Online Master Degrees - the MISE Case Study

Pedro Manuel Barros Ricardo Silva
pedro.ricardo.silva@tecnico.ulisboa.pt

Instituto Superior Técnico, Lisboa, Portugal

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Abstract

The online Master Degree in Information and Enterprise Systems (MISE) has been offered in Portuguese jointly by the Instituto Superior Técnico (the engineering school of the University of Lisbon) and Universidade Aberta (the Portuguese Open University) since 2013. In this paper we present the results of a case study about Master's Degree in Information and Enterprise Systems (MISE) based on 61 interviews to the students of the five editions, focusing on their perspective about MISE. The answers from the students were analysed, and three conceptual maps were designed for different student categories. We conclude that, despite the barriers, the students consider MISE a success.

Keywords: Distance education; distance learning; teaching online; master degree; e-learning; university.

1. Introduction

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) 'Education is a fundamental human right' [1]. However, teaching has gradually evolved from the most primitive forms of learning to match the needs of the current student's market. The traditional classroom education takes place with the simultaneous presence of professors and students, but with the Internet, online education has emerged [2].

Online education takes advantage of information technologies for teaching with increased benefits [2] in particular more flexibility [3]. These benefits also led to a growing adoption of online education, in a virtuous circle [4].

E-learning uses technologies (including computer networks) to exchange information and instructions with students – not only from the content provider but also from the students [5]. Learning is being transformed by these technologies (including multimedia formats, such as text, voice, pictures, video and so on) and their ability to extend interaction over time and distance.

On the other hand, the qualities that will be evaluated in a 'knowledge-based future' will be the ability to access and perceive the information made available. Society is constantly changing and institutions are being transformed [5].

Distance education (DE) applies new ways of learning without the presence of the student in the classroom, evolving 'from an anywhere to any time to any space delivery method' [6]. This flexibility is especially relevant to those students that

have a professional occupation and/or are unable to travel. However, the student must not only adopt e-learning but also demonstrate commitment.

The online Master Degree in Information and Enterprise Systems (MISE) has been offered in Portuguese jointly by the Instituto Superior Técnico (the engineering school of the University of Lisbon) and Universidade Aberta (the Portuguese Open University) since 2013.

In this paper we present the results of a case study about MISE based on 61 interviews to the students of the five editions, focusing on their perspective about MISE. The answers from the students were analyzed, and three conceptual maps were designed for different student categories. We conclude that, despite the barriers, the students consider MISE a success.

The paper is structured as follows. In the next Section 2 we review the related Work research area. Section 6 summarises the case study research method [7] and presents the MISE online master degree. Section 7 identifies the research questions. The design of the interviews is presented in Section 8, while the results are analysed in Section 9. Finally, Section 10 summarises the lessons learnt, main limitations, and future work in Section 11.

2. Related Work

The new information technologies, in particular, the Internet, have made accessing information without leaving home easier and simpler. Distance education has greatly benefited from these technologies, although there are still some challenges including

evaluating students. For example, using online asynchronous discussions we can record (whether in the text, video, etc.) interactions between students and professors that are more difficult in the classroom.

From a student perspective there are many critical factors that affect satisfaction, such as motivation aims, cognitive modes, and interpersonal behaviours [8]; perceived usefulness and perceived ease of use [9]; perceived flexibility [2]; and interaction with class participants, student usage, and gender [10]. One of the main problems in DE is still how the student is evaluated [11]. On the other hand, the flexibility and especially the lower cost of distance learning is very interesting for students [12].

Distance learning is a way of learning remotely without being in the regular face-to-face contact with a professor in the classroom [13]. The distance learning model brings many advantages, such as fewer students time, support from colleagues, and management support [14]; perceived usefulness, attitude, flexibility, clear direction, course quality, and learner self-efficacy [15]; and diversity in assessment, learner perceived interaction with others, and perceived e-learner satisfaction [16].

In summary, distance education still has some challenges but also has many benefits [14]. The information technologies, in particular, those based on the Internet, bring together professors and students. The new communication applications support new forms of dialogue [17]. Furthermore, these benefits will only increase with the development of improved and new information technologies, such as virtual reality.

