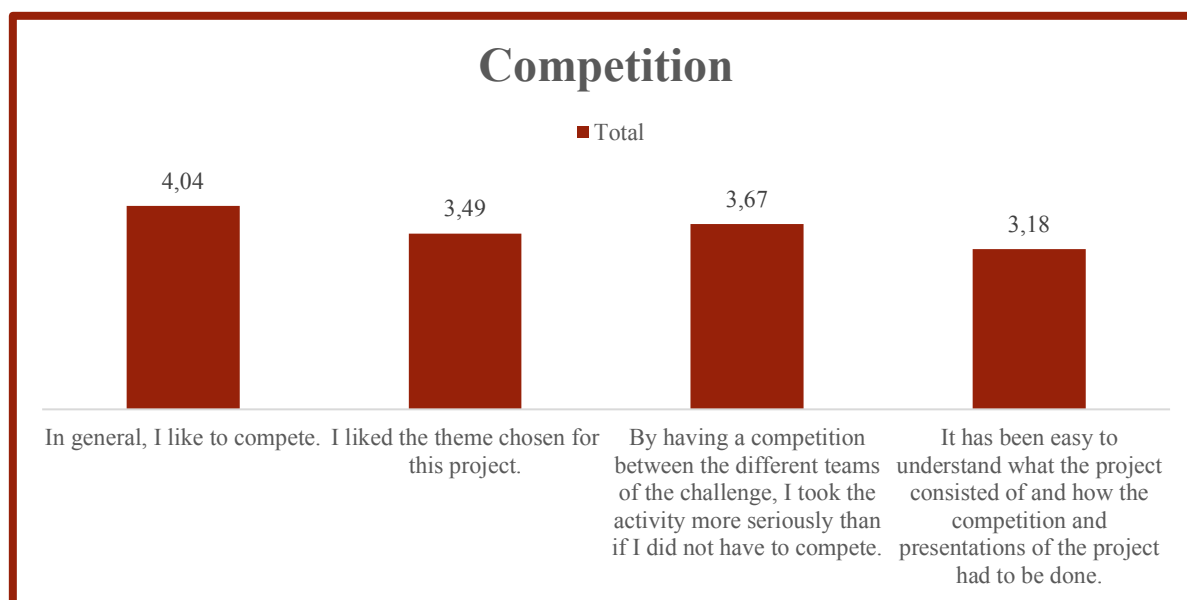


Figure 6: Survey Results (Overall Average) Regarding Competition Elements - Source: Own Elaboration (2019)

All students stated that this project has helped them improve the relationship between team members (3.63). Still, the three teams arriving to the final competition gave a higher mark to this statement (3.36 vs. 4.16). This may be since students not doing the final exam had to prepare the final presentation to be exposed at the social enterprise, having to work more hours together. This fact, together with the excellent quality of the work presented could also justify why students arriving to the final presentation tend to say that all team members worked equally (3.06 vs. 4.19). This survey also confirms that most students prefer to work within a team rather than individually (3.78). Although most students stated that this competition has given them the opportunity to meet new people (3.00), it is interesting to see how, at the same time, many students didn't like the fact that professors had chosen the team members for them (2.84). The survey doesn't give us enough information to analyze the reason for this, however, more research could be done in this area to analyze these differences and try to understand what the appropriate decision would be: either professors choose the team members and students have the opportunity to meet new people, or students choose their team, reducing the possibility of meeting new people.

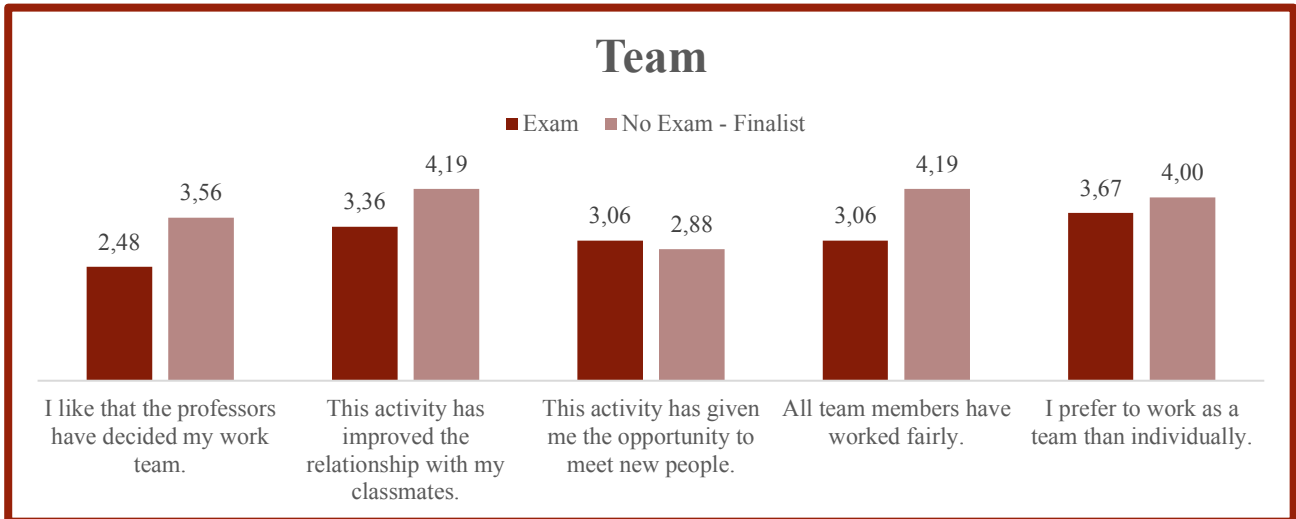


Figure 7: Survey Results Regarding Team Elements - Source: Own Elaboration (2019)

