

**THE EFFICACY OF 1-DAY SOFT SKILLS TRAINING ON  
MASTER STUDENTS' PERFORMANCE**

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- Spine -

*“For a process that is so important and rational, evaluation brings both promise and threat. The promise lies in determining what worked and what didn’t, which allows us to continuously improve. The threat of evaluation flows from the fear that performance data will be misused for blaming and not for fixing and improving”.*

*(Kaufman, 1994:371)*

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I believe that together, we left our mark in the ISCTE Business School by improving the integration experience of the new master students. I hope this initiative will keep growing every year and the IBS master students will keep the tradition of organising it.

## ABSTRACT

Nowadays, the student’s academic performance is based not only on hard skills, but also on soft skills which became more and more important during the last years. Due to the frequent changes in the market, companies look for employees that give them advantage over the competition and interpersonal skills have been highly valorized. This study aims at proving the importance of soft skills trainings in the academic context and foster future implementations of it.

This research analyses the efficacy of 1-day training for developing master students’ soft skills on teamwork and conflict management skills. The efficacy of the training was analysed according to the four levels of the Kirkpatrick training evaluation model, namely reaction, learning, behaviour and results. The benefits were considered in terms of development of teamwork and conflict management skills, as well as greater students’ performance. It was assessed through online surveys regarding these skills and students were asked to fill at different moments, during the first semester. The results show that the reaction level was considered effective and participants referred very high levels of satisfaction. The learning level was also effective considering the teamwork skills, however it did not show positive results regarding the cognitive learning of conflict management. The results did not provide conclusions that this training intervention was effective at the behaviour and results levels.

Nevertheless, the research contributed as an evaluation of the training intervention and as a demonstration of the utility of the Kirkpatrick’s training evaluation model.

**Key words:** Soft Skills, Teamwork, Conflict Management, Training Evaluation

**JEL Classification System:**

M5 Personnel Economics

    M53 Training

O1 Economic Development

    O15 Human Resources; Human Development; Income Distribution; Migration

## RESUMO

Hoje em dia, o desempenho acadêmico dos estudantes é baseado não só em *hard skills*, mas também em *soft skills*, que se tornaram cada vez mais importantes nos últimos anos. Devido às frequentes mudanças no mercado, as empresas procuram colaboradores que lhes permitam obter vantagem sobre a concorrência. Neste sentido, os *soft skills* têm sido altamente valorizados. Este estudo tem como objetivo provar a importância da formação em *soft skills* no contexto acadêmico e fomentar a organização destas iniciativas.

Esta pesquisa analisa a eficácia de uma formação de um dia, no desenvolvimento de *soft skills* dos estudantes de mestrado, especificamente trabalho em equipa e gestão de conflitos. A eficácia da formação foi analisada através do modelo de avaliação de formação de Kirkpatrick, observaram-se os quatro níveis: reações, aprendizagem, comportamentos e resultados. Os benefícios foram considerados em termos de desenvolvimento de competências de trabalho em equipa e gestão de conflitos, bem como o aumento do desempenho dos estudantes. Os alunos preencheram questionários online sobre as referidas competências, em diferentes momentos, durante o primeiro semestre. Os resultados mostram que o nível de reações foi considerado eficaz, assim como o nível de aprendizagem relativamente às competências de trabalho em equipa. No entanto, não foram apresentados resultados positivos relativos à aprendizagem cognitiva de gestão de conflitos. Este estudo revela que a formação não foi eficaz nos dois últimos níveis de avaliação: comportamentos e resultados.

No entanto, a pesquisa contribuiu como avaliação da formação e demonstração da utilidade do modelo de avaliação de Kirkpatrick.

**Palavras-chave:** *Soft Skills*, Trabalho de Equipa, Gestão de Conflitos, Avaliação de Formação

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## LIST OF ABBREVIATIONS

AACSB – Association to Advance Collegiate Schools of Business

AMA – American Management Association

ANOVA – Analysis of Variance

BA – Business Administration

HR – Human Resources

HRM – Human Resources Management

HSD – Honestly Significant Difference

MBA – Master in Business Administration

SCM – Brinkerhoff’s Success Case Method

SD – Standard Deviation

## **INTRODUCTION**

The academic environment has been changing during the last decades, students are required to achieve ambitious goals and the market has become more and more selective when choosing the right talent.

As stated in the preamble to the Association to Advance Collegiate Schools of Business’s (AACSB, 2016: 2) *Eligibility Procedures and Accreditation Standards for Business Accreditation*, “the same factors impacting business also are changing higher education. In today’s increasingly dynamic environment, business schools must respond to the business world’s changing needs by providing relevant knowledge and skills to the communities they serve. They must innovate and invest in intellectual capital; they must develop new programmes, curricula, and courses”. In order to succeed in this competitive world, the unique skills that characterize each individual are the key to overcome the competition. It is clear that one of the aims of business school education is to prepare students with the skills and competencies that organisations need and seek in their employees.

The educational system is examination oriented and mostly focused on teaching hard skills so that students will become excellent professionals. Unfortunately, according to Rubin and Dierdorff (2009, 2011), MBA students are still graduating without the key skills essential for their performance as managers. As reported in Rubin and Dierdorff (2009) study where 8633 incumbent managers across 52 managerial occupations were enquired, the results showed the competences of managing human capital and managing decision-making processes are considered the two most important behavioural competencies of all the managerial work. The competence of managing human capital includes several skills such as solving conflicts and negotiating with others, as well as developing and building teams. At the same time, several studies support that these skills and competencies are not proportionally addressed within most MBA programmes’ (Rubin & Dierdorff, 2009, 2011; Abraham & Karns, 2009; Costigan & Brink 2015). More and more graduates with excellent technical knowledge lack the ability of working in teams, which is increasing the frustration in the sector, as stated by Latham, Latham & Whyte (2004). Besides that, the recent American Management Association (AMA) survey (2012) supports that most leaders are certain that the competencies of critical thinking, communication, collaboration, as well as creativity,

have increased in importance, yet have declined in their workers and are hard to find in new hires.

As O'Sullivan (2000) states, corporations should hire people with the right aptitudes and concentrate on developing the skills of their strong workers. Therefore, it is possible to conclude that there is a misalignment between the extent to which soft skills are given “space” in the standard master courses curriculum across schools and their importance in the market.

The development of soft skills such as teamwork and conflict management, aligned with specific hard skills, will help students to perform more effectively and build positive relations with their colleagues. During their academic path, it is essential that students find opportunities to develop employability skills that prepare them for their professional careers, and this should happen through specific and appropriate training.

According to Costigan & Brink (2015), additional empirical research is needed regarding the relative effectiveness of different approaches to delivery human capital competencies to students. Rubin & Dierdorff (2013) also support the need of studying the process of effective teaching and the critical success factors associated with improved learning.

The topic of training evaluation has been frequently reinforced in the literature. Bober & Bartlett (2004) believe that the increase of investment in training is leading to an increase of the importance of evaluation techniques that measure the effectiveness of the training interventions. As reinforced by different researchers, the training evaluation has several benefits related to decision making support on the design of a training programme, feedback for future development, marketing, among others (Kraiger, 2002; Kirkpatrick, 1996).

The most used tool and widely accepted is the Kirkpatrick model (1996), a training evaluation model defined by four levels: reaction, learning, behaviour and results. Evaluation becomes more difficult, complicated and expensive as it progresses from level 1 to level 4, as well as more important and meaningful (Kirkpatrick, 1996).

The transfer of training to the job is a crucial variable in training evaluation because it indicates if training contents are indeed applied to practice (Saks & Burke, 2012). For

master students, who are still developing their skills, it is even more important that they manage to transfer this knowledge to their academic performance, since they will soon be looking for jobs and apply those skills in a company.

Aiming at taking advantage over the competitors, the hard skills when combined with soft skills are able to foster the potential of each member of an organisation. As well as the hard skills trainings, the soft skills training initiatives also need to be evaluated which can be a challenging and more subjective process when compared to the evaluation of hard skills trainings. By evaluating the efficacy of a soft skills training it is possible to understand its benefits and support the importance of increasing the investment of resources on this kind of efforts, in the academic context.

The following study will evaluate the efficacy of one-day soft skills training on the performance of master students. It was a training initiative conducted at ISCTE Business School, in the beginning of the academic year 2015/2016, and all the master students were invited to participate. The study lasted around 5 months and evaluated the efficacy of the training intervention, according to the four levels of the Kirkpatrick training evaluation model (1996): reaction, learning, behaviour and results. The data collected from the participants in the training intervention is compared with a control group of non-participants, which allows for a deeper analysis.

The first chapter of the study is focused on the literature review which supports the need and relevance of such research by explaining the actual context. It consists in two main topics: soft skills and training. The subjects related to importance and development of soft skills, and the specific soft skills such as teamwork and conflict management are explored in the first part. While subjects related to training methods and evaluations processes, more specifically the Kirkpatrick’s training evaluation model (1996), are presented in the second part.

The empirical analysis is developed in the second chapter which provides answers to the questions raised in the thesis related to the four level of the Kirkpatrick’s model (1996). The chapter begins with the formulation of hypotheses, then the research method is presented. Followed by the results of statistical analyses and the discussion of the same results. Finally, the research limitations are presented, future research suggestions are recommended and a short conclusion closes the study.

## CHAPTER I - LITERATURE REVIEW

### 1 – SOFT SKILLS

The soft skills describe the abilities of a person by having an interpersonal and intrapersonal focus. Leadership, self-management, conflict management, communication, emotional intelligence, teamwork, are examples of soft skills. On the other hand, hard skills relate to technical skills, an example is working with equipment and software. Hard skills can easily be defined and measured (Laker & Powell, 2011). However, some authors argue that the soft skills make the big difference in the success of an organisation, not the hard skills as used to be expected (Phillips, Phillips, & Ray, 2015).

Phillips *et al.* (2015) believes that the soft skills create agile organizations, allowing the development of innovative companies, making the best places to work, and build the most impressive companies. The same author refers that soft skills reveal the best in people as their behaviours are shaped to fit the strategy of the organisation, at the same time the desired work climate is designed and the unpredictable challenges are faced. Phillips *et al.* (2015) explains that the effects of soft skills have been unknown for some and, the connection with business seems unclear. Even if the impact of soft skills is not straightforward, it should be visible with an action, activity or behaviour change. To understand the impact of soft skills development is necessary to align a perceived learning need with the training programme objectives and implementation, as well as the measure of success which can be a specific learning or the behaviour change (Phillips *et al.*, 2015). Therefore, evaluation of a soft skill is considered a complex task because they are intangible skills, sometimes difficult to define, measure and observe (Sahni, 2011).

Soft skills are important tools to deal with the advancement of modern technology and to meet challenges and demands of modern education and career. Besides that, soft skills are useful to communicate effectively, to handle interpersonal relations and to relate with others empathetically. Therefore, these skills enhance confidence, they allow a more analytical approach and permit to face crisis and pressure with ease (Sahni, 2011).

### 1.1. The Importance of Soft Skills

According to a survey conducted by the American Management Association (2012) with 768 managers and other executives, respondents said that soft skills such as collaboration and team building, effective communication, critical thinking and creativity, have been articulated within their organisations as priorities for employee development, talent management, and succession planning. The majority agreed that these skills are taken into account during the annual performance appraisals. Besides that, job candidates are assessed in these skills during their selection processes.

The same survey concluded that three out of four respondents believed those soft skills stated above, will become more important to their organisations in the next three to five years. The most important factor they referred for this condition was the fast pace of change in business today. The results of the study prove that executives believe they need highly skilled employees to keep up with this changing pace in order to compete in a global level.

Dierdorff and Rubin (2006) identified six distinct behavioural competencies that best characterize the fundamental behaviour requirements for managers across industries and managerial positions. These competencies were: managing decision-making processes, managing human capital, managing strategy and innovation, managing the task environment, managing administration and control and, finally, managing logistics and technology. Then, Rubin and Dierdorff (2009) studied the relevancy of the MBA curricula at 373 AACSB-accredited schools and inquired 8 633 incumbent managers across 52 managerial occupations about the managerial competencies they considered important. The results showed that managing human capital and managing decision-making processes were considered the two most important behavioural competencies of all the managerial work. The competence of managing human capital includes several skills such as solving conflicts and negotiating with others, as well as developing and building teams, while the competence of managing decision-making includes getting information and judging skills. Besides that, in the same study, Rubin and Dierdorff (2009) confirmed a serious misalignment between the six competencies they had developed regarding business school offerings and managerial expectations. These authors recommend, as priority, to increase the focus of MBA curricula on human capital and people oriented courses.



The AMA survey (2012) supports that the majority of leaders believe the soft skills of critical thinking, communication, collaboration, as well as creativity, have increased in importance, yet have declined in their employees and are hard to find in new hires. It is also supported by O'Sullivan (2000) that corporations should hire people with the right aptitudes and concentrate on developing the skills of their strong workers.

### 1.2. Development of Soft Skills

Companies expect new hires to possess some degree of soft skills developed during their academic education. This is evidenced by a survey in which 60% of leaders said they believe it is easier to develop these skills in students and recent graduates than it is to cultivate them in experienced workers (AMA, 2012).

Therefore, business schools need to offer opportunities for students to acquire and practice interpersonal skills so they are prepared for positions within the global economy (Bedwell, Fiore, & Salas, 2014).

### 1.3. Specific Soft Skills

As stated before, managers rate managing human capital as one of the two most important behavioural competencies of their managerial work (Rubin & Dierdorff, 2009). These authors explain the competency category of managing human capital as the capacity of solving conflicts and negotiating with others, as well as developing and building teams.

#### 1.3.1. Teamwork

The results of a survey conducted by the American Management Association (2012) showed that most of the managers and executives enquired believed that core competencies such as collaboration and team building are required for effective job performance. Besides that, the second most important skill for four-year college graduates job success is considered teamwork, according to a rating formulated by prospective employers and reported by the Conference Board (2008).

Teamwork is possible when several characteristics are shared by the individuals of the same team. These characteristics are: a common collective identity and a common goal, an interdependency in terms of tasks or outcomes, different roles played within the

same team and being part of a greater organisational environment (Hughes, & Jones, 2011).

According to Burdett & Hastie (2009), students become dissatisfied when there are perceived inequalities in the contribution of individuals to the team’s work, forcing them to work harder or get a lower grade than they want. When working in teams there are several challenges to overcome and problems easily arise. Differences in team-members’ skills, different motivations and goals, miscommunication, different team members working styles, and so on, can be the source of bigger issues. Therefore, it is important that students understand the importance of teamwork and the different team player roles that they can deal with.

According to Peter Honey (2001), there are five team roles played by the members of a team: the Leader who ensures that the team has clear objectives and that everyone is involved and committed; the Challenger who questions effectiveness and presses for improvement and results, the Doer who impulses the team to get on the job in hand and does practical tasks, the Thinker who produces carefully considered ideas and weights up and improves ideas from others and finally, the Supporter who eases tension and maintains team harmony.