3. E-learning

According to Nichols, e-learning is a bit difficult to realise within a definition. He argues that e-learning must be strictly accessible by using technology-based tools that are based on web-based and textedweb-distributed [18].

Information technologies will continue to increase in strength as the cost goes down. There are also two main effects on distance learning: the convergence of computers and telecommunications, and the progressively sophisticated growth of technology for teaching.

Benson proposes that e-learning is not only based on methods delivered via CD-ROM or Internet or intranet. However, it should also include audio, cassettes, satellite via satellite, and interactive television [19]. The learning environment is referred to by a Learning Management System (LMS), a CMS, a Virtual Learning Environment (VLE), or even a *Knowledge Management*

System (KMS).

In this context, the definition of e-learning to be used in this work is any learning experience via the Internet or any other digital format, where e-learning combines technology and pedagogy. What is important is the student's experience in this learning combined with digital platforms. In addition, not all content requires social interaction.

In short, e-learning has changed the way so many students and professors view distance learning and have become a dominant learning paradigm. It is, therefore, desirable to create interactive, quality content and multimedia content.

4. Massive Open Online Courses (MOOCs)

MOOCs have been increasingly developed from the point of view of universities, mainly for education but also for start-ups. At present, the main Massive Open Online Courses (MOOCs) reside on platforms such as Coursera[1], EdX[2], Udemy[3], MITx[4], Udacity[5] and FutureLearn[6].

'MOOCs is an online course with the option of free and open registration, a publicly shared curriculum, and open-ended outcomes.' [20].

MOOCs have been a trend of innovation, and experiences through the use of technology, which provides learning opportunities for a huge number of learners/students. It is simply a new way of learning. These courses are usually of short duration and low cost or paid access. These offer a middle ground between the online teaching and the highly organised and structured classroom environment. The mode of learning in the MOOCs is directed towards clearly organised goals and results. The professor provides the form and direction in which you want the student to follow to reproduce the best learning experience, forming groups and giving assessments, with goals and guidelines.

In subsequent generations, we will see if MOOCs will be able to overcome all the limitations that lie ahead. The main obstacles to MOOCs are as follows:

- To certify the students in order to satisfy the conditions demanded by the accrediting institutions and later the contracting of companies that at the level of the student can really be recognised by the MOOCs that did;

- Develop revenue models to make the concept of self-sustainable;

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[1] https://www.coursera.org
[2] https://www.edx.org/
[3] https://www.udemy.com/
[4] http://odl.mit.edu/mitx
[5] https://www.udacity.com/
[6] https://www.futurelearn.com

- Provide a better course experience and earn higher completion rates for MOOCs so they are still low at present;

- Deliver certificates or completion certificates that have some value in the market, so that they are accredited by competent entities and that they have accepted in accredited programs.

5. Nanodegrees

The Udacity platform has adopted a model based on MOOCs, creating the programs nanodegrees[7]. A nanodegree program is an online educational offering where most nanodegrees programs take between 6 months to a year to complete. The beginning of each nanodegree program usually begins at the time of student admission in this program. The amount is charged monthly, it means that the total cost will vary depending on how long the student takes to learn. According to Bidarra & Coelho, nanodegrees are just one example, but there are others: Coursera started 'Specializations', Udacity coined 'Nanodegrees', EdX has 'xSeries' and FutureLearn offers 'Programs' [21].

The nanodegrees programs present current curriculum produced by industry leaders and taught by specialised professors. There are no prerequisites, however, in some nanodegrees, there may be some distinct requirements as they differ by program. The minimum requirements include: being a self-motivated and motivated person to learn. Participation in this program requires consistently meeting deadlines; knowing how to communicate proficiently and professionally in written and spoken English; have access to a computer with a connection to the Internet.

6. Methodology

This research is based on the Case Study Research Methodology (CSRM) that is particularly appropriate when the boundaries between phenomenon and context are not clear. This methodology uses multiple sources to perform an 'empirical inquiry that investigates a contemporary phenomenon within its real-life context' [7]. A case study is usually based on in-depth interviews and includes reviews of records as well as observations and excerpts from their personal manuscripts.