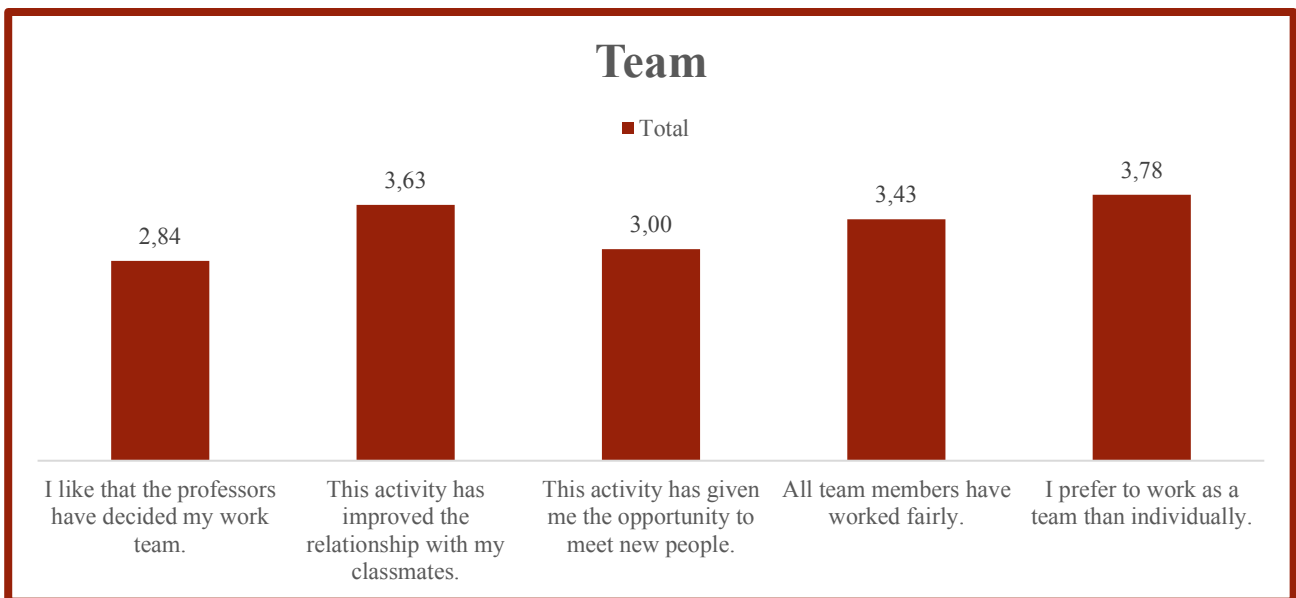


Figure 8: Survey Results (Overall Average) Regarding Team Elements - Source: Own Elaboration (2019)

When analyzing the evaluation dimension, in general, all students consider that the time dedicated to preparing this competition has been adequate to the weight it has in the course (3.45). Students taking the final exam think that they finish with more knowledge than those not taking it; this would explain why they think it is unfair for the winning students not to take the final test. However, these results could be biased by the students' perception of memorizing concepts for an exam. The final exam evaluated the topic in a very theoretical way, so the theoretical definitions were memorized much better by those students taking the test. However, it is important to notice that the practical knowledge and real-life experience were acquired by every student as they all confirmed to

be engaged and motivated to win the competition by developing this practical case. An average score of 3.29 was given to the statement evaluating the fairness of the final grade obtained.

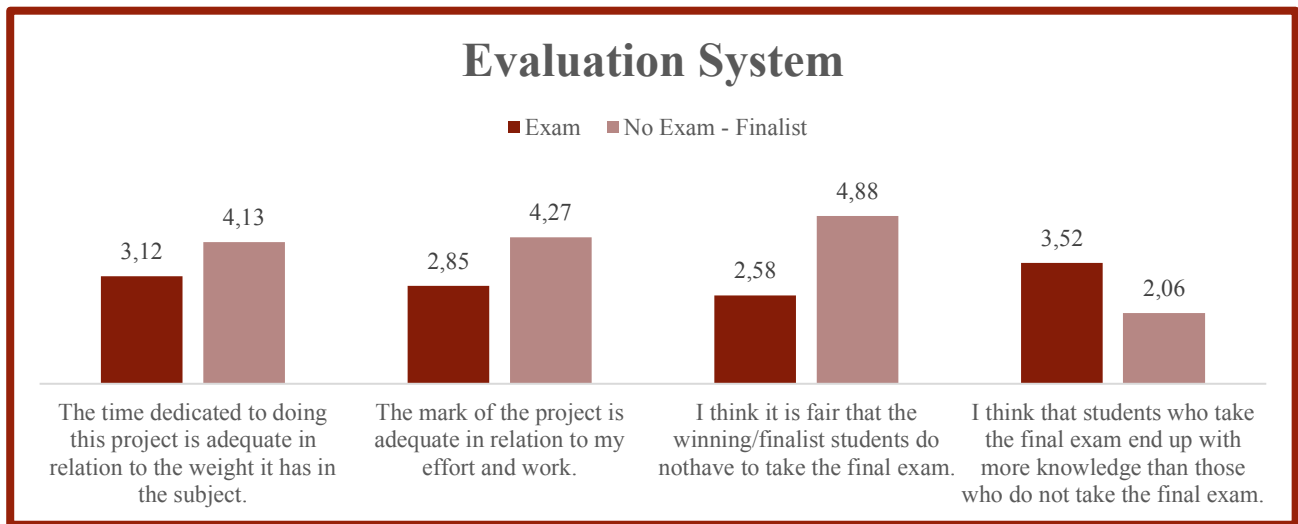


Figure 9: Survey Results Regarding Evaluation System Elements - Source: Own Elaboration (2019)

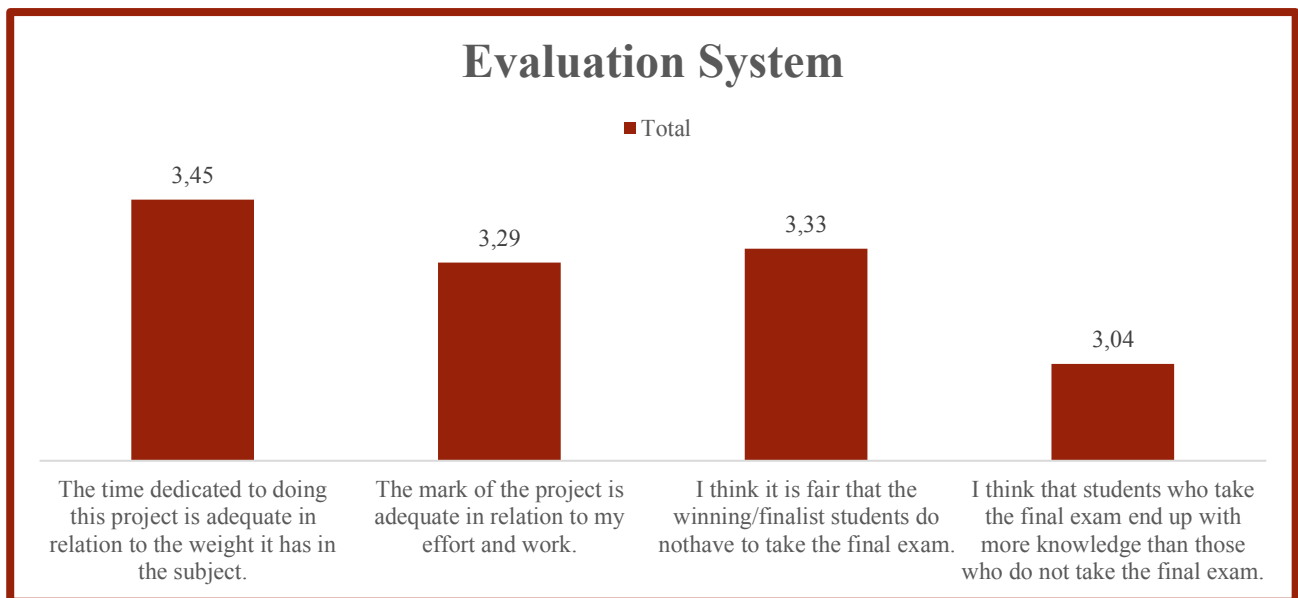


Figure 10: Survey Results (Overall Average) Regarding Evaluation System Elements - Source: Own Elaboration (2019)

Comparing this teaching methodology to traditional learning all students confirmed that this activity was more time-consuming than a traditional lecture would have been (average of 3.90). However, all students considered this activity much more dynamic than traditional learning (4.10) and stated that it made them feel more motivated to learn (3.67). Regarding chance and randomness effects during the competition, students had different opinions. Those taking the final exam declared that there were more aspects depending on chance than on a traditional class methodology (3.42), meanwhile, those not taking the final exam didn't agree as much (2.19). These results could be biased

since the survey was done once students knew who was taking the final exam and who wasn't. The finalist students may have been influenced positively by the high grades obtained. More research could be done in order to analyze this fact and try to reduce the bias in the responses.

