

# STUDENTS' PERCEPTIONS OF ONLINE TEACHING AND LEARNING

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## ABSTRACT

The instructor in an online course needs online teaching experience and should adapt the course contents to the digital environment. The purpose of the present study is to gain a deeper understanding of students' perceptions of the pedagogical aspects of online teaching, pointing up characteristics of online courses that extant literature in this field has found reflected in different online and blended courses. Online courses necessitate meticulous planning by the instructor and adaptation through the student's learning. The research reported here related to the attitudes of 216 students, who participated in 52 courses delivered by 36 different instructors. Some of the courses included both face-to-face meetings and online lessons, while other courses were solely presented online. The research findings may be informative for instructors planning online courses and for students contemplating participation in online courses, in order to prepare in an optimal manner for the teaching, learning and evaluation processes.

**Keywords:** *Online course, blended course, distance learning, evaluation in an online course, online Instructional design.*

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## INTRODUCTION

Online learning is intended for individualising education and requires insight into the diversity range of students (Vanslambrouck, Zhu, Lombaerts, Philipsen & Tondeur, 2018). Research findings regarding different models of online lessons indicate that the effectiveness of online courses depends largely on their design, on the learners' characteristics and on the methods of teaching (Freeze, Alshare, Lane & Wen, 2019; Stephenson, 2018). Gauges developed to measure the quality of online courses indicate that four main characteristics contribute to learning in online courses: (1) Organization and presentation of contents appropriate for students with different learning methods; (2) Choice of suitable course goals and definition of objectives for evaluation; (3) Interactivity – facilitating interpersonal relations; and (4) Suitable use of technology (Middle States Commission on Higher Education, 2002; Moore, 2005; Phipps & Merisotis, 2000; Matters, 2014). While a diverse range of students attend online courses, teachers seem to lack the ability to anticipate students' individual needs (Gallagher & Haan, 2018).

The present study aims to deepen understanding regarding students' views of the pedagogical aspects of online teaching and learning as well as to examine how these four characteristics are reflected in different online and blended courses. The students were asked at the end of the courses about their methods of learning, their learning experience, their preferences and recommendations to instructors and students in a future course. These recommendations may contribute to instructors, who are planning future online courses and may inform students preparing to participate in online courses.

## Review of Relevant Literature

### Online courses in higher education institutions

In an era of dramatic technological development, many institutions of higher education have begun to explore possibilities to make teaching programs more effective with the implementation of online technology. According to Allen and Seaman (2016), more than one in four students (28%) now take at least one distance education course. Based on this growth, many faculty members are asked to develop and teach courses online that they had previously taught in a traditional, face-to-face classroom (Allen and Seaman, 2016; Seifert, Kritz & Feliks, 2020; Sedivy-Benton, et al., 2018). Very varied technological means enable them to enrich traditional learning and in certain cases even to completely replace some frontal lessons with online courses, or to combine online lessons with face-to-face meetings in blended courses (Moore, 2013). Blended learning facilitates the selection of the best combination of delivery methods to meet those objectives (Ward & LaBranche, 2003). Studies have identified and examined critical issues affecting the quality of online education such as communication, technology, time management, pedagogy, and assessment (Ko & Rossen, 2010; Limperos, Buckner, Kaufmann, & Frisby, 2015). Research attempts to find evidence of an academic advantage in terms of students' achievements in online in comparison to face-to-face courses have had conflicting results (Jahng, Krug, & Zhang, 2007; Zhao, Lei, Yan, Lai & Tan, 2005). Lower achievements in online courses are more frequent among students with a weaker academic background or with a low level of preparedness for online learning (Figlio, Rush, & Yin, 2013; Xu & Jaggars, 2014).