The investigation of a case study stands out by leading to an understanding of a more complex issue or object. It can extend the experience or increase the consistency of what is already known through previous investigations. In particular, case studies emphasise the detailed contextual analysis of a limited number of events or conditions and their relationships. Researchers have used this methodology for many years within a variety of disciplines.

This case study about MISE focuses on the perspective of the students. We adopted a qualitative methodology and analysed the online semi-structured interviews (conducted using Skype) with NVivo, and designed three conceptual maps according to these student categories:

- Category 1 - the students that are currently enrolled in the master degree (1st year);

- Category 2 - students that have already finished all (or at least most of) the courses and now are working on the thesis;

- Category 3 - students that already discussed the thesis, and so completed the master degree.

Although we believe that MISE can be considered a success story since we could not find detailed data about other online master degrees, the paper leaves the readers to take their own conclusions [2].

Another research methodology that is also based on the opinion of a group of people is the Delphi method [22] in which the participants must be specialists, i.e. people that have knowledge, skills and/or experience in the research area. However, these students are not specialists in distance education. On the other hand, this method is particularly useful to reach a consensus, such as the reasons for giving up the master degree. However, in this case study, we preferred to take advantage of the variety of students to better understand their perspectives about MISE in general, not only their difficulties.

In this research we adopted the well-known six steps [7]:

1. Determine and define the research questions;

2. Select the cases and determine data collection and analysis techniques;

3. Prepare the data collection;

4. Collect data in the field;

5. Evaluate and analyze data; and

6. Prepare the report.

Case studies are usually complex because they involve numerous data sources, may include multiple cases within a study and produce large amounts of data for analysis. Researchers from many disciplines use the case study research method to build on existing theories, produce a new

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[7]https://eu.udacity.com/nanodegree

theory, dispute or challenge theories, explain a situation, provide a basis for applying solutions to situations, and (as happens in this case study) explore or describe an object or phenomenon [23].

The case study research method applies to real contemporary human situations and their public accessibility through written reports. The results of the case study relate directly to the everyday experience of the average reader and facilitate the understanding of complex situations.

The techniques used in this case study include interviews, concept maps, and surveys. Interviews are a type of qualitative method to collect data that are universally used in this research method that provides 'in-depth information pertaining to participants experiences and viewpoints of a particular topic' and tends to 'mostly be based on qualitative data, as these provide a richer and deeper description' [24]. Case studies are also appropriate for complex social research [25].

7. Research questions

The first step of the case study research method is precisely to determine and define the research questions [26] [27].

In this case study we intend to answer the following main questions about the MISE master degree:

- How many students are currently enrolled and have graduated?

- What were the criteria for choosing this master degree?

- Did this master degree met the expectations of the students?

- What are the main advantages of MISE?

- What are the main disadvantages of MISE?

- Was it worth attending the residential week?

- How could MISE be improved?

- What are the main differences between the three student categories?

The answers to these research questions, based on the perceptions of the students, provide a different perspective about a case study in online education. The answers to the research questions will be answered throughout the course of the document.

A successful case involves achieving the business purpose of satisfactorily providing your product/service to customers, in this case, are the students and can be considered a service the training offered to the students.

Meet the needs of students, professors and members of the environment and facilitate the production of content for students. In general, it must meet the needs of both students and content providers.

This case study focuses on distance learning students who are undertaking this online master's degree and whether this master's degree may or may not be considered a success story within online teaching [2] and existing masters. We adopted a qualitative methodology and conducted semi-structured interviews through Skype.

8. Interviews

A targeted selection of multiple respondents as research subjects was chosen to obtain a cross-section of opinions in the broad field of online master degrees. The information collected was analysed based on transcripts of the interviews and three concept maps.

The interviews are valuable as they are unstructured and can give new perspicacity into new issues [28].

Table 1 presents the number of students interviewed by category. Table 2 presents the number of students currently enrolled and those that already graduated from MISE.