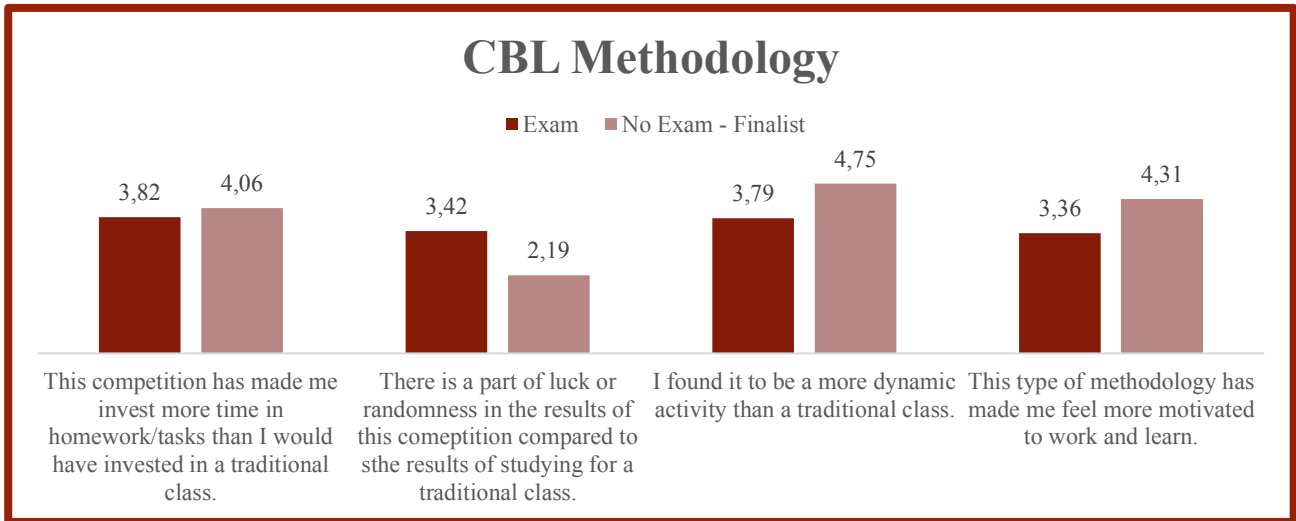


Figure 11: Figure 9: Survey Results Regarding CBL Methodology Elements - Source: Own Elaboration (2019)

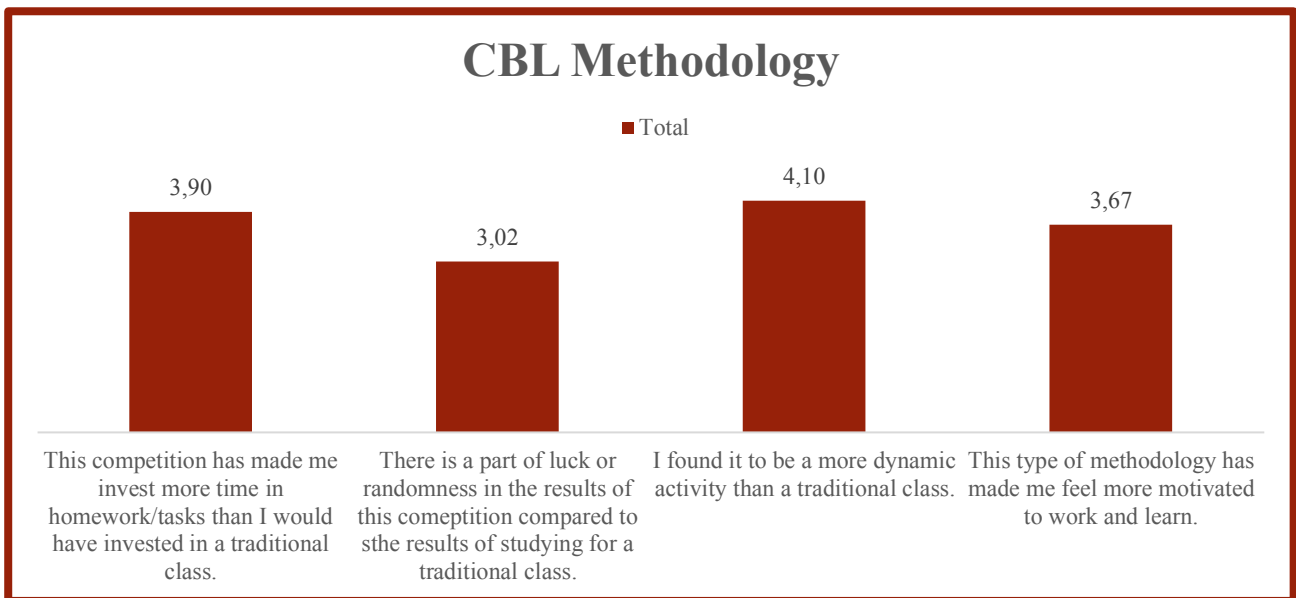


Figure 12: Survey Results (Overall Average) Regarding CBL Methodology Elements - Source: Own Elaboration (2019)

Finally, regarding the general aspects of the course, results were quite similar for both groups of students. Most students confirmed that this competition gave them a better understanding on the concepts of the course (3.71) as well as of the real problems of an enterprise (3.98) and how a company works (3.71). All students considered the activity useful (3.89) and were satisfied on how the activity took place (3.78).