### The use of technology in online teaching

Online teaching can potentially respond to the student's individual needs, since it offers a wider choice of learning methods, including means of enrichment and an equal opportunity for every student (Pallof & Pratt, 2002). Moreover, it offers a large variety of teaching tools that are accessible on the Internet enabling interaction between the students themselves and between the instructor and the students (Wilson & Stacey, 2004) and provides a response to the absence of the instructor or student. Numerous studies have demonstrated that a student's active involvement in the learning process enhances learning, resulting in positive learning outcomes (Benek-Rivera & Matthews, 2004; Watkins, 2005). The fact that many web-based activities are interactive, enables instructors to create environments where students actively engage with material and learn by practice, refining their understanding as they construct new knowledge (Pallof & Pratt, 2003). Teaching a fully online or a blended course, necessitates familiarity with the added value of digital pedagogy (Martin & Bolliger, 2018; Seifert, Kritz & Feliks, 2020). Instructors should receive training so that they can make intelligent choices of technological media means to provide a pedagogical response (Byun, Hallett & Essex, 2000). Students should be helped to acquire basic technological skills needed to succeed and to improve their attitudes towards participation in an online course (Levine & Wake, 2000; Morgan, 2002) and increase their awareness of the importance of time planning, self-discipline and self-motivation (Golladay et al., 2000; Serwatka, 2003).

### Characteristics that contribute to learning in online courses

Online learning environments that emphasize interaction and collaboration are multimodal and provide a variety of learning tools to cater to diverse learners (Brown, 2000). The distance involved in online learning represents a psychological and communication gap and not just a physical gap (Moore, 2013). Regular and effective contact between the instructor and the students contributes to the students' achievements in an online course (Jaggars & Xu, 2016), and has been found to encourage students' commitment to the online course and improve their academic performances. Holmberg (1995) notes that instructors should form an interpersonal relationship with students in order to improve their motivation to succeed. Adequate instructional methods, support, course structure and design can contribute to student performance and satisfaction (Dabbagh 2007).

There are stronger advantages for teaching quality in a well-designed online course than in frontal teaching (Moore, 2013). Learning in a blended course allows the instructor to provide learning materials

which do not need the instructor's mediation. The level of discussion can be improved online, ensuring participation and activity by all students. According to Moore, the instructor's role is more like a guide, planning and mediating learning materials and encouraging students' interaction with him and other students in order to facilitate discussion and deepen understanding of course contents, while reducing the transactional distance.

### **The context of the research**

The research was conducted in a teacher-training college, serving approximately 8,000 students and 600 instructors. The choice of teaching method stems in some cases from the instructor's preference, system restrictions or pedagogic objectives. Often instructors are forced to "dive in head first" and teach an online course without first exploring the secrets of the relevant pedagogy for teaching online lessons. However, students experience online teaching in a variety of lessons and according to different teaching methods and are supposed to acquire the pedagogical-digital tools to equip them for teaching, learning and evaluation processes with their pupils, and so they should experience a variety of teaching methods to assist them to form teaching and learning models for their future teaching work.

### **Research questions**

The following questions guided the research:

1. What are the characteristics of the online lessons and courses?
  - a. What learning methods are preferred by students in online lessons and courses?
  - b. What methods are preferred by students to communicate with the instructor in online lessons and courses?
  - c. What methods are used to evaluate students' work in online lessons and courses?
2. What are the students' recommendations to the instructor teaching an online course?
3. What are the students' recommendations to students thinking of participating or required to participate in an online course?

## **RESEARCH METHOD**

The research used a mixed methods paradigm including quantitative and qualitative data collection and analysis (Johnson & Onwuegbuzie, 2004; Keeves, 1998).

### **Participants**

The courses included in the study were 52 blended or completely online compulsory courses studied in two semesters in the academic year. The courses included a broad variety of fields of knowledge. Instructors chose different extents of online participation according to their preferences, the college's requirements and system constraints.

### **Data Collection Tool**

1. A questionnaire including closed-ended questions (requiring responses on a five-point Likert scale) and open-ended questions. The questionnaire was validated by three instructional technology lecturers and members of the ICT unit in the college.
2. Insights and recommendations for learners and instructors in these courses. Each interview lasted approximately thirty minutes.
3. Documentary analysis of the characteristics of the different studied courses as they appeared in various reports from the LMS.