Table 1: Number of students interviewed by category

Category	# of students
Students enrolled in the first year	15
Students working on the master thesis	31
Students that already graduated	15

8.1. Design of Interviews

For this case study we interviewed students from the 1st edition to the 5th (current) edition of MISE.

We started by searching for the main concepts related to feedback, interaction with professors [29] and improvements to the master's degree.

We used open-ended questions to guide the semi-structured interviews. There is some flexibility to change the questions, not only the order but the questions themselves [30].

Semi-structured interviews require a lot of skill from the researcher that must be very careful about the words and terms used in the interviews. Although the questions provide guidance to the interview, sometimes is difficult to control the interview. For example, sometimes the respondent tries to escape the question because the topic of the discussion is very sensitive by providing detailed, but irrelevant information. After the information collected is processed and the data are analysed, we can draw conclusions.

This analysis is complemented with three concept maps (one for each student category) to identify and understand the relationship between the main concepts, in particular, the advantages and disadvantages of online education as perceived by

the students.

The Skype interviews took place for six months according to the availability of the students. At the beginning of the interview, students were told that they could withdraw from the interview at any time, that interviews would be confidential and anonymous, and then a permission asked to record the interview. After the interview, the recorded audio was transcribed to text, and this paper presents some excerpts.

The students interviewed were between 24 and 74 years old. Their main motivation for applying to MISE was related to their career, personal development, or simply for their own satisfaction. In the following section, we present the results is much more detail.

9. Results & discussion

This section corresponds to the Prepare, Collect and Analyse step of the research method, and presents the direct analysis of the interviews as well as the conceptual maps based on the interviews.

Table 2 presents the number of enrolled students and graduates by edition. The percentage of students that graduated after starting the dissertation is around 50% in the first and second editions but falls dramatically in the third edition. The main reason for this fall is due to the fact that almost all students are working full-time, so most of them are unable to graduate in two years. (We expect that at least another 10 students will graduate in October 2018.)

9.1. Analysis of the interviews

In this section, we analyse the results from the interviews using the transcripts.

The software tool NVivo 12 [31] for qualitative data analysis was used to assign sections of text or testimonials to categories. This tool permits to stack quotation marks and exposes the patterns that were found and showed the pieces of evidence.

In this master's degree, there is a residential week at the end of the first year, so that the students are present with each other and with the professors as well. It is this week that students define their thesis topics. Figure 1 represent the number of students went to the residential week. Most students who have been considered the week very important and indispensable. Most of the cases did not attend this week was because of work-related problems and questions about their families. For example, there is the problem of reconciling the children's holidays and the students' own holidays. Besides, in some companies, it is more restrictive to combine the holidays since this week is not considered a week of exams of the master. This

week is an opportunity to choose the subject of the dissertation and meet your colleagues. With whom they worked throughout the year and this week is the opportunity to get to know each other personally and physically. Thus, they could change their opinions, of all master.

Through the NVIVO tool, we can observe the most meaningful information for this case study. All three conceptual maps were constructed through all the interviews made to each specific category of each corresponding student in that same category. In all, were made (sixty-two interviews for the total of two hundred thirty) is presented from the 1st edition of the MISE to the current 5th edition. It was possible to reconcile several factors of several students when they went against the same cause.

That is, many of the people they were looking for was the flexibility and being at a distance. For the fact that it is online greatly facilitates the lives of students who work and study. However, some of them have known of the course by friends who had already taken the course.

Most of the students who knew this master's degree online did so by searching the internet. Where they found more information on the Instituto Superior Técnico (IST) website and on the Universidade Aberta (UAb) website. However, some of them took ownership by some friends who had already taken the course.

Criteria for choosing MISE

We started by asking the interviewees what their criteria were in choosing this master's degree and not another. Most of the interviewees said that they preferred the criteria of being online and flexible, desktop related, theme interested and using information systems as well. And finally, they questioned the signature of the IST and its credibility.