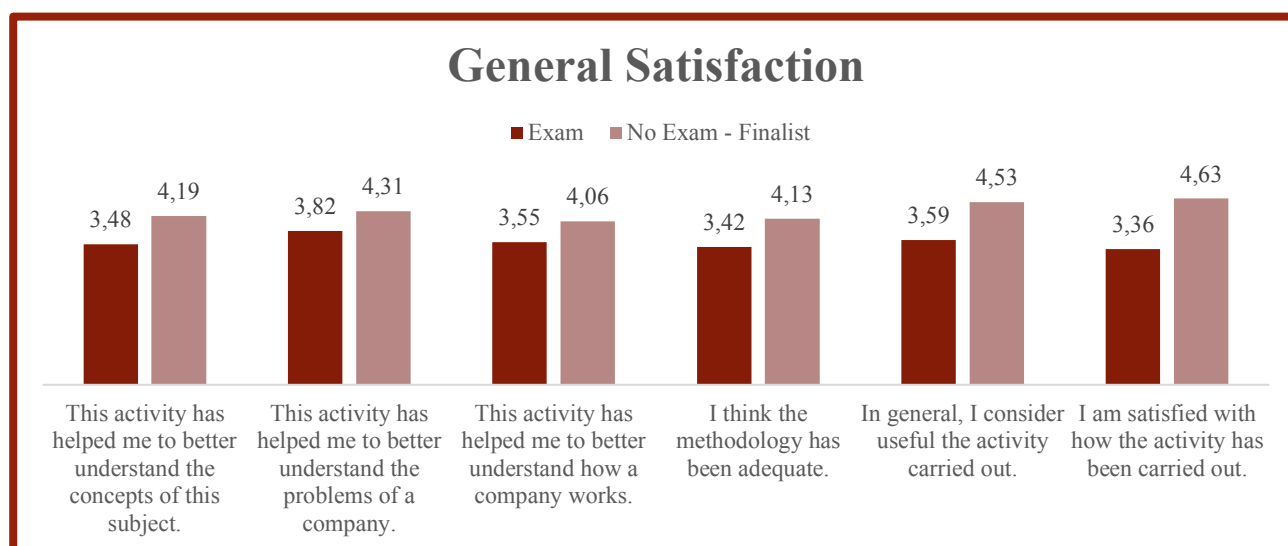


Figure 13: Figure 9: Survey Results Regarding General Satisfaction Elements - Source: Own Elaboration (2019)

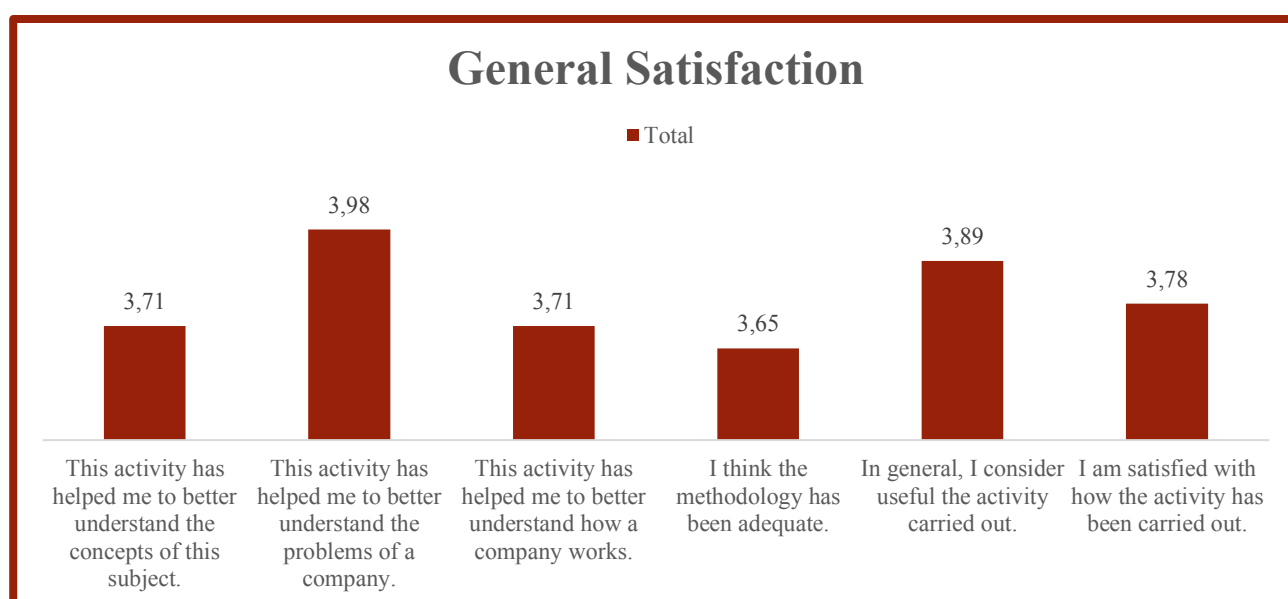


Figure 14: Survey Results (Overall Average) Regarding General Satisfaction Elements - Source: Own Elaboration (2019)

6.2. Qualitative Results

6.2.1 Focus Groups

Different focus groups were done with students to analyze in depth the results obtained on the surveys. In general, all the interviews confirmed the results previously explained.

All students said that the fact of the project being a competition between teams and not having to take the final exam, was an extra motivation for them to work harder and increase their interest and productivity.

Another interesting point mentioned by different students (both, those who had to take the final test and those who did not) found the instructions of the project and the initial material a little confusing. According to most of the students, there was too much material facilitated by the social enterprise and lots of time was needed to analyze and organize all the material.

Considering that professors of the course assigned each team member to a specific team, students had different opinions regarding this matter. Some students said that not all members worked equally and that they would rather choose their own team to avoid this situation. However, other students mentioned that this gave them the opportunity to meet new people and as it was a team evaluation, all team members worked together to achieve the same goal (presenting their project to the social enterprise and not having to take the final exam).

Since the company involved in the projects had a social aim, some students felt more encouraged to excel on their work as they knew they were helping a company with fewer resources.

When they were asked about how to improve the course, students suggested that more work could have been done during course hours instead of after class and that a presentation could have been done halfway through the course to make sure teams were moving in the right direction.

Finally, one of the points that was most brought up by students was the fact of having a real life experience. Dealing with real company problems helped students understand better how a real HR department works. Students stated that although it was more time-consuming than a traditional course, they enjoyed it more and found it dynamic and interactive.

6.2.2 *Company Interview*

During the day of the final presentations, and after all the proposals were presented and evaluated, an interview was conducted with SaóPrat responsables.

Although at the beginning of the project, SaóPrat responsible was somehow uncertain about the outcome of the activity, the students' proposals were way over their initial expectations. SaóPrat considered the quality of the work presented very high and really useful for their company.

SaóPrat responsible also mentioned the easiness of the relationship between the company and the university, and the facilities placed by the college institution.

As an improvement area, they would include a mid-point presentation from the students, arguing that this would allow the students to experience even more a real work experience, as real

consulting companies would meet with their clients more than once during their evaluation and proposal development.



Figure 15: Interview with SaóPrat responsables - Source: Own Elaboration (2019)

6.2.3 Lecturers Interviews

As mentioned earlier, the competition was carried out in the Human Resource course with students enrolled in the third year of the Degree in Business Administration and Management.

This course was taught by two different professors, who were in charge of organizing the competition, keeping in touch with the company and helping students from the first day until the final presentation at SaóPrat facilities.

In order to take into consideration all the factors in this competition, an interview with the main professor of the course was conducted.

During the human resource course, the students had to do different projects and assignments for their revaluation. However, professors noticed that students were much more motivated with this project than with other activities done during the course. The main reasons for this motivation, according to the professors, is the fact of facing a real company challenge instead of theoretical case-studies and the extra incentive of competing to avoid doing the final exam.