### **Collection of Data**

An online questionnaire distributed to all the students in the studied college's online and blended courses. The questionnaire distributed to 2,297 students (9.4% rate of return). Therefore, the sample of the present study includes approximately 2.7% of all students and 6% of the instructors who teach at the

academic institution where the research was conducted. 216 questionnaires were completed by students from 52 different courses who received the questionnaire online at the end of the courses. The ages of 56% of the students who responded to the questionnaire ranged between 18-25, the ages of 28% ranged between 26-35, while the ages of the other 16% ranged between 36-55. All the students were studying for a bachelor's degree, 94% of them were women. Among the students 36% had no previous experience of an online course, 34% of them had participated in 1-2 online courses while 35% of them had participated in 3-4 online courses and 5% had participated in more than 4 online courses in the past.

All the courses were implemented through a Moodle LMS. Analysis of the course characteristics through the reports from this system, revealed that between 15-267 students participated in each course.

### **Data Analysis**

Both qualitative and quantitative analysis were applied to the data. Thematic content analysis was used to interpret data, identifying main themes in the responses to the open-ended questions in the questionnaire (Gibton, 2001) in order to characterize learning habits, activities and evaluation in online lessons (Yin, 2008).

### **Validity and Credibility**

To reinforce the reliability of the analysis of the open ended questions, a second coder applied the coding scheme to half the transcripts. Quantitative analysis used descriptive statistics to analyze the responses to the closed-ended questions in the questionnaire.

## **FINDINGS**

The research findings are presented in response to the research questions:

### ***Q1: Characteristics of online lessons and courses***

In 46.8% of the courses, all the lessons were delivered online. In 36.7% of the courses most of the lessons were delivered online, while the other lessons were delivered face-to-face. In 13.3% of the courses half the lessons were delivered online while half were delivered face-to-face and in 3.2% of the courses, most of the lessons were delivered face-to-face while the other lessons were delivered online. The students noted the ease with which they found their way around the course ( $M=3.9$ ;  $SD=1.1$ ), the ease of access to assignments ( $M=3.8$ ;  $SD=1.1$ ) and ease of viewing materials ( $M=3.8$ ;  $SD=1.1$ ). It is noted that the distribution of the students' responses was relatively large ( $SD=1.1$ ).

### ***Student-instructor communication***

The students' indicated that communication with the course instructor was usually conducted through the institute's message system or through e-mail (49.1%). In 58.4% of cases communication with the instructor was conducted through the course site. In 15.1% of cases a personal face-to-face interview was conducted with the instructor and in 5.1% of cases a telephone call was employed. Among the students 2.8% noted that there had been no communication with the instructor and that when they turned to the instructor they received no response.

### ***Assignments and evaluation methods in online courses***

Approximately 150 students noted that the course evaluation methods used various assignment types. Evaluation methods: Six students (12%) indicated that they only received verbal evaluation over the semester and a final grade at the course's end. Four students (8%) noted that they received grades for assignments that they submitted over the semester and verbal remarks. Two students (4%) indicated that they had received comments and points for thought on the works that they submitted but no grade. Ten (20%) of the students noted that the course evaluation methods were unclear and that they did not receive any information at the beginning of the course about evaluation methods, something that caused

frustration. The students noted that they expect feedback on their lessons and assignments and constructive criticism with explanations regarding mistakes throughout the course and not just at its end.

### **Q2: Course work methods and students' sense of activeness and belonging to the group**

The different courses were characterized by the learning methods they employed. Students noted the extent to which the course provided the opportunity for individual work ( $M=3.7$ ;  $SD=1.1$ ), the extent to which the course gave the opportunity for collaborative work ( $M=2.4$ ;  $SD=1.3$ ) and also the extent to which they felt they took an active part in the course ( $M=3.1$ ;  $SD=1.2$ ). The students noted that the extent of investment in the course was in many cases beyond the hours in class ( $M=3.4$ ;  $SD=1.3$ ) since they often received weekly assignments in addition to regular learning and submissions. They also noted that the online communication facilitated personal expression in their individual work ( $M=3.1$ ;  $SD=1.4$ ) and permitted personal expression in collaborative learning in courses in which there were learning groups ( $M=3.0$ ;  $SD=1.6$ ). Most of the students agreed that online communication made more effective learning possible at any time and in any place ( $M=4.1$ ,  $SD=1.3$ ).