Testimonies: '*It's important to acquire knowledge in an area that generates employment. I'm not a person of this area. The MISE gave me some insight into entering this area at work. The possibility of working in the area.*'

'*Initiation of an area that is the future. Information technology was the main area of interest for me. The fact that e-learning is only the beginning of the future. And this kind of teaching will become more and more common. And introducing the IST higher institute to this master's degree will give more credence to distance learning because it is a prestigious university as is the IST. I learned a lot from the professors. The University of IST and UAb are extremely qualified and have been selected for this master's degree. However, I also learned a lot from the students, the forums and the debates.*'

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The reasons for having a master's candidate
Considering the criteria for the students who chose this master's degree. We were able to understand the reasons for students to take a master's degree. Many students applied to this master's degree for the training itself and to add value to themselves. The low tuition fees compared to other equivalent courses, is a big advantage, even when comparing it with other countries.

'*I was stopped awhile. We are in a society that values certification very much. It has to be competitive in the labour market and be valued as well.*'

'*Evolution: acquisition of new knowledge introduces progression in my professional and academic career. Professional appreciation is acquired by being involved in new technologies. It opened doors for me in other areas. The master's degree grants other exits for us that only a degree does not confer.*'

Expectations about MISE
In a way yes, the master's degree corresponded to the expectations of all the students. Although in some cases students did not really understand what this master's degree was based on and how this teaching method worked. After all, it is a little different from regular and traditional teaching.

Testimonies: '*Yes, it was heavy in the level of hours and mental occupation. I expected it to have been less demanding.*'

'*Yes, due to the good quality of the professors, the details of the knowledge that is transmitted, shows the master's degree to be presented by a very well-planned organisation. The organisation allows the students to work at a constant pace and with adequate feedback from the professors. It controls learning and ensures that students have access to good teaching materials.*'

The advantages and the most positive aspects
Here the students were asked what positive aspects are present in this master's degree. Basically, it taught the students the ability to manage their time appropriately to reach a goal. Apart from that, there is an e-learning scheme allowing students to study at ease, to achieve their own time management. Students found the residential week as very useful both for themselves and for professors. So, they both get to know each other well.

Testimonies: '*Acquiring new knowledge is obvious. And the fact of being in e-learning is preponderant. The idea of these two universities getting connected was a fantastic idea. I just have to thank the coordinators to Prof. Miguel Mira da Silva and Prof. Henrique Mamede for the dynamics they place in MISE. They are people who motivate students, I think they are well organised.*'

'*The pragmatic way in which subjects are approached, the texts that are shared; the pertinence and timeliness of the themes shared with students; the flexibility of schedules and experiences of several people from several countries are very positive points.*'

The disadvantages and the negative aspects
Here it was asked what negative aspects are present in this master's degree. One of the major problems noted by students is the fact that there are no videos explaining the courses. Which would be a great advantage seen by the vast majority of students. The lack of real-time online sessions. To put the doubts to the students of the most varied subjects is a great lack. They need some contact tool with the professors that are assigned in a synchronous way.

Testimonies: '*There were professors who took a long time to give the answers to the students, to give answers to the doubts and evaluation notes. Some professors who teach at MISE are accustomed to a physical model, where they have their schedule of questions or go to college. And the students either go through times of doubt or meet in college and talk to the professor. And I think these professors did not make this change of perspective. Well, there are no students going to college and doubting professors. The students write their doubts at the times that can be at 3 am or at 4 pm and the professors do not say that it has to be reactive in the hour, but one or two days, a student is already waiting. Some professors are not prepared for distance learning.*'

'*I believe it is difficult for professors to control and monitor all students. In contrast, I feel there is no close proximity between professors and students. If there were many who gave up, they probably wouldn't abandon MISE. There is too much distancing online.*'

It was worth attending the residential week
The residential week was essential for all students since it's during this week where they define the themes of their dissertations. In addition, they get to know their colleagues they work with throughout the year in working groups. The professors of each of the courses were another important element in this week's meeting.

Testimonies: '*Yes, it was important because I had contact with the faculty. I got to confirm what I*

Figure 1: Percentage of students who went to residential week

already knew. It was a very competitive university for both parts, the IST and the UAb. Several thesis proposals have been presented, and we have been contacted for theses, which is necessary for a thesis. The dissertation is different there is not a certain obligation as in the courses. There is a parameterization of the times, you have to do this module to get the jobs done. If there is feedback from professors, this discourages students.'