When asked about the amount of work, there are two sides to consider: the professors' dedication when preparing the course and the students' time dedicated to this project. While the students' perspective has already been mentioned in section 6.1.2 and 6.2.1, the professors' point of view is explained in the following paragraphs.

According to the professor and the time spent preparing this activity, this project needs more preparation time (meeting with the company, defining the project topic, deadlines and criteria...) than traditional classes. However, this is compensated inside the class, as students work more

autonomously on the own project (although there is an extra need of being available for questions or doubts through the whole duration of the competition).

Regarding the students' knowledge, it is true that the finalist students did not have to study for the final exam. However, the professors confirmed that during the course different activities had to be done for students to think and prove with evidences the knowledge acquired during the different lessons.

For future editions, professors would consider changing two Things. First, doing a halfway meeting or presentation between the students and the company in order to solve questions and receive feedback so that their proposals could be adjusted. Secondly, to give students more time to work inside the class and less during after school hours.

Finally, although some improvements involving the evaluation criteria and the final compensation could be done for next years' editions, the main professor of the course considered the activity had very positive results for students, lecturers and the company.

7. Discussion

7.1. Final Remarks and Implications

The main aim of this research was to analyze the implementation of a GBL methodology applied in the Human Resource Management (HRM) course during the academic year 2018/2019. This methodology combined a competition-based learning methodology with an action-based learning methodology, as they are considered to be beneficial for students as it increases their engagement and motivation.

Besides being able to see it in the survey results, during the focus groups, students emphasized that the fact of having the activity presented as a competition was an extra motivated for them to work harder and enjoy the project. This confirms the findings of Tham and Tham (2012) on their study on the effectiveness of GBL as an instructional strategy for engaging and motivating students in HE in Singapore.

Also, although there is a general belief to think that students don't like working in team projects due to the fact that some members work more than others; this research confirms that students prefer to work within a team rather than individually. In general, this makes them enjoy the activity and get involved in a extra way, as they get to interact and work with other people.

The study also shows that doing a practical and action-based approach is compatible with grading the students and evaluating them individually. As seen in figures nine and ten, the students were happy with the grade obtained and did not consider it unfair.

Regarding improvement points, if this methodology was to be applied in future editions, all parties involved in the competition (students, professors and the company's responsible) agree that a mid-point meeting or presentation should be done. This would allow students to receive feedback, solve any pending question and help them to develop their proposal in the best possible way. Also, it would give students a better real-life experience, as a professional consulting company meets with their client more than once during the elaboration of the proposal.

Secondly, the evaluation criteria should be better presented and described as some students argued that the competition included results that depended on chance and random factors.

Finally, the research confirms that this learning approach used during the course gave students a better understanding on the concepts of the course, as well as giving students an opportunity to see how a real company works and what are the type of problems enterprises face on their day-to-day operations.

Although some areas could be improved, students valued the dynamism of the activity, and considered it useful. Students were more motivated to work and were satisfied on how the activity was developed.

7.2. Future Research and Limitations

Regarding future research, the impact of the students' nationality could be analyzed. Students enrolled in this course were both, Spanish and international students (mainly Italian). Findings show that Italian students, in general, found this project more innovative and entertaining than those from Spain. Also, out of the 17 finalist students, only three were Spanish, suggesting maybe that this methodology has different effects depending on the educational or cultural backgrounds.

Regarding the creation of each team, some differences have been observed between students taking the final exam and those doing the presentation. Although most students stated that these teams have given them the opportunity to meet new people, it is interesting to see how, at the same time, many students didn't like the fact that professors had chosen the team members for them. More research could be done in this area to analyze these differences and try to understand what the appropriate decision would be: either professors choose the team members and students have the opportunity to meet new people, or students choose their team, reducing the possibility of meeting new people but having the opportunity to choose who you work with.

Finally, it is important to take into consideration that some results could be biased because the survey was done once students knew who had to take the final exam and who didn't. The finalist students may have been influenced positively by the high grades obtained. More research could be done in order to analyze this fact and try to reduce the bias in the responses.

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9. Appendix

9.1. Survey Answered by Students

Questions in English can be found in Table 1 of this paper.



Cuestionario Final Asignatura

Puntúa del 1 al 5 las siguientes afirmaciones. Siendo 1 = Totalmente en desacuerdo y 5 = totalmente de acuerdo.

	1	2	3	4	5
Competición					
En general, me gusta competir.					
Me ha gustado la temática escogida para este trabajo.					
Al haber una competición entre los diferentes grupos de trabajo del reto, me he tomado más en serio la actividad que si no se compitiera.					
Ha sido fácil entender en qué consistía el trabajo y cómo funcionaba la competición y presentación de los trabajos.					
Equipo					
Me gusta que los profesores hayan decidido mi equipo de trabajo.					
Este trabajo ha mejorado la relación con mis compañeros.					
Este trabajo me ha dado la oportunidad de conocer a gente nueva.					
Todos los miembros del equipo han trabajado de manera equitativa.					
Prefiero trabajar en equipo que individualmente.					
Evaluación					
El tiempo dedicado a hacer este trabajo es adecuado en relación al peso que tiene en la asignatura.					
La nota del trabajo es adecuada en relación a mi esfuerzo y trabajo.					
Creo que es justo que los alumnos ganadores/finalistas no hagan el examen final.					
Creo que los alumnos que hacen el examen final acaban con más conocimientos que los que no lo hacen.					
VS. Clase Tradicional					
Esta competición me ha hecho invertir más tiempo en deberes/trabajos que lo que hubiera invertido en una clase tradicional.					
Hay una parte de suerte o aleatoriedad en los resultados comparado con el estudiar para una clase tradicional.					
Me ha parecido una actividad más dinámica que una clase tradicional.					
Este tipo de metodología me ha hecho sentir más motivado para trabajar y aprender.					



Cuestionario Final Asignatura

Puntúa del 1 al 5 las siguientes afirmaciones. Siendo 1 = Totalmente en desacuerdo y 5 = totalmente de acuerdo.

	1	2	3	4	5
General					
Esta actividad me ha servido para entender mejor los conceptos de esta asignatura.					
Esta actividad me ha servido para entender mejor los problemas de una empresa.					
Esta actividad me ha servido para entender mejor cómo funciona una empresa.					
Creo que la metodología ha sido adecuada.					
En general, considero útil la actividad realizada.					
Estoy satisfecho en cómo se ha llevado a cabo la actividad.					

Comentarios:

9.2. Focus Group Interview Transcript

9.2.1 Focus Group 1

Interviewer: Regarding this competition about SaóPrat. What are the strengths and positive things you have seen about it? Advantages?

Student: the fact of it being it a competition has given it this “plus” making it more interesting and creating competition and increasing productivity

Interviewer: in general, have you liked it? Or what things haven’t you liked?

Student: I found it a little bit “poor”. It was extense but the content was the same for all the teams, there was not space for variation/imagination... you had to follow the guides and there was not much freedom to do things

Interviewer: Do you preference this type o methodology or you’d rather have the professor give you a “speech” with all the theory?