In order to learn about the students' feelings regarding learning methods in the online course, correlations were tested between the work methods in the different courses that ranged from individual work, work in pairs and group work and the students' sense of active participation in the courses, and also their sense of belonging to the group. These results appear in Table 1.

**Table 1.** Correlations between work methods used in course, sense of active learning and sense of belonging to the group ( $N=216$ )

The variables	1	2	3	4	5
1 Sense of active learning in the course	-				
2 Extent of individual work afforded by the course	.35**	-			
3 Extent of pair work afforded by the course	-.42**	-.08	-		
4 Extent of group work afforded by the course	.46**	.16*	.04	-	
5 Sense of belonging to the group	.43**	-.12	-.05	.54**	-

\*  $p < .05$  \*\*  $p < .01$

The data in Table 1 indicate that there is a correlation between the sense of active learning in the course and the work methods applied in the course: a correlation was found between the sense of active learning in the course and individual work (\*\*0.35) and with group work (\*\*0.46). A significant negative correlation was found between the extent of work in pairs that the course afforded and the sense of belonging to the group ( $r=-0.42$ \*\*), meaning that working in pairs correlated with less sense of belonging. Moreover, a correlation was found between the sense of active learning in the course and the sense of belonging to the course group ( $r=0.43$ \*\*). Insofar as the students felt they were more active over the course, so they also reported a stronger sense of belonging to the group.

### **Q3: Students' recommendations to instructors on the online courses**

The students were asked for recommendations to help the instructors improve the courses. The students' responses can be sorted according to four characteristics mentioned in the relevant literature: (a) organization and presentation of contents, (b) clarity of course goals and goals of evaluation, (c) interpersonal relations and interactions with the instructor and other students, and (d) the use of technology.

#### **Organization and presentation of contents**

Students suggested that the first session should be a face-to-face session to get to know the instructor and receive information on the course structure and requirements and to coordinate expectations, and that further classroom sessions should be devoted to gaining deeper familiarity and a sense of belonging to the course participants, for discussion of issues and for special activities. Just a few students preferred all the courses to be in the traditional face-to-face format, reasoning that discussions in class would be more effective to help them absorb the subject matter.

### ***Clarity of course goals and goals of evaluation***

The goal of online lessons was that the students would learn some of the course contents independently, in preparation for the classroom discussions or shared activities, summarizing their personal work towards the lesson. Some students preferred that all the lessons and the rest of the course contents should be uploaded onto the course site at the beginning of the course – and not gradually, so that each student could progress at their own pace. Most of the interviewed students (9 students out of 10) wanted the instructor to leave all the contents on the site until the end of the semester and wanted easy backup of the course contents at the end of the course so that they could access it in the future.

### ***Responsibility for management of learning***

One of the main purposes of the online course is that students can develop independent learning skills and be responsible for their own learning. Seven students (14%) found it difficult to learn on the online course, because they were asked to take responsibility for and manage the learning process. To succeed in their learning, they needed an external framework and instruction to manage the contents and learning methods.

### ***Teaching methods***

Students suggested that the course site could enrich learning materials to arouse creativity and thinking and provide explanatory and interpretative materials to clarify the subject matter, challenge and create interest, deepen contents and create a learning experience. S93 wanted "a high-level instructor, who enriches me with creative thinking and encourages thinking beyond the subjects and areas that I already know." Three students (3%) suggested that group assignments should be avoided, since collaborative learning was not effective and frustrating. In some of the courses, instructors used Internet films to illustrate phenomena, to transmit an idea and support the studied subject material. Some students noted that the availability of a range of high-quality materials on the Internet leads some instructors to increasingly use video films and that they personally prefer "less Youtube films and more films by the instructor relating to the studied subjects" (S57).