'It is important to create bonds with professors and students. Imposition of the topic of the dissertation in the residential week, whereas, the courses of the thesis should occur two to three months before. People are not aware that it is in the residential week that they have to choose the themes.'

Sometimes there is a number of synchronous interaction between characteristics that may be especially attractive to individuals who feel inhibited or perceive a lack of competence in traditional social contexts. Some of these communicative features include increased anonymity, reduced inhibitions, controlled self-presentation, reduced interpersonal risk (e.g., face loss), and increased confidence [32].

Suggestions for improving MISE
MISE involves the functioning of the courses, the available materials, the Open University platform and it is a pedagogical model. The main suggestions the students made was to have more content based on videos explaining the story.

Testimonies: '*It would be useful to have already chosen a theme/guidance before going to the residential week. There are available proposals of the dissertation, e.g. one month before the actual week.*'

'*To have an instant messaging component embedded in Moodle. More interactivity from professors. There are explanatory videos in the courses that are possible to do.*'

'*There are many professors who are unaware of teaching e-learning and tend to belittle it a bit. There are misconceptions that people have about online teaching. The area that MISE addresses are very important.*'

Category 1
Many of the students who have been interviewed in this category 1, say that they need more feedback and have greater support from professors. Since this course is at a distance, and they need to feel the presence even from a distance, in it. The support and feedback provided to the students are small. Students need more follow-up. The students felt that in some professors there was a lack of interaction and whenever they interacted, their answers were not clear to the doubts established by the students.

In addition, students realised that some professors were not prepared for this new type of teaching. Likewise, they took a long time to respond and were not very interactive with the students.

An advantage, indicated by the same ones was the low cost of the masters when compared with others in other countries, like Brazil or the USA.

The level of participation within the groups was often found to be a disappointment because learners had wanted and expected more messages. Another essential point was the lack of time. There were three main patterns of participation: '*communicative*' learning in which individuals expressed concerns and answered to messages in the forum; '*quiet*' learning, in which individuals read mail, but rarely sent messages of their own; and the last, '*non-participation*', in which individuals would drop out of the forum completely for a period of time.

Many questions arise from these findings: How does the online environment shape discussion? Why do some students find it easier than others to contribute to forums?

Category 2
Category 2, the students who are doing the dissertation, they thought about choosing this master's degree for some simple factors, such as credibility and the prestige that has the University of Instituto Superior Técnico.

This university in partnership with Open University helps students through some flexibility in tuition payments. This is one of the most relevant points since there are some who cannot afford to pay for the course in an entire way. And this is a great help to them. The students consider this master demanding and heavy mainly the level of work requested by the professors.

In addition, causes abdication of friends in family. Testimony: '*Balancing family relationships. Some-*

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Table 2: Numbers of enrolled students and graduates by edition of MISE

	MISE				
Edition	**1st** **2013**	**2nd** **2014**	**3rd** **2015**	**4th** **2016**	**5th** **2017**
Enrolled (for the 1st time)	39	48	51	36	56
Enrolled in the dissertation	12	19	41	24	-
Total graduates	8	9	5	0	0
Total graduates/ enrolled in the dissertation (in %)	66,7	47,4	12,2	-	-
Total graduates/ enrolled (for the 1st time) (in %)	20,5	18,8	9,8	-	-

times I had to stop, to balance family relationships that MISE was stealing time. And the familiar tension was building up over time. And at this point, when that happens you need to stop a bit and gave the family the necessary attention. When the balance is restored, then it is possible to continue the work in MISE.' As there is no presence, there are no face-to-face classes, the students have great control over their time management, the way they study and the way they perform your jobs.

The residential week was considered by the students crucial. Due to it is this week that the students know each other. It is this week that the students know the professors with whom they had to carry out the most varied works and projects. In this way, network contacts are created through networking. This week is also useful by defining the themes of the dissertation. Some students felt some pressure when choosing their subject. professors were keen to have all students present on the residential week leave with a selected topic.

However, some students claimed to have no notions of how to build a dissertation because people were not clear with the research methodologies to be used. And that a good suggestion was that the dissertation themes come out sometime before the residential week, to give students time to think through the topic.