Understanding these different roles can help team members to distribute tasks and recognize the different contributions of each individual. This way, students can improve their satisfaction and probably, their performance at university. Therefore, the teamwork can be more effective and some conflicts can probably be managed in a more efficient way.

### 1.3.2. Conflict Management

Some studies have shown that the way people manage conflicts has a significant effect on work life in organisations. Though, according to Friedman, Tidd, & Currall (2000), the impact of conflict styles might be wider than that.

Conflicts affect the individual stress level of employees, and this personal situation depends on both external and internal conditions. The individual approach to people and problems is one of the main influence factors when expressing a personal conflict management style (Friedman *et al.*, 2000).

The Dual Concerns Theory (Pruitt & Rubin, 1986) is one of the most popular theories described in the conflict management field. This theory argues that conflict management is a function of high or low concern for self, combined with high or low concern for others. It characterizes four different styles of conflict solving: forcing, accommodating, avoiding and problem solving. High concern for self and low concern for others results in forcing a certain behaviour by focusing on imposing one’s will on others. It involves threats, bluffs and persuasive arguments. Low concern for self and high concern for others results in a preference for yielding or accommodating, which is related to accepting and incorporating others will. It involves unilateral concessions, unconditional promises and offering help. Low concern for self and others results in a preference for avoiding, which involves reducing the importance of the issues, and attempts to suppress thinking about the issues. High concern for self and others produces a preference for problem solving or collaborating, which is oriented towards an agreement that satisfies both own and others’ aspirations as much as possible. It involves exchange of information about priorities and preferences, showing insights, and making trade-offs between important and unimportant issues.

Van de Vliert (1997) has suggested a fifth strategy that intermediates concern for self, paired to intermediate concern for others results in a preference for compromising. It is a distinct strategy that involves the matching of others’ concessions, making conditional promises and an active search for a middle ground.

According to Beersma & De Dreu (1999), the problem solving strategy of the Dual Concern Theory (Pruitt & Rubin, 1986) allows to find mutually beneficial solutions and stimulating the search for integrative agreements. This approach brings advantages for teams by increasing the group member’s motivation and decreasing feelings of stress. Therefore, it will increase team’s effectiveness and bring positive consequences to the organisation (Beersma & De Dreu, 1999).

An increased awareness of the potential approaches possible to have when dealing with conflict, as well as an understanding of their consequences, can give a powerful set of skills to employees that can help them shape their own work climate. (Friedman *et al.*, 2000).

In a recent study published in the *European Journal of Work and Organizational Psychology*, Leon-Perez, Notelaersb & Leon-Rubioc (2016) suggested that there is a set of basic conflict management skills which workers need to learn in order to be able to manage conflicts in a constructive way. That study assessed the effectiveness of conflict management training in a health sector organisation which was proved to be effective. The results were evaluated by the decrease of the number of patient’s complaints, the decrease of number of requests for third-party interventions to mediate conflicts at work and the decrease on the level of absenteeism of employees who participated in the training. On the other hand, the employees integrated in the comparison group, who did not take part in the training intervention, did not exhibited the equivalent changes. The results suggested that conflict management training can make a real difference by investing little resources. This study provided useful results for researchers and practitioners related to the implementation of interventions to effectively deal with workplace conflict. Besides that, the investment in this type of intervention had a fundamental impact not only on employees’ well-being and performance, but also on the productivity of the organisation (Leon-Perez *et al.*, 2016).

## 2 – TRAINING

Training is a powerful tool when used effectively to develop the skills of the members of an organisation. The development of specific skills will have a certain impact on the tasks performed by each individual and consequently, on their overall performance in the workplace. According to Ferreira, Martinez, Nunes & Duarte (2015), effective organisations are looking for gathering the necessary conditions so that working situations are educative or formative. This way, organisations can assure the improvement of their economic and social performance by fostering the working capacities of their members in a continuous and lifelong way. Therefore, training has become an individual and organisational priority (Ferreira *et al.*, 2015).

The benefits of training, when shared by the organisations and individuals, are reflected in the reinforcement of the learning and development process. It contributes to the creation of learning organisations which are considered more competitive since they are characterized by being prepared to continuously learn and flexibly adapt to the present and emerging needs (Ferreira *et al.*, 2015).

When planning a training, the assessed need is first translated into a training objective. This objective becomes the basis for defining what content will be taught and evaluated. Then the results of the training evaluation serve as feedback and inform future needs assessment, which will guide the next training (re)design and the cycle continues (Costigan & Brink, 2015).

A meta-analysis developed by Salas, Granados, Klein, Burke, Stagl, Goodwin & Halpin (2008), includes several meta-analytic integrations that were conducted to study the relationships between team training interventions and team functioning. The relative effectiveness of these interventions was evaluated in terms of team cognitive, affective, process, and performance outcomes. The potential moderators of the relationship between team training and outcomes were considered: training content, team membership stability and team size. In total, the database of the meta-analysis consisted of 93 effect sizes which represented 2 650 teams. The results suggested that team training can explain 12% to 19% of the variance of a team’s performance. This variance is explained by the training content, team membership stability and team size, which also influence the effectiveness of team training interventions. Besides this, in the same study, it was concluded that team training works and it is advised to keep developing training initiatives and evaluate its effectiveness.

According to Bober, & Bartlett (2004), the increase of investment in training, in terms of time, money and other resources, is leading to an increase of the importance of evaluation techniques that measure the effectiveness of these training efforts. This is a topic that has been frequently reinforced in the literature, since the training evaluation allows a continuous improvement and the development of methods and content delivered.

### 2.1. Training Method

Training is synonymous of instruction in a literal sense, according to Kraiger (2003:171), it is “the method by which job-related information is conveyed to learners”.

The formal education and training have an important role to acquire both hard and soft skills. At the academic context, formal education is typically delivered in lecture mode or direct discussion, using audio visual support in a classroom. It involves transfer of knowledge, learning new and relevant information through an expositive and inductive

learning method. The focus of management educators has always been on the cognitive aspects of learning, even when lecturing executive skill components. This one-dimensional method, leads to low-intensity learning experience on the cognitive/intellectual dimension (Hoover, Giambatista, Sorenson, & Bommer, 2010).

On the other hand, a training method called experiential learning focus on the whole person learning, it activates cognitive and emotional dimensions of learning and behavioural change necessary for skill acquisition (Hoover *et al.*, 2010). It implies personal involvement, commitment and experiential gains. It is a deductive learning through an active method that involves “learn by doing”. Adults learn more effectively when the session is interactive and related to their experiences and their relevance and usefulness in their life (Sahni, 2011). Learning does not occur until the learner makes it happen, that means that it is more likely to occur when students are engaged (Hoover *et al.*, 2010).

According to Hoover *et al.* (2010: 195), experiential learning - often mentioned as “learning by doing” - is defined “when a participant who demonstrates personal responsibility in actions and decisions is exposed to both direct and vicarious modes of participation, cognitively, emotionally, and behaviourally processes knowledge, skills, and/or attitudes in a high intensity learning situation characterized by a high level of active involvement”. The goal of these learning techniques is to produce high involvement learning, that includes skill practice, learning by doing and learning by observing.

The training programme should target specific and important skills through dynamic activities such as role plays and simulations in real contexts, these should not only focus on “feel good” games. At the same time, the sessions should be interactive as learning will occur faster (Sahni, 2011).

It is also essential to help students interpret their experience, as part of the training method, the debriefing is a powerful instrument that can be used. According to Eddy, Tannenbaum, & Mathieu (2013: 976), “debriefing is one of the most promising methods for accelerating learning from experience”. Tannenbaum & Cerasoli (2013) also believe that debriefs are a quick and effective tool for improving team and individual

performance. They work equally well for teams and individuals and help to understand the meaning of exercises, not to see it as a random learning experience.

A research conducted by Eddy *et al.*, (2013) compared the impact of two team-led debriefing techniques: an unguided debrief without a trained facilitator or any external support, and a guided debrief with a trained facilitator. The data was collected from 174 business students who were members of 35 teams of a Strategic Management course. The results of their research reveal that guided team debriefs with trained facilitators can have greater benefits than unguided debriefs.

A debrief can lead to a deeper understanding and the identification of potential improvements because it provides a structure for shifting from the habitual information processing to more conscious perspective. Findings suggest that trained facilitators can lead debriefs in a more structured and effective way (Eddy *et al.*, 2013; Tannenbaum & Cerasoli, 2013). The fact that they conduct it in a way that overcomes the team’s information processing limitations, highlights the key functions and final outcomes. Another advantage of the debriefing is the increase of teams’ “ownership” regarding self-generated plans and goals. It also increases the possibility of skill development and long-lasting change (Hoover *et al.*, 2010).

Meta-analytic results from 46 independent samples show that debriefs improve performance an average of 20% to 25% (Tannenbaum & Cerasoli, 2013). Well-designed debriefs help a team have more positive team experiences and better performance. Besides that, those positive experiences will build participants’ enthusiasm and readiness for future team assignments (Eddy *et al.*, 2013).

When students learn new skills, their behaviour changes invariably, and the change in behaviour is the intended outcome. Therefore, the use of an experiential training method combined with a debriefing, will benefit the performance of both, the individual and the organisation.

## 2.2. Training Evaluation

Training evaluation is a “systematic process of collecting data in an effort to determine the effectiveness and/or efficiency of training programmes and to make decisions about

the training” (Saks & Burke, 2012: 119). It aims at making “judgement about a programme’s effectiveness or worth” (Kraiger, 2002).

Definitions of evaluation range widely, varying from “supplying information to decision makers” to “comparing results to intentions” (Kaufman, 1994). According to Kaufman (1994), all evaluation questions should compare results with intentions and the usefulness of methods and resources in delivering required results.

The literature related to training evaluation has studied the importance of conducting evaluations and explains several reasons for evaluating training programmes such as opportunities for improvement, confirmation of worth and value and accreditation. As discussed by Kraiger (2002), it is possible to identify three main purposes for training evaluation: decision making (e.g. deciding the maintenance of a training), feedback (e.g., identifying strengths and weaknesses of trainers or trainees) and marketing (e.g., using results to sell the training to other organisations or future trainees).

Furthermore, according to a 2012 research article in the *International Journal of Training and Development*, Saks & Burke investigated the relationship between training evaluation and the transfer of training in organisations. This study found out that organisations that evaluate their training programmes more frequently in terms of behaviour (level 3 in Kirkpatrick’s model) and results (level 4) criteria report higher rates of transfer of training among trainees. These results reinforce the importance of organisational-level initiatives such as training evaluation in addition to individual-level practices for facilitating the transfer of training.

According to Kirkpatrick (1996), the most important reasons for training evaluation are: to decide whether to continue offering a particular training programme, to improve future training programmes and to validate the existence and job of training professionals.

### 2.2.1. Models of Training Evaluation

Wang & Wilcox (2006) explained that training programme evaluation can be divided into two different categories: formative evaluation and summative evaluation. Formative evaluation intends to improve the design and development of the training programme and it is performed ongoing, integrated in the entire training process. On the



other hand, summative evaluation intends to assess if the proposed training goals and outcomes were achieved, it is conducted after the implementation of the training programme (Wang & Wilcox, 2006).

There are several theoretical models and frameworks for summative training evaluation as described by Aguinis & Kraiger (2009). However, most of these evaluation programmes lack suggestions of applicability (Ferreira *et al.*, 2015). Although Kirkpatrick’s (1996) four-levels of training evaluation are broadly recognized and often described within the literature, there are other methods that have been explored during the last years.

The training evaluation framework developed by Wang & Wilcox (2006) distinguishes between short-term outcomes and long-term outcomes and follows the classification tradition initiated by Kirkpatrick (1996). The short-term outcomes measure the learner’s reaction, for example, with an attitudinal questionnaire, and the learning outcomes, for instance, with knowledge tests. The long-term learning outcomes include the assessment of behaviour change, as well as the organisational results and return on investment (Wang & Wilcox, 2006). This evaluation model is very close to the Kirkpatrick training evaluation model (1996), even overlapping some parts of it.

There is another method developed by Brinkerhoff (2003) with the main goal of evaluate the effectiveness of a programme. The Brinkerhoff’s Success Case Method (SCM) is a methodological framework using quantitative and qualitative data, by understanding successful or unsuccessful elements and defining the determinant conditions for those cases. The American Society for Training and Development (2009) conducted a study on training evaluation referred the SCM as a popular evaluation methodology for organisations. It reported 47,7% of respondents answering that their organisations conducted interviews with successful learners as a way of understanding the effectiveness of training programmes. The SCM is usually used to evaluate the outcome of specific initiatives, including training programmes.

Besides these alternative training evaluation methodologies, it has also been developed a specific instrument that can be used in a training evaluation process. According to Grohmann (2013), the Q4TE (Questionnaire for Professional Training Evaluation) is a widely applicable training evaluation questionnaire with sound psychometric properties,

that addresses short-term and long-term outcomes. The Q4TE provides valuable and standardized information for evaluating training benefits and it is described as simple and easy to implement in organisational practice. It allows comparisons of training courses within and between organisations (Grohmann, 2013).

### 2.2.2. The Kirkpatrick Evaluation Model

As previously stated, the Kirkpatrick evaluation model is an evaluation methodology for measuring training effectiveness, it was created in 1959 by Donald Kirkpatrick. This model is known as one of the most popular in the field. The model was last updated in 1994, when his work “Evaluating Training Programs” was published. It was the first classification schema or taxonomy specifically for summative evaluation, which focus on the evaluation of training outcomes (Wang & Wilcox, 2006).

The Kirkpatrick model is a four-step model defined by four levels: reaction, learning, behaviour and results. All levels have its related importance and, preferably should be evaluated with independent measures. Evaluation becomes more difficult, complicated and expensive as it progresses from level 1 to level 4, as well as more important and meaningful (Kirkpatrick, 1996). This also leads to common discussions about the most appropriate type of method evaluation for each level.

Kirkpatrick’s four levels have been characterized as hierarchical, specifically in these two points: higher levels should not be evaluated unless satisfactory results are reached at prior levels and changes at higher levels are more valuable to the organisation than changes at lower levels (Kraiger, 2003).

Following this model, Alliger, Tannenbaum, Bennett, Traver & Shotland (1997) conducted a meta-analysis where a total of 34 studies yielding 115 correlations were analyzed. The results showed varying interrelationships between the four levels ranging from close to zero to moderate values. An interesting result of this meta-analysis is that utility and combined reactions correlated moderately with immediate and retained learning as well as with transfer. Contrary to what was expected, emotional reactions are less predictive of learning or training transfer when compared with utility reactions.

According to Bates (2004), the implicit assumption of the Kirkpatrick model that all of the work environments to which trainees return will have identical effects on learning

transfer, makes it very difficult to draw conclusions about training effectiveness. For instance, if all trainees had similar reactions to training and showed similar levels of learning and yet had exhibited wide variations in learning transfer, it is unclear the factor that might have influenced it. In the absence of more contextual information, it is not possible to conclude if a training programme was designed in the most effective way for knowledge transfer or if other input factors blocked skill application.