Students: Yes yes, this is much better, you learn much more

Interviewer: Would you change anything if this had to be done again next year? Any suggestions?

Student: I’d do something with more freedom. The possibility of touching different areas of HHRR and not only job positions.

Student: Also, having the option to choose between different projects...

Interviewer: have you liked the topic chosen?

Student: The company selected?

Interviewer: Both, the company and the fact of analyzing job positions

Student: I found the company a good option, if we can offer our help to this kind of companies that bring something positive and good to society... and also the fact that this company doesn't have the professional resources to do this kind of things...

Interviewer: So being it a social company was an extra incentive?

Students: Yes, yes...

Interviewer: if they told you you had to do the same thing, the same dynamics next year... would you like to do it?

Student: We would like it, because it's a different way of doing things

Student: It's better to work like this rather than going to class and taking notes of things in paper...

Interviewer: So... in general?...

Student: Positive "valoración"

Student: It is easier to learn this way

Interviewer: And with your team? How was it

Student: Good, we were able to do the teams ourselves...

Student: No

Student: No?

Student: Well... We did the teams for a previous project and they gave us the same ones for this one

Student: But it was good... as they were the same teams as a previous project, there was already good dynamism...

Student: at the end, having the teams chosen by the professor is good because you get to meet new people, your work with other classmates and it allows you to learn new things

Interviewer: That would be all, thank you so much.

Students: Thank you, bye!

9.2.2 Focus Group 2

Interviewer: In general, regarding this competition, what are the strong points, advantage, disadvantages you have noticed?

Student: As a disadvantage, the teams. They gave us the group members and not all members worked the same, or left everything until the end...

Interviewer: (Pointing too two students) Were you together in the group?

Students: Yes, we were

Interviewer: (Pointing to the other two students) What about you two?

Student: We were together and we liked the members of our team.

Interviewer: Were the teams done randomly?

Student: I don't know...

Student: In our case I think we choose the team

Student: We did a time ago some teams and the same ones were used...

Interviewer: When you did them for the first time you did not know those teams were going to be used for this right?

Student: Exactly

Interviewer: The competition itself, have you liked it?

Student: Well...

Student: Yes

Student: Normal...

Interviewer: Would you repeat it? Or do you prefer a professor speaking as a normal class?

Student: I prefer the competition.

Student: It's more entertaining.

Interviewer: Do you think this competition has contributed with some "extra"?

Students: Yes...

Interviewer: The Company that was chosen, was it okay? Did you like it? Would you have preferred another one?

Student: I liked it because it was different

Interviewer: The fact of it being a social company has it made a difference? Or if I had given you Danone it would have been the same?

Student: It would have been the same...

Interviewer: Any suggestions? Or anything you would improve for next year?

Student: the teams...

Interviewer: what about the amount of work?

Student: Regarding this project or the whole subject?

Interviewer: This project, the competition of SaóPrat.

Student: It was proportional to what the project is...

Interviewer: Have you learned more by doing this? Have you seen it more practical?

Student: Yes, I have learned more in this project than in a few of the normal classes...

Student: Because you had to think about which competences, you had to use for one job or for another.

Student: Because you have to apply what you have learned

Interviewer: If you had to repeat next year, would you do it? I mean, if next year they told you that you could do a more theoretical class or...

Student: I prefer this project than a normal class

Interviewer: So, would you repeat it?

Student: Yes, yes... you learn much more

Interviewer: Thank you, any other comments?

Students: No, that is it...

Interviewer: Thank you!

9.2.3 *Focus Group 3*

Interviewer: In general, regarding this competition, what are the strong points, advantage, disadvantages you have noticed?

Student: We are not really used to do this type of projects. In Italy we do not usually work on team projects and I personally think that group projects are a good method to meet new people both, Italians and Spanish. I also think it is very useful to improve all the knowledge of the course and the fact of it being a competition I think it is a good incentive.

Interviewer: So if it is a competition you like it more than if you do not compete?

Student: I think it is an incentive.

Interviewer: And the competition, the topic itself have you liked it? Putting everything in practice?

Student: Yes, I think it is more useful to apply it in practice than to have only the book... books are "static"

Interviewer: And anything "bad"? Anything you have not liked or that you would improve?

Student: ...

Interviewer: It's confidential, don't worry.

Students: No no, it not because of that.

Student: I don't really know, there are more positive points.

Interviewer: So in general you've liked it?

Students: Yes, probably the fact that the best three projects don't have to take the final exam is good for those students, but I think that with a final exam you have to study more things than those for the project.

Interviewer: Right... And if you had to repeat it next year? Would you want to do it?

Students: Yes, Yes.

Interviewer: do you prefer this than a professor talking and students taking notes?

Student: Yes, I prefer this.

Student: No, I prefer a professor to talk.

Interviewer: Any other comment you want to add?

Student: I think the classes were very interactive with the professors, and that the group projects were good. Very different to Italy.

Interviewer: Yes? So you have liked it?

Student: Yes, very different to Italy. In Italy, you have the professor that talks during four months... it is very different.

Interviewer: And do you like it to be it this different?

Student: Yes, it met your expectations

Interviewer: So in general, you are happy?

Student: Yes

Interviewer: Well, we are done, thank you so much!

Students: Thank you, bye!

9.2.4 Focus Group 4

Interviewer: About the SaóPrat competition, what do you think about it? Have you liked it? Do you prefer a normal class? Advantages or disadvantages?

Student: I have liked to work in groups, but at the beginning, I think any of us did not really know what we had to do.

Student: Yes, me too.

Student: We did not understand what we had to do.

Student: There was too much information and you did not know where to start.

Student: I did not understand what I really had to do.

Student: One of the problems was that the files were in Catalan, and for the Italian people it was hard to understand. And they didn't send the files in Spanish until the week before finishing the project.

Student: And this made it harder to do a better job

Interviewer: And the methodology? Have you found it useful to apply what you had learned?

Student: From my point of view, it was not useful to complement my knowledge in human resources. Because the only thing we did was analyze competences... Yes, it is important for human resources, but it is not everything.

Interviewer: So in your case, the project in general did not make a difference.

Student: Exactly.

Interviewer: So if we had not done the project it would have been better?

Student: Yes, because you had to dedicate too much time in moments when you had to do many other projects.

Student: The same for me.

Interviewer: What about you? (Pointing to another Italian student) Your classmates said earlier that compared to the Polytechnic university of Turin they liked it...

Student: Yes, it is different, but I think that the topic was not really important for the human resources class, instead it was more important for the company

Interviewer: So it was more important for the company than for the students taking the course?

Student: Yes

Interviewer: And the fact of the company being a social company was it an extra incentive than if they had given you another company with all the resources to do it? Or haven't even thought about it?

Students: I did not really care; it would have been the same.

Interviewer: If you had to improve anything? Any suggestions?

Students: I would improve the first session, the one where professors told us what we had to do. There was too much information and you didn't really know where to start.