Students who apply for MISE are hoping to get a change of the job because they work in the area and need to have more management bases. Although not all students have the same goals and needs, other students simply want to continue to learn/study, get know-how or even refresh to knowledge. These are some of the objectives of MISE students when applying for a master's degree.

One detail recorded by the three categories was the fact that there was an evident lack of material in video format. This type of material gives another type of feedback to the students, gives another type of closeness. And the students miss it. Another suggestion would be the existence of real-time online sessions, with specific formats with the main focus on getting the doubts to the students in each one of the courses.

In this way, the student could solve their doubts in synchronously and practically immediate way. Thus, the student felt a greater presence on the part of the professor, the being synchronous part. And the student does not have to make a post and have to wait for the professor's response.

We can see that interaction with the students and the rapid responses given to the students is fundamental for the student to be motivated. In other words, do not demotivate and remain interested to continue the course.

Category 3

And finally, the last category is the students who finished MISE, category 3. Students strongly emphasise that residential week has been several important due to creating bonds of friendship between colleagues and professors. Most students attempted to choose a theme from the dissertation defined in the residential week that would be useful in their workplace or if it fits into their professional life.

Most of the time, the students are not aware either because they do not know it is in the residential week that is to define the courses of the dissertation. The residential week is very important. Nonetheless, some students are not able to be present due to some monetary problems, such as the trip to the place and the stay in the place.

The students who started on this kind of considering it to be a new adventure in order to learn abilities to analyse and also to learn new working methodologies. Students found that the material provided by the professors were very relevant. The case studies, the books mentioned in an excellent bibliography and above all the knowledge that is passed on to the students. Once again it is reinforced that students ask for and expect to have more multimedia content than they actually did. Some suggestions given are to have many kinds of reminders to remind professors to respond to students' doubts.

It is very important for professors to have a more active presence in front of the students because '*is easy to demotivate*' has to '*there is a greater accompaniment*' through some testimonies.

10. Conclusion

In summary, this study was designed with the purpose of finding some barriers for enrolled students to complete this master's degree, MISE. Through from the participation of some students who are currently in the first year of the master's degree, students who are doing the dissertation and finally students who have already completed in their entirety the master's degree. These were the three categories of students who were, interviewed.

With the case study carried out, based on qualitative data collected through interviews with NVIVO 12 software and conceptual maps. We presented which topics and factors of master's degree online have as advantages and some of the problems presented by students throughout this case study.

We present also on the basis of the work done by other researchers in diverse contexts, whose factors, questions and motives are related to the success of distance students. Understand the influences that can lead to the success of these students.

Some students said that it would be beneficial to have a master's mentoring system in order to help new students entering the course. This system could indeed provide adequate training and support for students' development in this important and rapidly growing area of online. The evidence would suggest that they are not useful, or at least until now in this course.

As a pointer for what is needed, [33] recommend that: '*Training programmes for online tutors need to provide an experience of online learning and teaching. It supported and mentored by experienced facilitators in order that online teaching and learning practice is of a high quality and positive benefits to all the stakeholders involved.*'.

This study has shown that distance learners can perform as well as or better than traditional learners in the management of technology master's degree programs, as measured by exams, term papers, and homework assignments [34].

Moreover, the distance learners in this study were observed to gain much more than a traditional education from their experiences. They gained a broadened network of valuable colleagues, skills in working with others and collaborating across distances, and many social skills beyond those offered by traditional classroom settings.

However, as in other studies [35], the results reported here suggest that successful distance learning requires extraordinary commitment, a high degree of maturity and high motivation from the student. Considering this case study it can be concluded that the MISE can be considered a success case within distance learning.

11. Future work

For future work, we will continue our investigation, do research with the focus on research in the focus group. In order to perceive in a much more active and present way the key points of each student relating to online teaching [2]. In particular, the success and failure of students regarding online education [2] and the success rates of the master degree in MISE. Likewise, deepen our knowledge within the area of distance learning. In these models, which are increasingly used both in universities and companies to train their employees or students.

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