Overall, many organisations are not supporting the development and implementation of training-specific evaluations because they do not have enough time or professional resources for developing it for each specific training and each single level of Kirkpatrick’s model (Aguinis & Kraiger, 2009).

On the other hand, Twitchell, Holton, & Trott (2000) report the following percent of programmes using each level of Kirkpatrick’s evaluation model (average percent using): Level 1 – 73%; Level 2 – 47%; Level 3 – 31%; Level 4 – 21%. The main reason why training is not evaluated at one or more of the effectiveness levels, is the same for all levels: it was not required by the organisation. This study refers to the reality in 2000, which might have changed, and the percentages might not mirror nowadays experience.

Kraiger (2003) supports the criticisms against the Kirkpatrick approach by saying that it is largely atheoretical and, even if it has some theoretical support, it is based on a 1950s behavioural perspective that ignores modern theories of learning, cognitive based. Besides that, the author believes that this model is overly simplistic by treating complex constructs such as trainee reaction and learning as unidimensional. Moreover, the model makes assumptions about positive relationships between training outcomes that are not supported by research (Alliger *et al.*, 1997).

Even against all these concerns, Kirkpatrick’s model remains an important evaluation framework, which is applied worldwide in both practice and research. This training evaluation approach was conducted in this study because of the simplicity of the model. It is easy and inexpensive to implement, allowing for an immediate feedback about the training intervention and providing useful information for future improvement. Besides that, in this specific case, the Kirkpatrick’s model (1996) provides a simple way to perceive the returning on the training investment based on the students’ performance.

### 2.2.2.1 Reaction

The reaction level measures to what degree participants react favourably to the training programme in terms of different aspects: topic, speaker, schedule and so on. It reports the participants’ emotional reactions towards the training programme (Kirkpatrick, 1996). Organisations can also use the reaction level as an indicator of customer satisfaction (Kirkpatrick & Kirkpatrick, 2006).

It is important because management often makes decisions about training based on participants’ comments. Besides that, by this it is possible to ensure that participants are motivated and interested in learning. In case they do not like the programme, there are less possibilities that participants will put effort to learn, according to Kirkpatrick (1996). However, the meta-analysis conducted by Alliger *et al.* (1997) suggests that the correlation among trainee emotional reactions and learning is not that strong.

According to the implementation guidelines of Kirkpatrick (1996) for the reaction level, first it would be determined what is intended to find out and then design a form that quantifies reactions. Besides that, it is important to encourage written comments and suggestion and seek honest reactions. It is advised to develop acceptable standards and attain an immediate response rate of 100 percent by delivering the survey right after the event. Then it is important to communicate the reactions as appropriate.

### 2.2.2.2. Learning

The learning level reflects to what degree participants acquire the intended knowledge, skills and attitudes based on their participation in the learning event (Kirkpatrick, 1996).

Measuring the effectiveness at this level is important as it gives an indication about the considerable change regarding the learning objectives that were set. The learning level is assumed to be a requirement for behaviour change (Kirkpatrick & Kirkpatrick, 2006). Besides that, the meta-analysis conducted by Alliger *et al.* (1997) supports that learning is correlated positively with immediate behaviour demonstration measures.

Kirkpatrick’s (1996) guidelines for the learning level propose the use of a control group and making the evaluation of knowledge, skills, or attitudes both before and after the training. It is advised to attain a response rate of 100 percent as well as the use of the results as feedback to improve future training initiatives.

#### 2.2.2.3. Behaviours

The behaviour level measures to what degree participants apply what they learned during training when they are back on the job (Kirkpatrick, 1996).

In other words, what were the resulting changes in behaviour in terms of learning transfer. It means the application of training contents at work. Inputs come from participants and their superiors. It is not easy to define standard tools that can be used to measure application of learning. Behaviour level results demonstrate how training contents are actually applied to the job and thereby if they are organisationally usable (Kirkpatrick & Kirkpatrick, 2006).

It has already been studied a variety of factors that influence training transfer such as training design, individual characteristics, managerial support, organisational climate, as well as specific training content (hard skills versus soft skills), among others (Laker & Powell, 2011).

Over the last two decades, the frequency of level 3 evaluations has a significant increase. However, it is nevertheless performed for only about half of all training interventions (Kennedy, 2013).

According to the implementation guidelines of Kirkpatrick (1996) for the behaviour level, it is advised to use a control group if possible and allow enough time for a change in behaviour to happen. Besides that, it is important to survey or interview one or more of the following groups: participants, their bosses, their subordinates and others who often observe participants’ behaviour on the job. It is important to choose 100 participants or an appropriate sampling and repeat the evaluation at appropriate time. In addition, it is recommended to consider the cost of evaluation versus the potential benefits.

#### 2.2.2.4. Results

The results level or fourth level, measures to what degree targeted outcomes occur because of the learning event(s) and subsequent reinforcement. It measures the intended impact of the training programme in terms of outcomes, in other words, the effectiveness of the programme in terms of organisational impact. For instance:

increased sales, higher productivity, bigger profits, reduced costs, less employee turnover and improved quality (Kirkpatrick, 1996).

Although there is a continuous need to demonstrate the value of training in terms of achieving organisational goals, the frequency of level 4 evaluations has remained low. The primary reasons for this situation appears to be related to organisational support of evaluation activities (Kennedy, 2013). According to Salas *et al.* (2008), there is a lot of team training initiatives but little systematic evaluation and dissemination of results.

In conclusion, the results level confirms how the training influences the organisational success (Kirkpatrick & Kirkpatrick, 2006), it reflects the business value and worth of training.

Kirkpatrick’s (1996) guidelines for the results level suggest the use of a control group, if possible and allow enough time for results to be achieved. It is important to measure before and after training, if feasible and repeat the measurement at appropriate times. Here, it is also important to consider the costs of evaluation versus the benefits. Finally, it is recommended for the researchers to be satisfied with the findings of their training evaluation process, even if the training is not proved to be effective there can be some useful outputs to apply in the future.

## **CHAPTER II – EMPIRICAL STUDY**

The purpose of this study was to evaluate the effectiveness of one-day soft skills training on master students’ performance. In order to achieve this goal, the training evaluation model of Kirkpatrick was applied. This model distinguishes four levels of evaluation: reaction, learning, behaviour and results. The evaluation of the impact of the one-day soft skills training focused on teamwork and conflict management skills, followed these four evaluation stages. The learning and the behaviour levels were assessed for each of the skills targeted by the training.

The following empirical analysis will provide the answer to the main research question of the study: “Would the participation of master students in one-day soft skills experiential training have a positive effect on the students’ competencies: teamwork and conflict management?”.

Based on the literature review described in the previous chapter, the hypotheses were formulated in accordance to the four level of the Kirkpatrick training evaluation model. Besides that, the sample groups, the methods and procedure were described. Finally, the training intervention was explained, as well as the research measures applied.

This research is designed as a quasi-experimental lagged study, which represents five different times of data collection. It is expected that these data collected from participants before and after the intervention, serve to draw conclusions and build a new perspective on the implementation of soft skills training initiatives at the academic level.

1 – HYPOTHESES

Hypothesis 1:

**The one-day soft skills training will generate (a) positive reactions and (b) uniformly among groups of participants.**

Hypothesis 2:

**The participants will show cognitive learning about (a) teamwork, and (b) conflict management.**

Hypothesis 3:

**The participants will show greater (a) teamwork and (b) conflict management skills compared to the non-participants.**

Hypothesis 4:

**The participants in the one-day soft skills training will show higher academic performance compared to the non-participants.**



## 2 – PARTICIPANTS & PROCEDURE

Two-hundred eighty students from the first year of eight different Master Courses at the ISCTE Business School agreed to participate in this study. Two different samples were considered: the participants in the one-day soft skills training and the non-participants in the same training intervention.

From the total participants in the study, the individuals who underwent the training intervention were 225, primarily female (59.1%) and with an average age of 22.37 years ( $SD=2.37$ ). The Master Course with higher number of participants in the training programme was Management (Portuguese and English – 4 classes) with a total of 80 students, as well as the Master Course in Marketing (English – 2 classes) with 46 students. The entire participants sample is used to test the hypotheses 1 (reaction), 2 (learning) and 4 (results). Due to the attrition rate, the participant sample includes a subsample which is considered as the experimental group used for testing the Hypothesis 3 (behavioural level). It includes participants in the training intervention who have completed the first questionnaire as well as, at least one of the post-training questionnaires related to the behaviours collected during Time 4 or Time 5 (as will be explained below). The experimental group has 146 respondents, primarily female (63.7%), and with an average age of 22.25 years ( $SD=2.48$ ).

The group of non-participants in the training intervention corresponds to 55 individuals, 58.2% of whom were females, with an average age of 22.24 years ( $SD=2.18$ ). The Master Course with higher number of non-participants in the training intervention, taking part in the study was Management (Portuguese and English – 4 classes) with a total of 15 students, as well as the Master Course in Business Administration with 11 students. The non-participants sample includes a subsample which is considered as the control group. It is created because of the attrition rate and it includes non-participants in the training who have completed at least one of the post-training questionnaires related to behaviours collected during Time 4 or Time 5, besides completing the first questionnaire. The control group has 34 respondents, primarily female (61.8%), and with an average age of 22.36 years ( $SD=1.97$ ). The Hypothesis 3 (behavioural level), is tested by this control group while the non-participants sample is used to test the Hypothesis 4 (results level).

The participants and non-participants’ samples are not considered normally distributed, since the Kolmogorov-Smirnov test showed a low  $p$  value (0.00) for both groups. The homogeneity of variances is analyzed through the Levene’s Test (0.78) which showed values higher than 0.05 meaning that the samples come from a population where the variances between the participants group and the non-participants group are equally homogeneous. The mean values of age of both samples, participants and non-participants, are not significantly different because the  $t$ -test showed  $t(274)=0.363$ ,  $p=0.717$ , which proves the validity of the data since  $p>0.05$ . The categorical variables were tested by the Chi-square test, which proves that the proportions of men and women as well as the proportion of Master course class participants’ distribution across the participants and non-participants’ samples, do not differ significantly from each other at the 0.05 level. The most represented Master course class in both groups is the Business Administration with 11 people in the non-participants group and 25 people in the participants group. Therefore, it is possible to conclude that there was not a systematic selection of each sample related to the gender or to the Master class distribution.

The subsamples, experimental group and control group, were also tested in terms of normality distribution. Both samples are not considered normally distributed since the Kolmogorov-Smirnov test for the experimental group (0.000) and the Shapiro-Wilk test for the control group (0.005), showed  $p$  values lower than 0.05 in both groups. The homoscedasticity of subsamples related to the age values, experimental group and control group, is proved to be valid by the independent samples  $t$ -test which showed a  $p$  value of 0.984, higher than 0.05, and  $t(175)= -0.021$ . The categorical variables were tested by the Chi-square test, which proves that the proportions of men and women as well as the proportions of Master course class participants’ distribution across the experimental and control groups, do not differ significantly from each other at the 0.05 level. The most represented Master course class in the experimental group is the Marketing class number 1, and the most represented master in the control group is the Business Administration with 9 people. Therefore, it is possible to conclude that there was not a systematic selection of each subsample related to the gender or to the Master class distribution.

This study included five times of data collection from participants. Therefore, there were different sizes of samples during each collection moment. Table 1 shows the

number of respondents from each sample (participants and non-participants), per time of collection. The teamwork survey and the conflict management survey used in Time 1, Time 4 and Time 5, have different numbers of respondents which is also represented in the table, together with the total number of respondents per time of collection.

Time	Participants		Non-participants		Total	
	Teamwork Survey	Conflict Management Survey	Teamwork Survey	Conflict Management Survey	Teamwork Survey	Conflict Management Survey
<b>Time 1 (T1)</b>	225		55		280	
<b>Time 2 (T2)</b>	199		0		199	
<b>Time 3 (T3)</b>	106	100	0		106	100
<b>Time 4 (T4)</b>	127	125	26		153	151
<b>Time 5 (T5)</b>	101	97	20		121	117

Table 1 – Number of respondents per time of collection.

All of the participants in the research were invited to participate voluntary in the IBS Masters Kick Off Teambuilding Event, happening on the 7<sup>th</sup> of September of 2015. The invitation was sent online to their personal emails. This was the first day of the academic year 2015/2016 and represented an opportunity for the master students to meet their new colleagues and to develop soft skills such as teamwork and conflict management. The Master Courses included in the study were: Accounting, Business Administration, Economics, Finance, Human Resources Management, Marketing, Management, Management of Services and New Technologies. These Master Courses were divided into thirteen classes with groups of participants between 10 and 30 people. The Master Courses with more than one class were: Human Resources Management with two classes (one held in Portuguese and the other in English), Management with four classes (two held in Portuguese two held in Portuguese) and Marketing (two classes held in English). All the other classes were held in English except the Accounting class as well as Management of Services and New Technologies class which were held in Portuguese.

The research follows a quasi-experimental lagged design. It is considered “quasi-experimental” because there was no random assignation of students to the sample of

participants or non-participants. The students voluntarily selected themselves in or out of the training programme. It is considered a lagged study since it was conducted over a long time frame, in this case, around five months: from the 1<sup>st</sup> of September 2015 until the 8<sup>th</sup> of February 2016.

The procedure followed in this study included five different times of participants’ data collection divided according to the Kirkpatrick training evaluation model. The Table 2 represents the data collection plan including the different times of collection as well as the correspondent variables collected and the measures used. As it shows, there was one pre-training collection (Time 1 - behaviour), and four post-training collections: Time 2 (right after the training) – reaction; Time 3 (one week after the training) – learning; Time 4 (two months after the training) & Time 5 – behaviour (five months after the training).

<b>Time</b>	<b>Moment</b>	<b>Variables</b>	<b>Instrument</b>
<b>Time 1 (T1)</b>	Before the training intervention (1st – 6th September 2015)	<ul style="list-style-type: none"> <li>• Demographic information</li> <li>• Teamwork Skills</li> <li>• Conflict Management Skills</li> </ul>	Online Survey: <ul style="list-style-type: none"> <li>• Personal info</li> <li>• CATME-B*</li> <li>• DUTCH**</li> </ul>
<b>Time 2 (T2)</b>	In the end of the training intervention (7th of September 2015)	<ul style="list-style-type: none"> <li>• Overall satisfaction about the training</li> </ul>	<ul style="list-style-type: none"> <li>• Printed feedback questionnaire</li> </ul>
<b>Time 3 (T3)</b>	One week after the training intervention (21st-28th September 2015)	<ul style="list-style-type: none"> <li>• Score Index – Teamwork</li> <li>• Score Index – Conflict Management</li> </ul>	Online Survey: <ul style="list-style-type: none"> <li>• Specific questions:               <ul style="list-style-type: none"> <li>- Teamwork</li> <li>- Confl. Manag.</li> </ul> </li> </ul>
<b>Time 4 (T4)</b>	Two months after the training intervention (2nd-15th November 2015)	<ul style="list-style-type: none"> <li>• Teamwork Skills</li> <li>• Conflict Management Skills</li> </ul>	Online Survey: <ul style="list-style-type: none"> <li>• CATME-B*</li> <li>• DUTCH**</li> </ul>
<b>Time 5 (T5)</b>	Five months after the training intervention (2nd-15th November 2015)	<ul style="list-style-type: none"> <li>• Teamwork Skills</li> <li>• Conflict Management Skills</li> </ul>	Online Survey: <ul style="list-style-type: none"> <li>• CATME-B*</li> <li>• DUTCH**</li> </ul>

Table 2 – Data collection plan, variables assessed and measures used.