Interviewer: Okay

Student: Also, the files were very untidy...

Student: There were too many files and you did not understand anything.

Student: I think it is easy to improve...

Interviewer: So basically, clarifying everything when giving you the information and first instructions.

Student: Yes

Student: And I would change the moment when this project has to be done. It can also be done at the beginning of the course because you do not need any specific knowledge about human resources to do it.

Interviewer: So, the project itself was good, but the problem is that you had many other projects and exams at the same time right? So it would have been better to do it at the beginning of the course?

Students: Yes, better.

Student (Exchange student): For me, I would also give the option to choose the team members. I was with a team of only Spanish students that I did not really know, and doing a project this long with people you don't know is quite difficult.

Interviewer: (Pointing to other student) What do you think about all this?

Student (Exchange Student): I think that it has given me the chance to meet three new people, but at the same time, I was lucky because I had three other Italian students in my team,

Student (Exchange Student): That is why in my case I did not like it, because I was in a team with four other Spanish guys that I didn't know and... for me it was not very helpful.

Student: In our case (pointing to other student), we were in the same team and we were with two other Italian students and it helped to communicate. Maybe what could be done would be to allow students to make pairs and then put together these pairs to make groups. In order to avoid having a girl by her self with guys she doesn't know or any other uncomfortable situations.

Interviewer: I see... Any other comment or anything you want to add if it had to be done next year? Would you want to do it or would you rather eliminate the project from the program and have the professor give a normal class?

Student: I have liked it, I think it is good to do it but I think that the mark we obtained is not fair compared to all the effort the team put on the project.

Student: Yes, because you hand in the paper but the professor does not really know who has worked or not...

Student: The same happened with my team... I do not have a problem in telling you.

Interviewer: SO in general, considering the mark obtained with the effort done, you would have rather not done the project?

Student: In my case yes.

Student: Me too.

Interviewer: You?

Student: In my case... I do not really care about the grade, but what I see as a good point is the fact of it being a competition with other teams and the winner not having to take the final exam.

Interviewer: So not taking the final exam is an extra incentive?

Student: Yes, yes.

Interviewer: Well, that is it! Thank you so much!

Students: Thank you, bye!

9.2.5 *Focus Group 5*

Interviewer: About the SaóPrat competition, what do you think about it? Have you liked it? Advantages or disadvantages?

Student: Knowing that there is a completion makes you give the best you can

Interviewer: So having a competition is an incentive to work harder?

Student: Yes

Student: Also, I think that if they give you incentives is better. For example, not having to do the final exam if you win or thing like this, I think they make you do thing better. And it is also a common objective for the whole team and not individually.

Interviewer: And the project itself, do you think that applying the concepts in a practical way has been useful?

Student: I think yes.

Student: I do not know until which point... but yes.

Student: It helped to understand what we had done in class.

Student: In some way we applied what we had studied in a real case, so it helped.

Interviewer: And any negative point or something you would change? Any Suggestions?

Student: There were too many job positions to analyze and some of them were very similar.

Interviewer: Have you liked this methodology or would you have preferred a normal class with the professor talking and you taking notes?

Student: I think this depends on each person...

Interviewer: Yes, yes, I know... In your personal opinion, what do you think?

Student: I think that it is always good to do presentations and team projects. Sometimes there is too many, but it's the best way to learn. At the end, in the final exam what you most remember is what you had to present or research online by yourself so...

Interviewer: So when you have to do something yourself then you remember.

Students: Yes, exactly.

Interviewer: And the company? Being it a social company, has it been an incentive? Or any company would have been the same?

Student: I think the company is important, if you like it or find it interesting...

Student: The competences assigned to the job positions were done considering it was a social company taking care of people and emotions...

Interviewer: Anything I have not mentioned that you would like to add? Either positive or negative?

Student: No... I think that the time dedicate to the project was adequate...

Interviewer: Okay. We are done! Thank you!

Students: You are welcome, bye!

9.2.6 *Focus Group 6*

Interviewer: Hi, I just wanted to ask you a few questions about the SaóPrat competition. What do you think? Have you liked it? Advantages or disadvantages?

Student: In general, I think that from all the team projects we have done, it has been one of the best because it was the biggest, required more things, more effort... and it has been the one I've worked more with other people. It has given me the opportunity to understand better the human resource department, what are their challenges, what you have to consider when you are talking about a specific job position... It was a direct contact with the course. I think it was coherent with what the course shows, I mean working together with other people and have new relationships with team members and communication.

Interviewer: What about you? What do you think?

Student: Yes, I generally agree with what he has said. It was one of the most realistic projects we've done and we had to make a decision about real companies' problems. Sometimes we have to make decisions that are unrealistic in other courses or something... like financial problems or for example, they could ask us how to improve employees motivation and you could answer: you tell them to work harder, you promise them you'll increase their salary... but this examples are not how it works in real life. Instead this was more real so...

Interviewer: And have you liked the methodology? Or would you have preferred the traditional way... a professor speaking and...

Student: No, no... the traditional way is boring.

Student: Yes, I also prefer this way.

Student: It's more active, there is more interaction, you don't fall asleep...

Interviewer: If you had to improve something for next year, what would you say?

Student: I would say less working time at home and more time to work in class.

Student: Maybe do more emphasis not only in the writing part or the paper, but also in the part of doing the oral presentation and seeing the modus operandi of other teams, see other methods the teams have used...

Interviewer: The fact of it being a social company has it made a difference? Have you liked it more than if they had given you Danone or something like this?

Student: It's different because the job positions would have been different.

Interviewer: Yes, I agree. But do you think that the company being social has been an incentive for you to work better?

Students: No, not really.

Interviewer: Would you like to add any comment about something? The evaluation, the methodology...?

Student: I really think that a course is better when it is structured in more projects and activities and not only the final exam. So you have more things during the whole course. And I think this subject was the best for this structure. Probably there is something to improve but in general I liked it.

Student: In my case, I really think that it is good to have the incentive of not doing the final exam, but I think that the time and effort dedicated to the project is a lot and I do not know if it's worth it. Everyone would like not to do the final exam, but talking with classmates that have won the competition, they were saying that they don't know until which point it was such an advantage... I don't know if you understand what I'm trying to say.

Student: Actually, some students said they prefer to do the exam than spend so many time in this project. It required too much time, resources, research...

Student: yes, the only negative thing I can think of is that; of course, the winners have to have an advantage, but I think it would be better to have a shorter exam, or only some of the course programs or something like this...

Interviewer: Great, anything else you would like to say?

Student: No...

Interviewer: Okay then, that's it. Thank you!

9.2.7 Focus Group 7

Interviewer: Could you give me your opinion about the competition in general?

Student: I don't really know if I liked doing the competition. I think that the project could have been done exactly the same way without competing.

Interviewer: Anything you would improve? Or something you haven't liked?

Student: I think the organization of the documents could have been better. We are Italian and the documents were in Catalan. So it was a little hard to understand. But I think that the competition was useful and we were able to understand how a real company is structured and

it's not an imaginary project. It was an interactive activity that challenged us and I think it is very useful for us for the future when we have to go to a company and work.