### ***Learning pace***

There were two students (4%) who suggested that in courses based on personal learning that do not offer interaction, the instructor should open each unit of the course ahead of time and not gradually, so that each student would be able to advance at their own pace. S68 asked: Why do they open a unit each week? Are they keeping state secrets? Don't they want us to see that there are a lot of assignments so we won't protest? It is unclear. Students noted, in certain cases there was a lack of consistency in uploading different assignments and sometimes they were not given sufficient time for their preparation. S93 explained: Assignments should be uploaded a week ahead of submission! The instructor would upload the assignment in the middle of the week and demand submission after two to three days – it's really not fair, because we have a loaded timetable and there is no logic that complies with the goals of an online course.

### ***Burden level***

102 students constituting 47% of the questionnaire respondents felt they were required to invest a relatively larger amount in comparison to the required in regular courses, especially because of the weekly assignments and the demand for continual learning. 71 students (33%) felt they were required to invest a little more in the course in comparison to the extent of investment required in regular courses and 43 students (20%) felt they were required to invest similar or less in comparison to the requirement in regular courses. However, some were willing to invest more than in a regular course because of the flexibility that the online course afforded and because of the advantage involved in continuous learning along the course. In contrast, 72 students (33%) preferred a lighter burden. For example, S141 wanted: "Less assignments, more exercises, to give assignments throughout the course without a final exam, to reduce the number of tasks and to increase the level of complexity; to alter the scope of the assignments to have more distance between the giving of the assignment and its submission."

### ***Interaction with the instructor and with other students during the learning process***

The students felt that instructor-student and student-students interaction on an online course encouraged their commitment to learning on the course and their success in the course. This was seen as compensation in an online course for the body language and facial expressions that would appear in a face-to-face meeting, increasing the ability to enjoy meaningful communication.

When discussion occurs on the forum, the students would like to see the instructor's active participation. Some students suggested avoiding group assignments because collaborative learning is not always effective and is frustrating: "during the course there were group tasks, something which is slightly strange, in such courses I didn't know any of the participants and we had to work according to each other's time schedule, it was really not effective" (S19). In contrast, there were others who were surprised that they were given an opportunity for collaborative learning and much interaction with other learners on an online course. B108 said: "the instructor was excellent, clear, challenging, interesting, varied ...I was pleasantly surprised by the online interaction, by the comfort of the site and availability of the instructor."

### ***The use of technology***

In general, the students expected the instructor to adapt the technological means to the teaching goals and the learning contents of the course and expected him to exploit the full advantages and benefits that the technology offered. Technological literacy is essential for participation in online lessons and it seems that most of the students in all the different courses had such literacy since they needed relatively little technological support. The students felt that consistent, friendly and comfortable organization of the course helped them to overcome technical difficulties.

### ***Q4: The students' recommendations to participants in an online course***

The students raised several main types of suggestions:

Preference for a learning method: some students recommended an online course that would enable them to go deeper into the contents while some recommended that students should avoid learning in an online course because of the large burden that it entailed.

Preparing for the use of technology: the students recommended prior preparation appropriate for the course demands with the requisite software for course learning and wanted help from technical assistance if needed.

Time management: the students felt it was important to manage their time well and arrange time for learning in order to succeed in the course and recommended that potential online course participants should perform the assignments on time, even immediately after receiving the assignments. They should submit them on time without delay and exploit the time of the online lesson for the course tasks. S5 recommended: "plan the time efficiently". Since there are many assignments that take not a little time and it may seem that you can complete them quickly, but they will continue to demand several hours to perform them." Others suggested that students should not wait to submit at the last moment because technical faults might appear due to the pressure on the system at the last minute.