\* CATME-B – “Comprehensive Assessment of Team Member Effectiveness – Behaviourally Anchored Rating Scale (BARS)” by Ohland, Loughry, Woehr, Finelli, Bullard, Felder, Layton, Pomeranz, & Schmucker (2012).

\*\* DUTCH – “Dutch Test for Conflict Handling” by Van de Vliert (1997).

### 3 – TRAINING IMPLEMENTATION

The training programme happening on the 7<sup>th</sup> of September 2015 had a total duration of 5,5 hours and included workshops based on experiential learning methodologies related to teamwork and conflict management skills (Appendix 9.2.).

Participants were divided in 13 classes, each class had two facilitators who were previous students of the ISCTE Business School. These 26 facilitators had one and a half days of training in order to be able to deliver all the sessions to their specific class. This was a new concept of integration where the former students are trained to deliver the activities for the new master students.

In the morning, there were 2 hours of ice-breaking activities, as well as teambuilding games for participants to build a safe environment and to get-to-know each other.

Then, in the afternoon, there were 3.5 hours of workshops: 2 hours concerning teamwork and 1.5 hours focused on conflict management.

All the workshop design is based on experiential learning. It is represented by the experience of a certain group dynamic such as a simulation or a challenge, followed by the presentation of a concept or a theory. Finally, it always includes a debriefing that makes participants reflect on their experience and connect it with their reality. This experiential learning method is assumed to lead to the behavioural change necessary for skill acquisition by activating cognitive and emotional dimensions of learning (Hoover *et al.*, 2010).

#### 3.1. Teamwork

There were two workshops dedicated to the development of soft skills concerning teamwork, each one with the duration of one hour.

The first workshop focused on the development of teamwork as a group of colleagues. First, there was a group brainstorming about the meaning of “teamwork”. Then, participants were challenged to accomplish an “impossible mission” where they had to finalize 18 tasks within 20 minutes. This was an opportunity for them to work with each other towards a common goal. In the end of the activity, one of the facilitators led a debriefing session while the other was writing the main outcome

related to the “do’s” and “don’ts” of working in a team. The debriefing session was focused on the feelings of participants and the facts that happened during the dynamic, as well as their personal findings related to teamwork and their future plans of applying this learning in the academic year.

The second activity was more focused on the individual roles of team players. As such, participants also had to take part in a group dynamic where the main goal of each group was to build a tower as high as possible, in 15 minutes. In the beginning, each participant received a paper with a certain role they had to play during the activity. Then, the theory of the 5 roles by Peter Honey (2001) was presented and participants understood that each one of the roles that they had received in the beginning of the task, was connected to the five different roles explained by the same theory. Finally, facilitators led a debriefing session with the same structure as described before. The main goals of this session were: to make participants understand the activity and learn the main concepts related to the different roles of team players. Besides that, in the debriefing is always referred the connection between the new knowledge and its transfer to the students’ academic experience when working in teams.

### 3.2. Conflict Management

The last workshop was about conflict management and had the duration of 1,5 hours. First, participants had a group brainstorming about the meaning of “conflict”, as well as the meaning of “conflict management”. Then, they were gathered in groups of 5 or 6 people. Together, they had to discuss several conflict situations they had experienced during their academic life and choose one to write down.

After this, the facilitators explained the Dual Concern Theory (Pruitt & Rubin, 1986). And then, each group of participants received a new case of conflict designed by another group during the previous exercise. Therefore, they had to discuss in group and create a 3-minute role play that shows how they would deal with that conflict situation according to the theory explained.

Finally, after all the groups performed their recreations of conflict scenarios, the facilitators led a debriefing session following the same structure presented before,

referring to the four main topics connected to the activity: feelings, facts, findings and future.

#### 4 – MEASURES

The same measures were applied in both study groups: participants and non-participants in the training intervention. Except for the satisfaction questionnaire as well as the learning questionnaire, which were only applied in the participants group.

The **satisfaction** questionnaire (Appendix 9.3.1.) was applied at Time 1, in order to evaluate participants’ reaction towards the training. The questionnaire was anonymous and participants had to rate several items according to their opinion and related to different aspects: the performance of the facilitators, the importance of each workshop and the quality of the logistics of the event. Besides that, for the purposes of this study, the most important item was the participants’ overall satisfaction towards the training intervention which was measured in a 6-item scale where responses were ranging from 1 (strongly unsatisfied) to 6 (strongly satisfied).

The **learning** questionnaire (Appendix 9.3.2.) was related to the concepts of the theories that were presented in each session, it was applied in Time 2. There were 4 questions about the team players’ roles theory (Peter Honey, 2001), and 4 questions about the Dual Concern Theory (Pruitt & Rubin, 1986). Each question had five different answers and only one was correct. Based on the correct answers, it was created a score index ranging from 0 to 1, where each correct answer corresponded to 0.25 points of the index.

The **behaviours** were measured with two specific scales presented below, these two tools were used to assess the behaviours related to teamwork and conflict management soft skills, during Time 1, Time 4 and Time 5.

##### 4.1. Teamwork

In order to measure the teamwork competencies, it was applied the Comprehensive Assessment of Team Member Effectiveness – Behaviourally Anchored Rating Scale (CATME-B) developed by Ohland, M. W. and colleagues (2012). This scale was built based on the Comprehensive Assessment of Team Member Effectiveness (CATME) Likert-style instrument developed by Loughry, Ohland, and Moore (2007).



The CATME-B uses a behaviourally anchored rating scale to measure team-member contributions in five different areas according to the team effectiveness literature (Ohland *et al.*, 2012). These five areas are: “contributing to the teams’ work”, “interacting with teammates”, “keeping the team on track”, “expecting quality” and “having relevant knowledge, skills, and abilities”. This practical tool was created aiming at facilitating the self- and peer-evaluation of students.

The instrument, presented in Appendix 9.3.3.1., describes behaviours of team members that characterize high, medium and low performance in each of the five areas. The level 3 on the 5-point scale, represents the medium level of performance and describes satisfactory team-member performance. The behaviours that anchored the “3” rating define average and usual team member contributions. The “5” rating is anchored by behavioural descriptions that characterize excellent team contributions, details that might be considered above the requirements of being a fully satisfactory team member. The “1” anchors labels behaviours that are usually exhibited by unsatisfactory team members which frequently leads to criticisms about team members. The “2” and “4” ratings do not have behavioural anchors, nevertheless they provide an option for students to select a rating between the three levels previously described.

According to Ohland *et al.* (2012), the instrument demonstrates equivalent psychometric characteristics to the longer Likert version of CATME developed by Loughry, Ohland, & Moore (2007). In one of his studies was showed a high degree of intercorrelation among the five CATME performance dimensions (mean  $r=0.76$ ). Therefore, it was possible to form a composite index representing an overall rating as the mean rating across the five dimensions (coefficient  $\alpha=0.94$ ).

In this study, the CATME-B was applied, only for self-evaluation, in 3 different moments (Time 1, Time 4 and Time 5) to measure teamwork competencies of each individual. Besides that, this measure was transformed in terms of an index that represents the five dimensions of the instrument.

To test the five items of the tool, it was executed an Alpha Cronbach test for reliability using the responses from the first data collection. At Time 1, the questionnaire presented a low reliability for both sample groups: participants

( $\alpha=0.53$ ) and non-participants ( $\alpha=0.47$ ). When considering the entire group of participants in the research, the alpha value was 0.52, which means that the alpha values were lower than 0.7 and the reliability of the scale cannot be supported by this test, at Time 1. Despite of that fact, at Time 4, the scale showed a coefficient alpha of 0.73 and, at Time 5 showed 0.80, which represent acceptable levels of internal consistency.

#### 4.2. Conflict Management

The Dutch Test for Conflict Handling (DUTCH) is an instrument designed by Van de Vliert (1997) to measure the conflict management skills associated with the Dual Concern Theory (Pruitt & Rubin, 1986). It is a 16-item instrument that measures problem solving, forcing, yielding, and avoiding conflict management strategies. It was also developed an “expanded” version of this scale with 20 items which also includes compromising as a distinct strategy in addition to the other 4 strategies.

The results of a research developed by De Dreu, Evers, Beersma, Kluwer & Nauta (2001) aiming at assessing the psychometric qualities of the “expanded” version of the DUTCH scale, confirmed that this is a valid and reliable instrument to be used to measure conflict management strategies at the workplace.

In this study, it was applied the ‘expanded’ version of the DUTCH scale, included in the Appendix 9.3.3.2. This version of the DUTCH scale contains 20 items that measure each of the five styles of handling conflict, as described before. All items were preceded by the headline “When I have a conflict, I do the following”. Responses were available on a 5-point Likert type scale ranging from 1 (not at all) to 5 (very much). The scale was used in 3 different moments (Time 1, Time 4 and Time 5) to measure conflict management competencies of each individual.

Then, the 4 items related to the problem solving strategy were considered to create a mean score that represents an index score of the problem solving strategy of the Dual Concern Theory (Pruitt & Rubin, 1986). The 4 items correspond to “I examine issues until I find a solution that really satisfies me and the other party”, “I stand for my own and other’s goals and interests”, “I examine ideas from both sides to find a mutually optimal solution” and “I work out a solution that serves my own as well as other’s interests as good as possible”.

The problem solving strategy is positively related to integrative agreements in group negotiation (Beersma & De Dreu, 1999). Therefore, the development of problem solving strategy was the focus of this research and that specific score index was chosen to describe the development of soft skills related to effectively manage conflicts.

The reliability of the four items of the instrument used in this study was tested by the Alpha Cronbach, using the responses from the first data collection. The questionnaire presented a high reliability for the participants ( $\alpha=0.76$ ) sample group as well as for the entire group of respondents in the study ( $\alpha=0.74$ ), since the alpha values were higher than 0.7. However, for the non-participant’s sample, the alpha value is 0.64, which is very close to 0.7 which does not have a significant effect on the reliability of the tool as a whole. The internal consistency of the scale was further supported by the alpha values at Time 4 ( $\alpha=0.72$ ) and at Time 5 ( $\alpha=0.85$ ).

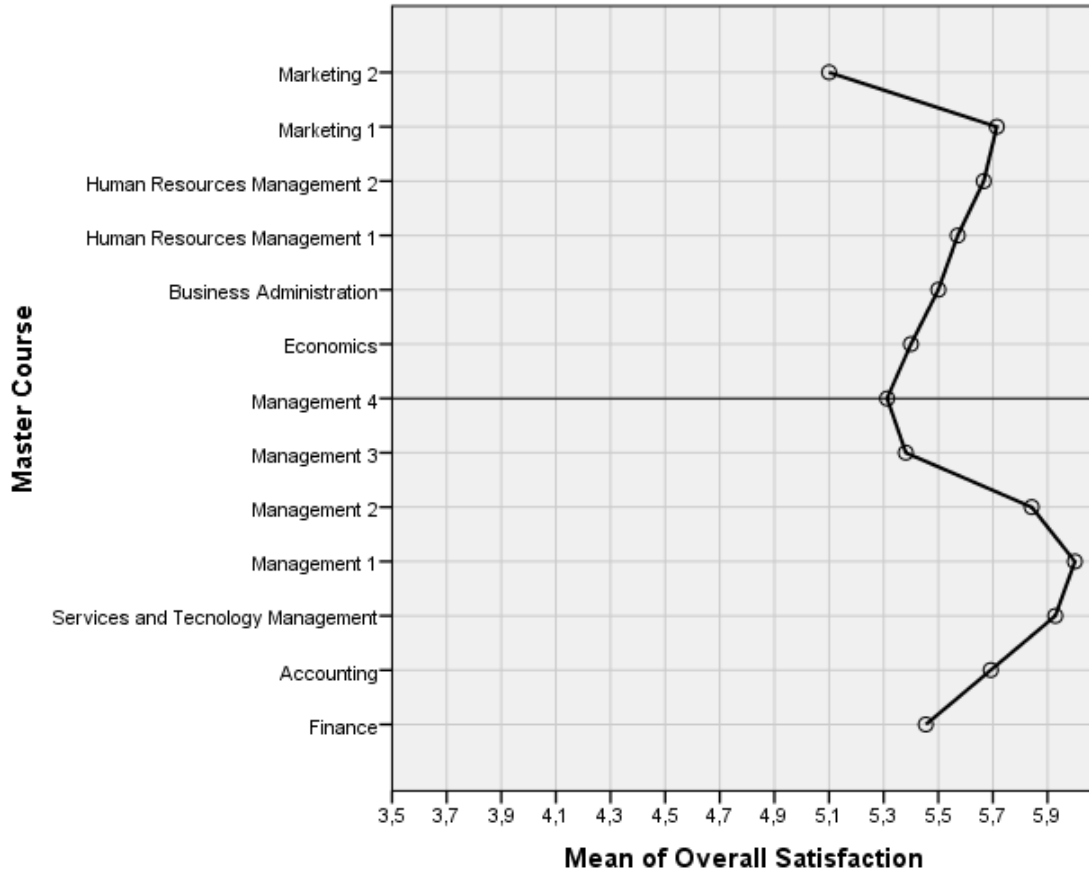
The level of **results** of the students is considered in two criteria: the final average grades and the number of students that failed any subject in the first semester. Since this information was provided by the academic services of ISCTE Business School, the privacy rules of the University do not allow to provide the individual results of each student. Therefore, the results data were only available by group level of analysis (participants’ and non-participant’s groups) rather than individual level. In each group level it is also considered the gender differences when making the analysis.

## 5 - RESULTS

The Hypothesis 1 focuses on the reaction level of Kirkpatrick (1996) which can be represented by the overall satisfaction of participants towards the training intervention.

A one-way between-groups analysis of variance (ANOVA) was conducted to explore the variances of the mean overall scores of satisfaction with the training among the different Master classes that participated in the event. Participants were divided into 13 groups according to their Master class and the mean values of satisfaction scores were analyzed in the group level as it is represented in Graph 1. Since the questionnaires were anonymous, it was only possible to look at the differences among groups.

By analyzing the results of the ANOVA test (Appendix 9.4.), it is possible to conclude that there is a statistically significant difference at the  $p < 0.05$  level in the overall scores of satisfaction for the 13 groups [ $F(12, 186) = 5.019$ ;  $p = 0.000$ ]. Therefore, the homogeneity of groups is not proved by all the 13 groups of participants. Post-hoc comparisons conducted by the Tukey honestly significant difference (HSD) test, show that the mean overall satisfaction score of 5.10 ( $SD = 0.447$ ) corresponds to the Marketing class number 2 and the mean overall satisfaction score of 6.00 ( $SD = 0.00$ ) refers to the Management class number 1. They are significantly different from all the others because they represent respectively, the lowest and the highest mean satisfaction scores by group (subset 2 for  $\alpha = 0.05$ ;  $p = 0.073$ ).