Interviewer: What about the rest? Did you like this methodology? Or do you prefer a professor talking in a traditional class?

Students: Much more this activity. This for sure.

Student: It is much more interactive and it allows you to challenge yourself and to work in real life challenges.

Interviewer: What about you?

Student: I really liked it, working in a team and working with a real company...

Interviewer: And having to do a competition and not taking the final exam? Have you liked it?

Student: Yes yes, we loved it.

Student: But we need to finish earlier, our classmates have finished at 2pm and we are still here. They started vacations earlier...

Interviewer: And anything you would improve? Excluding the files problem you mentioned earlier.

Student: There was too many information and you had to filter a lot of things.

Student: Also, it would be good to have more time to work in class and less at home. We only had the first day to work in class and plan everything and everything else had to be done at home.

Interviewer: Perfect, thank you so much for your help.

9.2.8 *Focus Group 8*

Interviewer: Hi, I just wanted to ask you a few questions about the SaóPrat competition. What do you think? Have you liked it? Advantages or disadvantages?

Student: The fact of not doing the final exam is really good.

Student: It was really useful to get to know how a company works and the real problems it may have. In class it is really theoretical and although they can explain us how something works in real life, you don not really learn until you see it.

Student: I think it has been very interesting to the other side of a subject/course. You can think about different ways of solving the challenge, and you can see that there Is not only one correct way of doing it. At the end, this methodology gives you the opportunity to learn about those things that are more subjective and that you are not able to learn in a traditional class.

Student: This project was very long and working in a team during this activity helps you to get to know yourself better and identify your abilities inside a team.

Student: Also, another important point is that you get to know very well you classmates and make new friends. And at the end we have all had fun and enjoyed together doing it.

Interviewer: And the fact of it being a competition, was it an incentive?

Students: Yes, yes, of course!

Student: But it is interesting that out of the three groups there are only three Spanish students and the rest of us are Italian.

Interviewer: In general, the Italian students have liked it more than the Spanish students.

Student: For us, this has been really good because we are used to doing lots and lots of theory and nothing is done in practical way

Interviewer: Anything you would improve or anything you would change?

Student: Yes, that it took us one hour and a half to get here (referring to SaóPrat facilities), and the logistic part has been a little complicated... another thing that could improved is that the initial information was to unclear, there were to many files mixed together and there was not a unique file with all the relevant information, and the hardest part of this activity has been to understand and filter all the information given to us. If you add all this to the fact that we didn't know the company, it is even harder for someone that has no knowledge about this company. But yes, the hardest part was to understand the information. Maybe this has also made it harder for some teams to present a high-quality proposal. We used between 10 to 12 hours only to understand the information, even before starting the project itself.

Interviewer: Besides all of this, would you repeat it? Between this and a traditional class, what would you choose?

Student: Yes, yes, this for sure. I think this is something that can actually happen to us when we started working. I have previous work experience and things like this happen. It's not the first time that I have had to solve problem that has all the information disorganized... and the only option you have is to figure it out by yourself so...

Interviewer: So, this also had good things?

Student: Yes, while in normal classes they give you the theoretical knowledge directly to solve practical exercises, here you must figure everything out by yourself, it is a real case and it has been very gratifying.

9.3. Company Interview Transcript

Interviewer: So now that the proposals and the projects done by the students have been presented, we wanted to do a final evaluate of the experience from the company's point of view. In two or three lines, how would you evaluate the activity?

Company: I would say the activity has had a positive and useful outcome. It is true that at the beginning, when you start an initiative like this, you always have the doubt about what the outcome will be, or what product will you receive, what will be the students' level. In this case, I think the level of the projects presented has been high, the students have had a very high implication, and consequently, this product (result of this activity) is going to be useful for us.

Also, the relationship with the university has been very easy, comfortable. We have understood each other... we would repeat it.

Interviewer: Regarding the areas of improvement? So, after this pilot activity, if we were to repeat it next year, what do you think would have been changed or done in a different way?

Company: I do not know, maybe doing a control point halfway through the project, where students could present their first ideas, how they are going to direct their proposal...

Interviewer: And with the information, what do you think about doing interviews halfway?

Company: With the students?

Interviewer: Yes

Company: Yes, it like the point I was saying earlier. Having a control/evaluation point between the first day and the day of the final presentations (today). It is true that this time we were very tight in calendar days, buy maybe it would have been necessary to have more contact at some point.

Interviewer: Right, in order to better direct the project and the proposal. And not having everything be a surprise until the last moment.

Company: The surprise was very good. However, to make it even a more real experience, as it would be in a real case of consulting with a client, maybe this middle point would be good.

Interviewer: Have you found appropriate the competences of the students' of this course with what you were looking for? Did it meet your expectations?

Company: Yes, actually they were higher than expected. Precisely, because of the fear and uncertainty at the beginning. At the end they are students, so what you can expect or demand from them is relative. And it has actually been a project with lots of quality.

Interviewer: Well, thank you so much, this would be all.

9.4. Lecturers' Interview Transcript

Do you think students' engagement has been different during this competition compared to other activities done during the course? What are the main differences you have seen in the students' attitude during this competition? Both, positive and negative things if it's the case.

The truth is that working on real company challenge makes students much more motivated. Instead of doing projects and theoretical activities about concepts seen ini class, it is much more interesting to apply the theory in a real company challenge. I have noticed that students are more motivated than in other activities. The motivation also comes because the project involved a competition with a final price (present the project at the company's facilities and avoid doing the final exam).

Are you aware of any problem or complain that has happened due to the formation of each team and its members?

Regarding future editions, I would give students more time to work during class hours and outside the class in order for them to work on the challenge. This academic year the project was done at the end of the course, however I would include a halfway session with the company to solve students' questions and for them to receive feedback from the company's responsible. This way they could know how they are doing and adapt their proposals. I think it would have been useful.

As a professor of this activity, do you have any comments regarding the knowledge acquired by the students? Do you think there is a difference between those students taking the final exam and those doing the final presentation at SaóPrat?

The students that work on the challenge, really learnt. They faced a problem and they found a creative solution. It is true that the students that did the final exam had to study the course in a more general way, while the students who only did the presentation, did have that opportunity. However, this is compensated during the course, as different activities had to be done in order for students to think and prove with evidences the knowledge acquired during the different lessons.

As a professor, do you think this methodology is more time consuming for you when preparing the material and classes? Or do you think it's similar to applying a normal methodology in class?

For the professor it requires more administrative time: previous meeting with the company, phone calls and emails to define the challenge, dates, criteria... But it requires less direct implication inside the classroom (however, more indirect time is needed to solve questions and doubts from students...).

What is your general opinion on this competition-based methodology applied during your course?

My personal opinion is that it has been very positive, for the students, the company and the professors. Without a doubt I would repeat in future editions. I consider this an efficient way of learning, although we should think about the reward and the evaluation criteria associated to this activity.