Graph 1 – Mean overall satisfaction scores by Master class

Note: The minimum value represented in the graph is the cut-off point of 3.5 within a scale from 1 to 6.

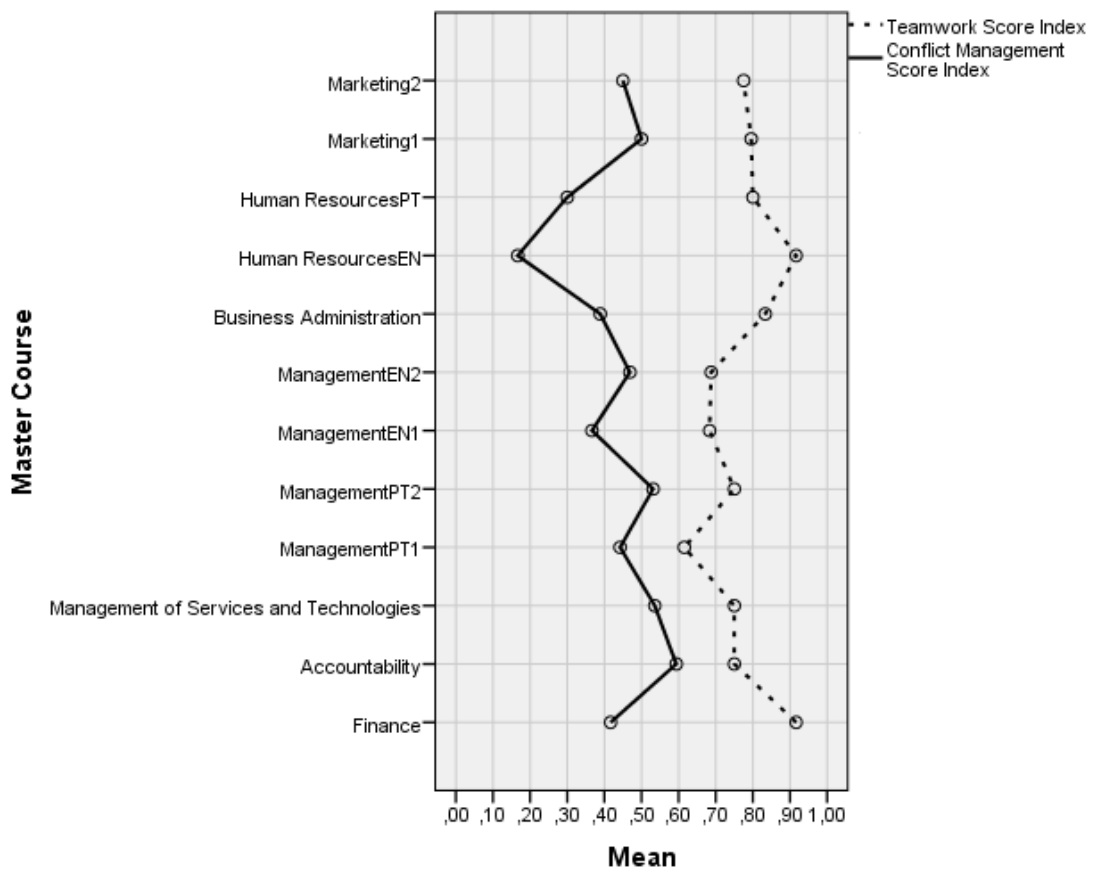
The one-Sample T-test was conducted to compare the mean overall satisfaction score of all participants with the cut-off point of 50% (3.5 on the 6-point scale). It shows that participant's reactions to the training intervention were positive corresponding to a mean value of 5.58 (SD=0.552) and statistically significantly higher than the cut-off point of 50% [ $t(198)=53.208$ ;  $p=0.000$ ]. The minimum value indicated by all participants was 4 and the maximum was 6, on the 6-point scale.

The Hypothesis 2 is related to the learning level of the Kirkpatrick's training evaluation model and is represented by two score indexes: the teamwork score index and the conflict management score index. The mean values of the learning scores were analyzed in the group level, by Master class, which is represented in Graph 2.

The lowest mean teamwork score index corresponds to the mean score of 0.615 (SD=0.054), within a score range between 0 and 1, referred to the Management class number 1. While the highest mean teamwork score index corresponds to the mean

score of 0.917 (SD=0.083) referred to both, the Finance and the Human Resources Management class number 1.

According to the analysis of the conflict management score index, the lowest mean corresponds to the mean score of 0.167 (SD=0.083) corresponding to the Human Resources Management class number 1, within a score range between 0 and 1. While the highest mean conflict management score index corresponds 0.594 (SD=0.094), the Accounting class.



Graph 2 – Teamwork mean score index and conflict management mean score index by Master course.

The one-sample t-test was conducted to compare the mean teamwork learning score index of all participants with the cut-off point of 50% (0.5 out of 1). It shows that participant’s learning about the teamwork theory presented in the training intervention was positive (Mean=0.756; SD= 0.234) and statistically significantly higher than the cut-off point of 50% [ $t(105)=11.209; p=0.000$ ].

The same one-sample t-test was conducted to compare the mean conflict management learning score index of all participants with the cut-off point of 50%

(0.5 out of 1). It shows that participant’s learning about the conflict management theory presented in the training intervention was low with a mean value of 0.445 (SD=0.237) and statistically significantly lower than the cut-off point of 50% [ $t(99)=-2.318; p=0.022$ ].

The correlation between the mean of these two indexes was studied among all the participants. It showed a very low degree of positive correlation and  $p=0.080$ , which is not significant since it is higher than 0.05. In the Appendix 9.5., it is reported the correlations in detail by Master class although they are not significant since  $p$  value is higher than 0.05. In this appendix, the groups with 5 participants or less, were not taken into account in the correlation analysis. It is possible to conclude that the two scores (teamwork and conflict management) do not covary significantly.

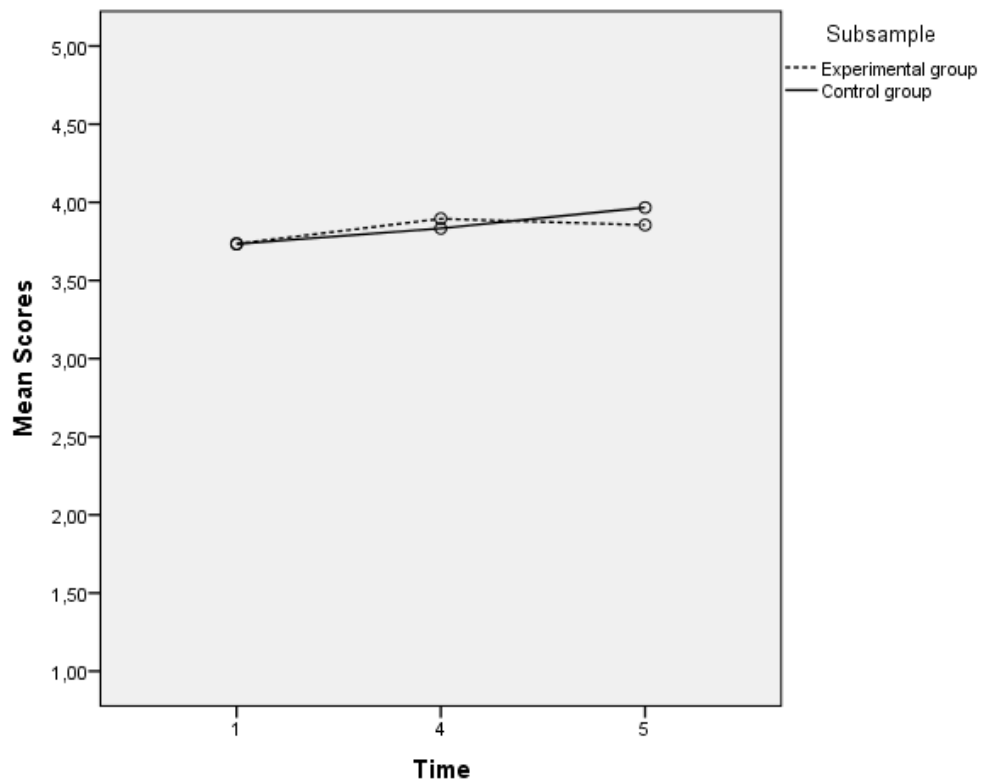
The Hypothesis 3 is related to the behavioural level of Kirkpatrick’s training evaluation model (1996). It can be represented by the development of (a) teamwork and (b) conflict management skills of the participants in the training intervention, after attending it.

Firstly, to assure that each construct is represented by the items included in the respective scale, the internal consistency of each dimension was analyzed as well as inter-item and item-total correlations to decide if any item should be deleted. As reported before, the scale used to assess the teamwork skills showed low levels of internal consistency with a coefficient alpha of 0.52, at Time 1. As such, the reliability of the teamwork scale was not confirmed at Time 1 and was further analyzed at Time 4 and Time 5. Despite of that fact, the scale showed good levels of internal consistency, having coefficient alphas of 0.73 at Time 4 and 0.80 at Time 5, proving acceptable reliability of the scale and showing respectable inter-item and item-total correlations. On the other hand, the scale used to assess conflict management skills showed good levels of internal consistency at Time 1, with a coefficient alpha of 0.74 and relevant inter-item and item-total correlations. This was further confirmed by examining the internal consistency and the item-level statistics at Time 4 and Time 5, still representing high values of coefficient alphas: 0.72 at time 4 and 0.85 at Time 5.

Secondly, a one-way between-groups analysis of variance (ANOVA) was conducted among the experimental group and the control group in order to explore the variances of the mean overall scores of the two skills developed at the training intervention: teamwork and conflict management. The mean values of soft skills scores were analyzed at the group level at Time 1 to understand the baseline skills measures of respondents, before the training intervention. Specifically, for the teamwork skills, the ANOVA test showed  $F(1,179)=0.266$ ,  $p=0.607$ , while for the conflict management skills it showed  $F(1,179)=0.518$ ,  $p=0.473$ . By analyzing the results of the ANOVA test, it is possible to conclude that there is no statistically significant difference between the mean score of both soft skills of respondents in the experimental group and respondents in the control group. Therefore, there is no difference in the starting level of both groups.

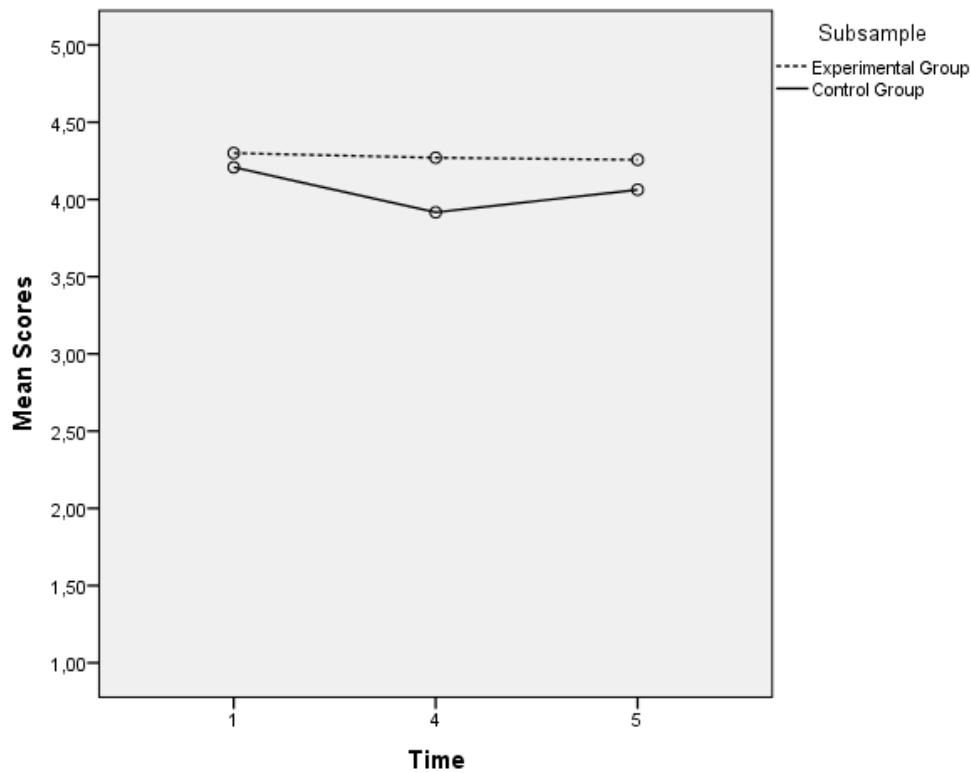
Before proceeding to the ANOVA test with repeated measures, the descriptive statistics were inspected concerning the two soft skills and the two group samples, at three different times: Time 1, Time 4 and Time 5. As represented in Graph 3, the mean value of the teamwork skills score showed the following results, for the experimental group: 3.72 (n=146) at Time 1, 3.89 (n=126) at Time 4 and 3.84 (n=100) at Time 5, from a total score of 5. For the same variable, the control group showed the following values: 3.77 (n=34) at Time 1, 3.80 (n=26) at Time 4 and 3.89 (n=20) at Time 5.





Graph 3 – Mean teamwork scores by subsample at Time 1, Time 4 and Time 5.

Regarding the mean values of the conflict management scores, as represented in Graph 4, the results were the following for the experimental group: 4.24 (n=146) at Time 1, 4.21 (n=124) at Time 4 and 4.25 (n=97) at Time 5, from a total score of 5. While the control group showed the following values: 4.17 (n=34) at Time 1, 3.95 (n=26) at Time 4 and 4.08 (n=20) at Time 5.



Graph 4 – Mean conflict management scores by subsample at Time 1, Time 4 and Time 5.

An ANOVA with repeated measures analysis was performed using SPSS, to understand within-subject effects (Time factor) as well as between-groups effects (training attendance factor). It was conducted considering 3 different times of data collections (Time 1, Time 4 and Time 5) among the two group samples (experimental group and control group) concerning the two variables: teamwork skills and conflict management skills.

First, the teamwork skills variable was studied by analyzing its sphericity. Therefore, the results of the Mauchly's test show a  $p$  value of 0.49 for the teamwork skills variable which is higher than 0.05. We may say that the sphericity assumption was met. The factorial model that includes both within and between-subjects effects shows  $F(2, 180)=0.5$ ,  $p=0.58$ , when analyzing the mean scores of teamwork skills over 3 different times and taking into account the two different group samples. The test of between-subjects effects, without considering the time effect, shows that there is no main effect in the mean score of teamwork skills due to attending the training event since  $F(1,90)=0.02$ ,  $p=0.89$ . Consequently, we may conclude that the mean

scores of teamwork skills do not show statistically significant differences over time and they do not differ significantly between the two subsamples.

The conflict management variable was also firstly studied by analyzing the sphericity. The results of the Mauchly’s test show a  $p$  value of 0.04 which is lower than 0.05 and does not prove the sphericity assumption. Consequently, the Epsilon correction factor had to be used through the Huynh-Feldt correction method. By using this method, the epsilon value is 0.96 which is very close to 1, therefore sphericity is almost perfectly met. When analyzing the mean scores of conflict management skills over 3 different times and taking into account the two different group samples, the factorial model that includes both within and between-subjects effects with a Huynh-Feldt correction, shows  $F(1.92,163.33)=1.04$ ,  $p=0.36$ . Besides that, the test of between-subjects effects, without considering the time effect, shows that there is no main effect in the mean score of conflict management due to attending the training event since  $F(1,85)=2.22$ ,  $p=0.14$ . Therefore, we may conclude that the mean scores of conflict management skills do not show statistically significant differences over time and they do not differ significantly between the two subsamples.

The fourth Hypothesis concerns the results level of Kirkpatrick’s training evaluation model (1996). In this research, it is represented in two criteria: the final average grades and the number of students that failed any subject in the first semester.

The first criterion corresponds to the final average grades of the first semester, the mean values of both groups, participants and non-participants, are reported in Table 3. In order to compare the mean final average grades of students, it was conducted an independent samples t-test considering the training attendance as grouping variable. The results presented in Table 4, show that the mean average grade of participants in the training intervention is not statistically significant different from the mean average grade of non-participants. This comparison was further analyzed, by comparing the mean average grades considering the gender of participants and non-participants (see group statistics in Table 3). The results of the independent samples t-test presented in Table 4, show that the mean average grade of female participants in the training intervention is not statistically significant different from the mean

average grade of female non-participants. Besides that, the same result was observed for the male samples (Table 4).

The second criterion is related to the number of students that failed any subject in the first semester. In order to statistically compare these numbers, it was considered the mean number of students that failed any subject in the first semester, by master class (mean values of the criterion in Table 3). An independent samples t-test was performed considering the training attendance as grouping variable. The results of the independent samples t-test are presented in Table 4, which support that there was no statistically significant difference among the mean number of students that failed any subject, by master class, between the two samples. This comparison was further analyzed by comparing the mean number of students that failed any subject by master class considering the gender of the participants and non-participants (see group statistics in Table 3). The results of the independent samples t-test presented in Table 4, report that the mean number of students of the female participants who failed any subject, by master class, is not statistically significant different from the female non-participants. The same result is presented for the test conducted among the respective male samples (Table 4).

<b>Variable</b>	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Standard Deviation</b>
<b><u>Final Average Grade</u></b>	Participants	214	14.48	0.77
	Non-participants	130	14.43	0.66
<b>Female Final Average Grade</b>	Participants	131	14.54	0.96
	Non-participants	82	14.17	0.62
<b>Male Final Average Grade</b>	Participants	83	14.41	0.90
	Non-participants	48	14.70	0.85
<b><u>No. Students Failed</u></b>	Participants	27	2.08	1.71
	Non-participants	32	2.46	2.15
<b>No. Female Students Failed</b>	Participants	9	0.69	0.75
	Non-participants	19	1.47	1.33
<b>No. Male Students Failed</b>	Participants	18	1.38	1.50
	Non-participants	13	1.00	1.29

Table 3 – Group statistics of the criteria of the results level of training evaluation.

		Levene's Test for Equality of Variances		T-test for the Equality of Means			
		F	Sig.	t	Df	Sig. (2-tailed)	Std. Error Difference
<b><u>Final Average Grade</u></b>	Equal Variances Assumed	0.00	0.96	0.18	24	0.86	0.28
<b>Female Final Average Grade</b>	Equal Variances Assumed	0.17	0.68	1.14	23	0.27	0.33
<b>Male Final Average Grade</b>	Equal Variances Assumed	0.00	1.00	- 0.86	24	0.40	0.35
<b><u>No. Students Failed</u></b>	Equal Variances Assumed	0.05	0.83	- 0.51	24	0.62	0.76
<b>No. Female Students Failed</b>	Equal Variances Assumed	2.67	0.12	-1.82	24	0.08	0.42
<b>No. Male Students Failed</b>	Equal Variances Assumed	1.00	0.33	-0.70	24	0.49	0.55

Table 4 – Independent samples t-tests for the criteria of the Kirkpatrick's results level.

## 6 - DISCUSSION

The main purpose of this study was to evaluate the effectiveness of one-day soft skills training on the performance of Master students. The Kirkpatrick’s training evaluation model was used to evaluate the training effectiveness, and the four levels were analyzed: reaction, learning, behaviour and results.

Following the core of the analysis, the first level of training evaluation (reaction) was analyzed. As predicted in the Hypothesis 1, the results show that the one-day soft skills training has generated (a) positive reactions. However, it does not show that the reactions were (b) uniformly among groups of participants. The difference in the overall satisfaction mean scores between the 13 groups was quite small. Although the majority of groups did not differ significantly, the ANOVA test did not prove that the groups were homogeneous. Anyway, the satisfaction values represent a quite high overall score of satisfaction with the training programme, it is considered above the average. By interpreting the analysis of the data collected in the satisfaction questionnaire, it is possible to state that the one-day soft skills training generated (a) positive reactions. However, the satisfaction scores were not distributed (b) uniformly among groups participants, the Hypothesis 1 is partially validated and the first level of the Kirkpatrick’s training evaluation model is considered effective.

The Hypothesis 2 represents the second level of training evaluation (learning). As predicted in the Hypothesis 2, by analyzing the results it is possible to say that the participants in the training intervention show cognitive learning about (a) teamwork. However, participants did not show cognitive learning about (b) conflict management. The difference in the mean learning score indexes between the 13 groups was represented in Graph 2. As referred before, the values of the learning score indexes represent a positive overall learning score for teamwork, however it is considered negative overall learning score for conflict management skills. Therefore, it is possible to partially validate the Hypothesis 2. The second level of the Kirkpatrick’s training evaluation model is considered moderately effective.

The mean learning score index about the teamwork theory was quite higher when compared with the mean learning score index about the conflict management theory. This fact can be explained by the scheduled training programme, since there was more time dedicated to teamwork sessions (1 hour of teambuilding and 2 hours of teamwork workshops) and less time for the conflict management session (1,5 hours). Another plausible explanation is the different level of participants’ engagement in the activities, it is possible that the activities related to teamwork were more involving when compared with the conflict management activities. The order of the sessions might also influence the cognitive learning of the participants, since the conflict management workshop was the last one to be delivered and they were probably more tired. Therefore, it is possible that participants’ capacities of learning might be negatively affected because of the overload of information they had been listening to during the full day which started 9am and this workshop session was delivered from 5pm to 6.30pm.

The third level of the Kirkpatrick training evaluation model (1996) corresponds to the behaviour level. The data collected was analyzed to understand if, according to the Hypothesis 3, the participants in the training intervention show greater (a) teamwork and (b) conflict management skills compared to the non-participants. Therefore, after analyzing the results, the Hypothesis 3 is not validated and the effectiveness of the third level of the Kirkpatrick’s training evaluation model is not supported by this study.

The initial findings of the analysis regarding the reliability of the measures showed that one of the scales, the CATME-B, presented low levels of internal consistency at Time 1. Therefore, it is fundamental to consider this limitation when interpreting the results concerning the topic of teamwork. A possible reason for this low reliability might be related to the fact that some respondents were not used to work in teams before the training and had some difficulties when trying to imagine themselves in a situation that has happened very few times or has never happened before. However, when analyzed the same scale at Time 4 and Time 5, after the training intervention, the scale showed higher levels of internal consistency. This fact might support the same explanation, because several months have passed since the beginning of the academic year and most of the students may have already worked in teams when they answered the questionnaire at Time 4 and Time 5.

After confirming that the baseline skills of both subsamples were homogeneous in terms of the teamwork and conflict management soft skills, it was possible to compare them avoiding baseline errors.

The analysis of the results confirms the same for the two variables: the fact that the experimental group and the control group do not show statistically significant differences in the soft skills mean scores, over time, within the same group or even when comparing the two groups. This might be explained by the short time of the training intervention, since the development of soft skills is a process that might require a longer period of training. Another explanation might be the lack of individual interventions or any monitoring strategy after the training intervention such as focus groups or coaching sessions. Besides that, it is possible that the change that might have occurred is not a quantitative change at the behaviour level (alpha change), but rather a qualitative change at the cognitive level such as the gamma change or the beta change according to the tripartite model of change (Terborg, Howard & Maxwell, 1980). Alpha change refers to a quantitative and absolute change showed in the mean difference of the scale scores across time, which does not happen in this research. On the other hand, beta change reflects a change in the individuals' perception concerning the subjective metric of the scale, over time. It happens when respondents interpret the rating scale differently after the training, which is a qualitative change. Gamma change represents the highest level of qualitative change in which the interpretation or meaning of an entire concept changes over time. Golembiewski, Billingsley, and Yeager (1976) identified, for the first time, these three different types of change that can be detected with self-reported data. However, the method used in this research does not allow the analysis for these qualitative changes.

The fourth level of the Kirkpatrick training evaluation model (1996) corresponds to the results level. The data collected was analyzed to understand if, according to the Hypothesis 4, the participants in the training intervention show higher academic performance compared to the non-participants. Therefore, the analysis of the results does not support the Hypothesis 4, therefore the fourth level of the Kirkpatrick's training evaluation model is not considered effective.



The two criteria used to represent the academic performance of students were: the final average grades and the number of students that failed any subject in the first semester. A deeper analysis was conducted considering the gender differences within each one of the group samples, with both variables. It also showed no statistically significant differences in the mean average grade of female students and the mean number of female students that failed any subject by master class, at the end of the first semester, between the participants and the non-participants group. The same is reported for the male’s groups.

This might be explained by the fact that, as reported before, the third level of the Kirkpatrick’s training evaluation model (1996) was not effective. Therefore, there was no behavioural change and consequently, no results improvement. Besides that, it might be possible that the student’s performance criteria are biased because the grades criteria are mostly based on individual performance and the group works typically count for a marginal percentage. Finally, the different demands of study contents and different extents of use of group works included in different master courses, are compared with the same measures which might also bias the results of the study.

### 6.1. Limitations

Aside from the practical concerns raised when using the Kirkpatrick’s training evaluation model, there are certain limitations of the present study that must be addressed.

Firstly, since this study had a lagged design with 5 different times of data collection, there are sample size variations that should be considered, which might lead to biased results. There was a decrease in the sample size over time due to the loss of follow-up responses from participants in the research. Another important fact regarding this limitation in the data collection, is the size difference between the group of participants (including the experimental group) and group of non-participants in the training intervention (including the control group). It might have affected the results of the study since the non-participants group was quite smaller when compared with the participants group. The non-participants group corresponded to 20-24% of the size of the participants group. Besides that, when

comparing the different master courses, the size of the master classes also differed significantly among each other which might also have affected the final results.

Secondly, it is also important to refer that the first three levels of the Kirkpatrick’s training evaluation model (reaction, learning and behaviour) consist of the analysis of self-reported items, which can be a source of common method bias. The fact that the applied scales are very short has some advantages related to time efficiency and easy applicability. On the other hand, it might be hard to make sure that the scales reflect constructs that are complex and cover an extensive range of contents. Another limitation is concerned to the fact that the behaviours especially were only self-reported and not assessed by other people. Therefore, by observing the respondents, their interactions with others in the academic context and in their real work environment could have given a larger difference on behaviour, over time.

Thirdly, it is important to note that the study setting was not a completely controlled lab experiment but a quasi-experimental method. The assumption that the participation in the training intervention was directly linked to observed behavioural changes, did not consider other individual or external factors. The fact that the respondents are students from 13 different master courses means that they experience different study contents with differences in the extent of use and diffusion of group works, which might have affected the different development of soft skills as well as their academic performance.

The training intervention was part of a team building event so, former students were selected to facilitate the sessions because the main goal of the event was the new master students’ integration in the academic environment, besides the soft skills development. According to Rubin & Dierdorff (2013), the educational effectiveness is affected by the variance in instructor talent and method. It raises a question about another external factor that includes the 26 facilitators who held the training sessions across 13 different master courses. The facilitators were former ISCTE master students and most of them did not have any previous experience leading these topics concerning soft skills. They had a preparation training which lasted one and a half day and had the main goal of preparing them for the training intervention of the study. Ideally, facilitators would be identical in their approach when delivering the sessions: facilitating debriefings, creating empathy with participants and working

with their co-facilitator. This is not possible in this academic context due to the limited training and for some, at least, limited experience in general. The lack of experience of the selected facilitators might have negatively influenced the effectiveness of the training intervention. However, it might also have increased the results of the reaction level because of the feeling of integration. The sharing of previous experiences and advices provided by former students might have led to a higher level of satisfaction of participants. The experiential method of the designed training intervention as well as the soft skills content, was probably new to most of the participants who have never experienced it before. These might also have had a positive impact on the reactions of participants.

Besides those limitations, the fact that there was no ongoing reinforcement strategy or follow up after the training might have had a relevant effect on the results.

Regardless, this research was an indicated opportunity to use of the Kirkpatrick’s training evaluation model by applying it in the academic context. This study provides information that aids in evaluating the impact of a one-day soft skills training in master students’ performance. There was additional value added since it was possible to include a control group besides the experimental group, which allowed for a deeper analysis of the results. The Kirkpatrick’s training evaluation model proved to be an essential tool to evaluate the effectiveness of this training at the four different levels: reaction, learning, behaviour and results, which is rarely possible due to the long lag of time necessary to conduct the study.

## 6.2. Future Research

This study reinforces the need to further understand the most effective strategies to develop the soft skills of master students during their academic path. In the future, it is advised to create a shorter one-day training programme including only the content of one soft skills or divide the two soft skills sessions into two different days of training. This strategy would avoid a possible overload of information which might lead to negative effects on the cognitive learning of participants. Other training methods or different activities might be developed to increase the effectiveness of the training. Besides that, follow up strategies should be implemented, such as individual coaching sessions or focus groups to monitor the development of soft skills after the training intervention.

A future study should allow for a more in-depth evaluation, including specific practical tests related to soft skills as well as peer or professor ratings of observed soft skills. These behaviours would be observed by impartial raters when students are working in teams or solving conflicts in the academic environment, this method avoids possible self-evaluation bias that might lead to higher and generous evaluations. Information about other external factors and individual variables that can affect the results might also be collected, such as certain demographic, personality and attitudinal or motivational factors predictive of skills acquisition. Besides that, the study should include the analyses of other different types of change that might occur after a training intervention, even when no behavioural change is observed. For instance, as referred before, according to the tripartite model of change (Terborg *et al.*, 1980) it is possible to analyze gamma change as well as beta change before analyzing the alpha change related to behaviours.

As other researchers have already shown (Schmidt, Soper & Facca, 2012; Robinson & Stubberud, 2014) and seems to be confirmed here by the positive reactions of participants: it is useful in education to create a supportive environment in which students can develop their soft skills. In this way, it is advised to keep the same concept of inviting former students to facilitate the sessions. Although a longer training for facilitators should be provided as well as a strict selection of experienced facilitators, to assure the quality of the content delivered. Future studies should explore whether these and other future findings, could be generalized to bachelor degree students or students with other background from other international or national universities and following other training programmes.

Although it is beyond the scope of the present study, the efficacy of a traditional master course programme in developing soft skills needs to be further evaluated. Such analyses would allow a better understanding of the value of a training intervention on the development of soft skills of master students and its impact on the master students’ performance. Besides that, future studies should also include a deeper analysis of the return on investment of training initiatives in the academic context.

## 7 – CONCLUSION

Despite the limitations referred above, this study contributed to a better understanding of both: the Kirkpatrick’s training evaluation model and the concept of soft skills development such as teamwork and conflict management. The research might be viewed not only as an evaluation of the training intervention but also as a demonstration of the utility of the Kirkpatrick’s training evaluation model. The current study did not provide conclusions that this soft skills training intervention was completely effective at the behaviour and results levels. Although the learning level was also not effective considering the conflict management skills, it showed positive results regarding the cognitive learning of teamwork. Besides that, the reaction level was considered effective and participants showed very high levels of satisfaction. Thus, it is hoped that additional research will continue to evaluate more training interventions related to soft skills development. Even though the training evaluations are not yet a common practice, it is a powerful tool that leads to continuous improvement. Even more when some training interventions are not as effective as expected, this evaluation process raises awareness about the corrections that should be done and positive changes needed for the future organisation of effective training initiatives.

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9 - APPENDICES

9.1. Appendix A: Participants descriptive analysis

9.1.1. All participants

		Participants		Non-participants		Total	
		N	N %	N	N %	N	N %
<b>Gender</b>	<b>Male</b>	92	40.9%	23	41.8%	115	41.1%
	<b>Female</b>	133	59.1%	32	58.2%	165	58.9%
	<b>Total</b>	<b>225</b>	<b>100.0%</b>	<b>55</b>	<b>100.0%</b>	<b>280</b>	<b>100.0%</b>
<b>Master Course</b>	<b>Finance</b>	10	4.4%	6	10.9%	16	5.7%
	<b>Accountability</b>	17	7.6%	5	9.1%	22	7.9%
	<b>Manag Serv &amp; Tec</b>	15	6.7%	0	0.0%	15	5.4%
	<b>Management PT1</b>	23	10.2%	4	7.3%	27	9.6%
	<b>Management PT2</b>	19	8.4%	4	7.3%	23	8.2%
	<b>Management EN1</b>	22	9.8%	3	5.5%	25	8.9%
	<b>Management EN2</b>	16	7.1%	4	7.3%	20	7.1%
	<b>Economics</b>	10	4.4%	2	3.6%	12	4.3%
	<b>BA</b>	25	11.1%	11	20.0%	36	12.9%
	<b>HRM EN</b>	11	4.9%	6	10.9%	17	6.1%
	<b>HRM PT</b>	11	4.9%	7	12.7%	18	6.4%
	<b>Marketing 1</b>	23	10.2%	2	3.6%	25	8.9%
	<b>Marketing 2</b>	23	10.2%	1	1.8%	24	8.6%
	<b>Total</b>	<b>225</b>	<b>100.0%</b>	<b>55</b>	<b>100.0%</b>	<b>280</b>	<b>100.0%</b>

Table 5 – Total participants in the research by gender and by Master course.

	Mean	Stand. Deviation	Maximum	Minimum	Valid N	Total N
<b>Participants in the training</b>	22.37	2.37	37.00	20.00	222	225
<b>Non-participants in the training</b>	22.24	2.18	32.00	20.00	54	55
<b>Total</b>	22.34	2.33	37.00	20.00	276	280

Table 6 – Total participants in the research by age.

9.1.2. Subsamples

		Experimental Group		Control Group		Total	
		N	N %	N	N %	N	N %
<b>Gender</b>	<b>Male</b>	53	36.3%	13	38.2%	66	36.7%
	<b>Female</b>	93	63.7%	21	61.8%	114	63.3%
	<b>Total</b>	<b>146</b>	<b>100.0%</b>	<b>34</b>	<b>100.0%</b>	<b>180</b>	<b>100.0%</b>
<b>Master Course</b>	<b>Finance</b>	5	3.4%	4	11.8%	9	5.0%
	<b>Accountability</b>	11	7.5%	3	8.8%	14	7.8%
	<b>Manag Serv&amp;Tec</b>	9	6.2%	0	0.0%	9	5.0%
	<b>Management PT1</b>	12	8.2%	2	5.9%	14	7.8%
	<b>Management PT2</b>	13	8.9%	2	5.9%	15	8.3%
	<b>Management EN1</b>	19	13.0%	1	2.9%	20	11.1%
	<b>Management EN2</b>	10	6.8%	1	2.9%	11	6.1%
	<b>Economics</b>	5	3.4%	2	5.9%	7	3.9%
	<b>BA</b>	17	11.6%	9	26.5%	26	14.4%
	<b>HRM EN</b>	6	4.1%	3	8.8%	9	5.0%
	<b>HRM PT</b>	8	5.5%	5	14.7%	13	7.2%
	<b>Marketing 1</b>	18	12.3%	2	5.9%	20	11.1%
	<b>Marketing 2</b>	13	8.9%	0	0.0%	13	7.2%
<b>Total</b>	<b>146</b>	<b>100.0%</b>	<b>34</b>	<b>100.0%</b>	<b>180</b>	<b>100.0%</b>	

Table 7 – Subsamples participants by gender and by Master course.

	Mean	Stand. Deviation	Maximum	Minimum	Valid N	Total N
<b>Experimental Group</b>	22.35	2.48	37.00	20.00	144	146
<b>Control Group</b>	22.36	1.97	28.00	20.00	33	34
<b>Total</b>	<b>22.36</b>	<b>2.38</b>	<b>37.00</b>	<b>20.00</b>	<b>177</b>	<b>180</b>

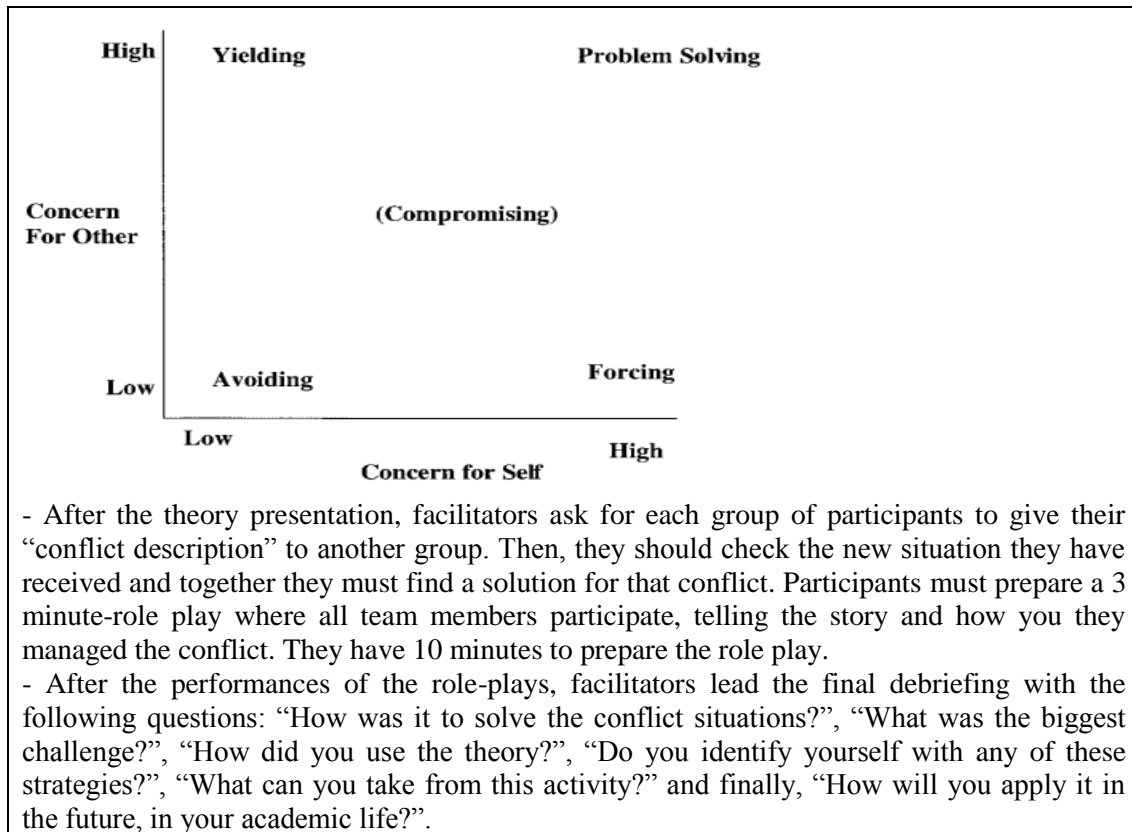
Table 8 – Participants subsamples by age.

9.2. Appendix B: Training Sessions Outlines

<b>Session 1</b>	<u>Ice-breaking Activities</u> Duration: 10h30-11h30 - 1 hour
<p><b>OBJECTIVES</b></p> <ul style="list-style-type: none"> <li>- Introduction of Facilitators and Master Course Director;</li> <li>- Presentation of the training programme and goals of the event.</li> <li>- Introduction of participants – names, background and expectations;</li> </ul>	
<i><b>Hosts’ Introduction</b></i>	
<ul style="list-style-type: none"> <li>- Introduction of Facilitators and Master Course Director</li> <li>- Explanation about the organisation of the IBS Masters Kick Off Teambuilding Event 2015: goals and structure of the event.</li> </ul>	
<i><b>Participants’ Introduction</b></i>	
<ul style="list-style-type: none"> <li>- <b>Throwing a ball:</b> Standing in a circle, participants pass the ball between each other. The same person cannot catch the ball twice. When someone catches the ball, they should say their name, background and a brief expectation about this training event.</li> <li>- <b>The adjective + name game:</b> Each participant says an adjective started by the first letter of their name, followed by their name. This adjective should characterize them (e.g. Creative Charles). The second participant should say the adjective + name of the first participant and also his own adjective + name. The following participants will say their own adjective + name and the adjective + name of the person that is standing before them.</li> </ul>	
<b>Session 2</b>	<u>Teambuilding Games</u> Duration: 12h00-13h00 - 1 hour
<p><b>OBJECTIVES</b></p> <ul style="list-style-type: none"> <li>- Sharing personal experiences among participants;</li> <li>- Find common interests and characteristics between colleagues;</li> <li>- Create first connections and a cooperative group dynamic.</li> </ul>	
<ul style="list-style-type: none"> <li>- <b>World Map:</b> Participants imagine a world map on the floor of the room and they move to a specific country according to what the facilitator states. For example: “move to the last country you’ve visited” or “move to your dream destination for holidays”. Then participants make small groups of 3 or 4 people and speak during 3 minutes about the topic that the facilitator says. For example: “your biggest adventure” or “your dream job” or “your favourite hobbies”.</li> <li>- <b>Communalities Game:</b> Participants make groups of 3. In the same group, they have 5 minutes to find 6 common characteristics/interests among their peers (not too obvious or too general) and write them down on a paper. Then, two groups of 3 people have to join making one group of 6 people. The new group of 6 people has 5 minutes to find 3 common characteristics/interests (not obvious or too general) and write them down. Finally, all groups together have 5 minutes to find one common characteristic/interest shared by all colleagues.”</li> </ul>	
<b>Session 3</b>	<u>Teamwork Development</u> Duration: 14h30-15h30 - 1 hour
<p><b>OBJECTIVES</b></p> <p>By the end of the WS, participants will:</p> <ul style="list-style-type: none"> <li>- Understand the meaning of teamwork;</li> <li>- Increase team coordination and cooperation;</li> </ul>	

<ul style="list-style-type: none"> <li>- Be aware of do’s and don’ts when working in teams;</li> <li>- Improve interpersonal relationships and trust among colleagues.</li> </ul>	
<p>- <b>Brainstorming</b> - Facilitators ask participants “What comes to mind when you think about teamwork?” and write down on the flipchart the main ideas said by participants.</p> <p>- <b>The Impossible Mission:</b> This exercise is an opportunity for participants to practice their teamwork skills. They have 20 minutes to accomplish a list of 18 tasks such as: “find the person with the most siblings”, “have a group hug with all the participants”, “write a list of all the cell phone numbers of the participants”, “take a picture of the youngest and the oldest participant”, “create a story that has the name of every participant in it and read it as the last task”, among others. To validate the accomplishment of each task participants must make sure that at least one of the facilitators sees it”</p> <p>After the activity, facilitators lead a debriefing session which include the following questions: “How was it?”, “What was the biggest challenge?”, “How did you feel during the exercise?”, “What did the task make you reflect on?”, “What did you learn?”, “How will you apply it in the future, in your academic life?” . During the debriefing, while one of the facilitators ask those questions, the other writes on the flipcharts, the Do’s and Don’ts when working in teams. This will be the final outcome of the exercise.</p>	
<b>Session 4</b>	<p><b>Roles of Team Players</b> Duration: 15h30-16h30 - 1 hour</p>
<p><b>OBJECTIVES</b> By the end of the WS, participants will:</p> <ul style="list-style-type: none"> <li>- Be aware of the different roles that can be played by team members;</li> <li>- Be aware of their own role as team players;</li> <li>- Understand the importance of diversified team roles within the same team.</li> </ul>	
<p>- <b>The highest tower:</b> This exercise makes participants reflect about the different roles played by team members and how they vary according to the context. For a team to be successful, there are a number of important roles that need to be undertaken by its members. According Peter Honey (2001) there are 5 main roles that participants will play. Participants are divided in groups of 5 people. Each one of them receives a paper with a specific role that written on it. It might be one of the following 5 roles: “Thinker: produces carefully considered ideas and weights up and improves ideas from others”, “Supporter: eases tension and maintains team harmony”, “Leader: ensures that the team has clear objectives and that everyone is involved and committed.”, “Challenger: questions effectiveness and presses for improvement and results” or “Doer: impulses the team to get on the job in hand and does practical tasks. Participants are not supposed to tell their role to the other team members. They should act according to the information that they receive in the paper. The main goal of each team is to build a tower as high as possible. For that, participants can use newspapers, 3 chairs, sticky tape and any other object that they find in the classroom. The team with the highest tower in 15 minutes, wins the competition.</p> <p>After the activity, facilitators explain the theory of Peter Honey (2001) and the 5 team players’ roles. And then, they lead a debriefing session which include the following questions: “How was it?”, “What was the biggest challenge?”, “Can you guess the roles of your team members?”, “Who were the leaders?”, “Can you explain what was expected from you?”, “Did you act according to it?”, “How did you feel playing your role?” (the same question is asked for challengers, doers, thinkers and supporters), “Was your given role similar to your real role?”, “What have you learned with this exercise?” and “How will you apply it in the future, in your academic life?”</p>	

<b>Session 5</b>	<u>Conflict Management</u> Duration: 16h00-18h30 – 1h30 hour
<p><b>OBJECTIVES</b></p> <p>By the end of the WS, participants will:</p> <ul style="list-style-type: none"> <li>- Understand the importance of conflicts when working in teams;</li> <li>- Know how to handle a conflict in a constructive way;</li> <li>- Be aware of their own dominant conflict solving style.</li> </ul>	
<p>- <b>Brainstorming</b> - Facilitators ask participants “What comes to mind when you think about conflict? (wait for some answers) What about management?” and write down on the flipchart the main ideas said by participants.</p> <p>- <b>Role Play</b> – Facilitators make an introduction by explaining that conflict situations are natural and inevitable during team works, especially when a team strives to achieve its goals. However, if managed effectively, the outcome can be very positive. Conflict can provide opportunities and challenge us to think harder, to be more creative and to search for alternative solutions, more efficient and productive. On the other hand, if not managed correctly it can be the source of bigger problems.</p> <p>- Then, facilitators divide the class in 3 or 4 groups of 6 people. In groups, participants should share some conflict experiences which they had to deal with during their academic life. Together in group, they write down the description of the most challenging situation (don’t write the solution, only the facts that lead to the conflict) – it can be a real one or a combination of several experiences.</p> <p>- After this, facilitators present the Dual Concern Theory (Pruitt &amp; Rubin, 1986): “There are several conflict management strategies that might be used, one of the most popular theory to explain it is called the Dual Concern Theory. This theory argues that conflict management is a function of high or low concern for self, combined with high or low concern for others. High concern for self and low concern for others results in a preference for forcing or competitive strategies, focusing on imposing one’s will on others. It involves threats, bluffs and persuasive arguments. Low concern for self and high concern for others results in a preference for yielding or accommodating, which is related to accepting and incorporating others will. It involves unilateral concessions, unconditional promises and offering help. Low concern for self and others results in a preference for avoiding, which involves reducing the importance of the issues, and attempts to suppress thinking about the issues. High concern for self and others produces a preference for problem solving or collaborating, which is oriented towards an agreement that satisfies both own and others’ aspirations as much as possible. It involves exchange of information about priorities and preferences, showing insights, and making trade-offs between important and unimportant issues. Recently some authors have suggested that intermediate concern for self, paired to intermediate concern for others results in a preference for compromising. It can be seen as a distinct strategy that involves the matching of others’ concessions, making conditional promises and an active search for a middle ground.”</p> <p>- Flipchart to present the Dual Concern Theory:</p>	



### 9.3. Appendix C: Questionnaires

#### 9.3.1. Satisfaction Questionnaire

Dear participant, we kindly ask you to fill out this evaluation questionnaire in order to receive your feedback and suggestions for the future. By answering these questions you are contributing for the development of the Kick-Off Teambuilding Event. It will not take more than 10 minutes.

1. How satisfied are you with the overall event?

1 (strongly unsatisfied)	2 (unsatisfied)	3 (quite unsatisfied)	4 (quite satisfied)	5 (satisfied)	6 (strongly satisfied)

2. How important do you consider the different workshops for your future development in the academic context?

<b>Workshops</b>	1 (not important at all)	2 (not important)	3 (quite unimportant)	4 (quite important)	5 (impor tant)	6 (very important)
1. Teambuilding Games						
2. Teamwork Development						
3. Team Player Roles						
4. Conflict Management						
Overall						

3. How do you evaluate the trainers in the following aspects:

	1 (strongly unprofessi onal)	2 (unprofes sional)	3 (quite unprofes sional)	4 (quite professi onal)	5 (profes sional)	6 (strongly professio nal)
1. Coordination of the pair						
2. Interaction w/ participants						
3. Presentation of concepts						
Overall						

4. How do you evaluate the logistics of the event in the following aspects:

	1 (strongly unsatisfied)	2 (unsatis fied)	3 (quite unsatisfie d)	4 (quite satisfie d)	5 (satisfied)	6 (strongly satisfied)
1. Characteristics of the classrooms for the activities						
2. Duration of the activities						
3. Coffee-breaks						
4. Lunch						

5. Would you recommend the organisation of this event for the next academic year?

- Yes
- No

6. How could the event be improved?

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### 9.3.2. Learning Questionnaires

#### 9.3.3.1. Teamwork Questionnaire

1. What are the 5 different roles played by team members, according to Peter Honey (2001)?

- Thinker, Doer, Specialist, Leader, Challenger
- Doer, Leader, Supporter, Challenger, Thinker**
- Thinker, Implementer, Challenger, Leader, Supporter
- Implementer, Supporter, Leader, Thinker, Challenger
- Supporter, Leader, Thinker, Challenger, Coordinator

2. According to Peter Honey (2001), what is the role that “produces carefully considered ideas and weights up and improves ideas from others”?

- Challenger
- Thinker**
- Leader
- Doer
- None of the above

3. According to Peter Honey (2001), how is the role of a “Challenger” team member described?

- Provides specific knowledge and skills related to his field of expertise.
- Impulses the team to get on the job in hand and does practical tasks.
- Eases tension and maintains team harmony.
- Clarifies goals, promotes decision-making and delegates well.
- Questions effectiveness and presses for improvement and results.**

4. According to Peter Honey (2001), what is the role that "ensures that the team has clear objectives and everyone is involved and committed"?

- Challenger
- Supporter
- Leader**
- Thinker
- None of the above

Note: Correct answers are identified in bold.

### 9.3.3.2. Conflict Management Questionnaire

1. Regarding conflict management strategies, what is the name of the theory that was presented during the workshop of conflict management?

- International Conflict Management Theory
- Normative Conflict Management Theory
- Dual Concern Theory**
- Normative Concern Theory
- Dual Conflict Management Theory

2. According to the same theory, what are the 5 different strategies to deal with conflicts?

- Avoiding, Compromising, Forcing, Accommodating, Collaborating**
- Fighting, Accommodating, Competing, Collaborating, Ignoring
- Forcing, Collaborating, Accommodating, Compromising, Threatening
- Accommodating, Threatening, Collaborating, Avoiding, Ignoring
- Collaborating, Ignoring, Fighting, Accommodating, Competing

3. According to that theory, high concern for self and high concern for others produces a preference for what kind of strategy?

- Ignoring
- Compromising
- Forcing
- Accommodating
- Collaborating**

4. According to the same theory, how can the strategy of "accommodating" be described?

- high concern for self and low concern for others
- low concern for self and high concern for others
- intermediate concern for self and high concern for others
- low concern for self and low concern for others
- intermediate concern for self, paired to intermediate concern for others**

Note: Correct answers are identified in bold.

### 9.3.3. Behavioural Questionnaires

#### 9.3.3.1. CATME – B

How do you work in a team?

Think about the occasions in which you have worked in team and evaluate your behaviour by answering the following 5 questions. Each question asks about one specific aspect related to working in team and presents the description of different behaviours. Please, read carefully and for each aspect select only one description of behaviours based on your past experience. Remember that there are no right or wrong answers so please respond the most sincerely.

#### **Contribution to the team's work**

- 1. I do not do a fair share of the team's work. I deliver sloppy or incomplete work. I miss deadlines. I am late, unprepared or absent for team meetings. I do not assist teammates. I quit if the work becomes difficult.
- 2. I demonstrate behaviours described in both 1 and 3.
- 3. I complete a fair share of the team's work with acceptable quality. I keep commitments and complete assignments on time. I fill in for teammates when it is easy or important.
- 4. I demonstrate behaviours described in both 3 and 5.
- 5. I do more or higher quality work than expected. I make important contributions that improve the team's work. I help to complete the work of teammates who are having difficulty.

#### **Keeping the team on track**

- 1. I am unaware of whether the team is meeting its goals. I do not pay attention to teammates' progress. I avoid discussing team problems even when they are obvious.
- 2. I demonstrate behaviours described in both 1 and 3.
- 3. I notice changes that influence the team's success. I know what everyone on the team should be doing and notice problems. I alert teammates or suggest solutions when the team's success is threatened.
- 4. I demonstrate behaviours described in both 3 and 5.
- 5. I watch conditions affecting the team and monitors the team's progress. I make sure that teammates are making appropriate progress. I give teammates specific, timely, and constructive feedback.

(Ohland *et al.*, 2012)

### **Interaction with teammates**

- 1. I interrupt, ignore, boss, or make fun of teammates. I take actions that affect teammates without their input. I do not share information. I complain, make excuses, or do not interact with teammates. I accept no help or advice.
- 2. I demonstrate behaviours described in both 1 and 3.
- 3. I listen to teammates and respect their contributions. I communicate clearly. I share information with teammates. I participate fully in team activities. I respect and respond to feedback from teammates.
- 4. I demonstrate behaviours described in both 3 and 5.
- 5. I ask for and show interest in teammates' ideas and contributions. I improve communication among teammates. I provide encouragement or enthusiasm to the team. I ask teammates for feedback and use their suggestions to improve.

### **Expecting quality**

- 1. I am satisfied even if the team does not meet assigned standards. I want the team to avoid work, even if it hurts the team. I doubt that the team can meet its requirements.
- 2. I demonstrate behaviours described in both 1 and 3.
- 3. I encourage the team to do good work that meets all requirements. I want the team to do well enough to earn all available rewards. I believe that the team can fully meet its responsibilities.
- 4. I demonstrate behaviours described in both 3 and 5.
- 5. I motivate the team to do excellent work. I care that the team does outstanding work, even if there is no additional reward. I believe that the team can do excellent work.

### **Having relevant knowledge, skills and abilities**

- 1. I miss basic qualifications needed to be a member of the team. I am unable or unwilling to develop knowledge or skills to contribute to the team. I am unable to perform any of the duties of other team members.
- 2. I demonstrate behaviours described in both 1 and 3.
- 3. I have sufficient knowledge, skills and abilities to contribute to the team's work. I acquire knowledge or skills needed to meet requirements. I am able to perform some of the tasks normally done by other team members.
- 4. I demonstrate behaviours described in both 3 and 5.
- 5. I demonstrate the knowledge, skills and abilities to do excellent work. I acquire new knowledge or skills to improve the team's performance. I am able to perform the role of any team member if necessary.

9.3.3.2. DUTCH Scale

How do you manage conflicts?

Think about the occasions in which you had to deal with a conflict when working in team and evaluate your behaviour by answering the following questions. Remember that there are no right or wrong answers.

When I have a conflict, I do the following:

	Not at all 1	2	3	4	Very much 5
I adapt to the other parties' goals and interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I concur with the other party.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I insist we both give in a little.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid differences of opinion as much as possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to realize a middle-of-road solution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I search for gains.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I fight for a good outcome for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I examine issues until I find a solution that really satisfies me and the other party.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I stand for my own and other's goals and interests.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work out a solution that serves my own as well as other's interests as good as possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid a confrontation about our differences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to accommodate the other party.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I push my own point of view.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I emphasize that we have to find a compromise solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to make differences loom less severe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I examine ideas from both sides to find a mutually optimal solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I give in to the wishes of the other party.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I strive whenever possible towards a fifty-fifty compromise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to avoid a confrontation with the other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do everything to win.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(Van de Vliert, 1997)

9.4. Appendix D: ANOVA Test

**Overall Satisfaction**

	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	14.769	12	1.231	5.019	0.000
Within Groups	45.613	186	0.245		
Total	60.382	198			

Table 9 – ANOVA Test to the mean reaction scores of the 13 groups of participants.

**Overall Satisfaction**

Tukey HSD<sup>a,b</sup>

Master Course	N	Subset for alpha = 0.05		
		1	2	3
Marketing	20	5.10		
Management	16	5.31	5.31	
Management	21	5.38	5.38	5.38
Economics	10	5.40	5.40	5.40
Finance	11	5.45	5.45	5.45
Business Administration	22	5.50	5.50	5.50
HR Management	7	5.57	5.57	5.57
HR Management	9	5.67	5.67	5.67
Accounting	13	5.69	5.69	5.69
Marketing	14	5.71	5.71	5.71
Management	19		5.84	5.84
Services Tecn Management	14		5.93	5.93
Management	23			6.00
Sig.		0.075	0.073	0.070

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 13.453.

b. The group sizes are unequal. The harmonic mean of the group sizes is used.

Type I error levels are not guaranteed.

Table 10 – Tukey HSD analysis to the homogeneity of the mean reaction score of the 13 groups of participants.

9.5. Appendix E: Correlations

Master Course			Teamwork Score Index	Conflict Management Score Index
Accounting	Teamwork Score Index	Pearson Correlation	1	0.178
		Sig. (2-tailed)		0.673
		N	8	8
	Conflict Management Score Index	Pearson Correlation	0.178	1
		Sig. (2-tailed)	0.673	
		N	8	8
Management of Services and Technologies	Teamwork Score Index	Pearson Correlation	1	0.418
		Sig. (2-tailed)		0.350
		N	7	7
	Conflict Management Score Index	Pearson Correlation	0.418	1
		Sig. (2-tailed)	0.350	
		N	7	7
Management 1	Teamwork Score Index	Pearson Correlation	1	-0.171
		Sig. (2-tailed)		0.576
		N	13	13
	Conflict Management Score Index	Pearson Correlation	-0.171	1
		Sig. (2-tailed)	0.576	
		N	13	13
Management 2	Teamwork Score Index	Pearson Correlation	1	0.336
		Sig. (2-tailed)		0.416
		N	8	8
	Conflict Management Score Index	Pearson Correlation	0.336	1
		Sig. (2-tailed)	0.416	
		N	8	8
Management 3	Teamwork Score Index	Pearson Correlation	1	0.378
		Sig. (2-tailed)		0.165
		N	15	15
	Conflict Management Score Index	Pearson Correlation	0.378	1
		Sig. (2-tailed)	0.165	
		N	15	15
Management 4	Teamwork Score Index	Pearson Correlation	1	0.531
		Sig. (2-tailed)		0.176
		N	8	8
	Conflict Management Score Index	Pearson Correlation	0.531	1
		Sig. (2-tailed)	0.176	
		N	8	8
Business Administration	Teamwork Score Index	Pearson Correlation	1	0.067
		Sig. (2-tailed)		0.864
		N	9	9
	Conflict Management Score Index	Pearson Correlation	0.067	1
		Sig. (2-tailed)	0.864	
		N	9	9
Marketing 1	Teamwork Score Index	Pearson Correlation	1	0.509
		Sig. (2-tailed)		0.110
		N	11	11
	Conflict Management Score Index	Pearson Correlation	0.509	1
		Sig. (2-tailed)	0.110	
		N	11	11
Marketing 2	Teamwork Score Index	Pearson Correlation	1	-0.219
		Sig. (2-tailed)		0.544
		N	11	10
	Conflict Management Score Index	Pearson Correlation	-0.219	1
		Sig. (2-tailed)	0.544	
		N	10	10

Table 11 – Correlations between teamwork mean score index and conflict management mean score index by Master course.