Learning management: the students recommended that care should be taken to participate in the forum if the course included a forum, even if it was not activity that the student was familiar with. With regard to learning management, the students recommended checking the system frequently in order to be updated and to pay attention to submission times, as S17 noted: "most important, don't get stressed and remain calm", and to get assistance from additional helpful material on the lesson subject from the instructor or fellow students if necessary and to be ready to accept changes.

## DISCUSSION AND CONCLUSION

There are many course characteristics, students' work methods and preferences for learning, also different methods of communication with the instructor that are not always predetermined. The level of clarity of course goals and the manners in which the teaching is shaped, use of types of assignments and types of evaluation methods may differ from course to course. Discussion of the findings and recommendations are now presented according to the four above-mentioned characteristics.

### **Organization and presentation of contents:**

The research findings indicate that both the instructors' design of online lessons and students' preferences for different learning methods show much heterogeneity. Attending a face-to-face meeting is very helpful to students in order to coordinate expectations and for appropriate preparation and also improves commitment to course learning. If a face-to-face meeting cannot be organized, an online synchronic meeting or alternatively a recording by the instructor relating to demands and expectations concerning the course should be considered.

The research findings support previous findings indicating that blended learning is the ideal approach to implement the strengths of face-to-face learning with online learning, develop students' skills and provide essential information for their success (Bonk, Olson, Wisher & Orvis, 2002). This combination enables effective adaptation of teaching methods, enhancement of pedagogy and improved access and flexibility.

Instructors in online courses need online teaching experience to adapt course contents to a digital environment. They also need a supportive environment to successfully develop the online course. The instructor should be able to control the a-synchronic communication means. Time management skills are essential to enable the instructor to properly organize the site and provide feedback according to expectations. Clear instructions at the beginning of the course should correlate with the manner in which the course is presented and run and actual course demands. Moreover, the instructor needs to give feedback for students' works, considering their questions and promoting discussion in order to deepen their understanding. The course instructor should adapt the teaching to the contents as fit for online learning and when possible should consider holding one or more face-to-face meetings or synchronous sessions. In most large classes face-to-face meetings may not be possible or essential, since this would necessitate coordination of the instructor's timetable with that of the students, and a learning space that could contain all the learners or dividing them up into groups whether simultaneously with several instructors or in different sessions for different groups. Face-to-face lessons should be exploited for activities where interpersonal and immediate reactions are important, while it is possible to use a-synchronic lessons to involve all learners but at a flexible time. The literature indicates that students should be aware of the course structure, the course demands and the fact that online components require self-discipline (Collis, Bruijstens & van Veen, 2003). They should know the syllabus, the work environment, course goals and the communication means and ways to access assignments and receive technical assistance.

Despite the students' recommendations, it is not possible in all courses to provide the students with all the course contents in advance and some students may be overwhelmed by exposure to all the course contents at the beginning of the course. In some courses, acquisition of contents at a later session depends on previous knowledge and it is important to plan the manner and pace of progress for the students. Although some of the students prefer to work and to submit their assignments independently, others prefer strong interaction over the course, so it is important to vary the teaching methods and to offer students teaching methods that create high levels of learner involvement.

### **Clear course goals and evaluation goals**

It seems from the findings that those instructors for whom the course was their first online teaching experience, learned about the students' needs from their feedback and this enabled them to recommend suitable teaching methods along the course. The students indicated that different instructors had different



preferences for communication methods during the course. It seems that instructors who were not used to teaching online, initially reacted infrequently and were unaware that they needed to be accessible to students' requests even beyond the lesson time in an online course. Usually, more experienced instructors defined the means and scope of communication from the beginning. In contrast, some students did not refer to the instructor either because they did not feel comfortable to do so, or because their requests were answered by fellow-students on the course who knew the answer or they turned to the instructor and then shared the answer with the other course students. Publishing and updating students' Frequently Asked Questions throughout the course may reduce requests regarding those questions since they provide a response to the students' queries.

In order to provide appropriate responses to the needs of different students, it is beneficial to enrich the contents beyond the compulsory course subject matter, to allow students who want to go deeper into the subject to study further materials and also to expose the students to various teaching and evaluation methods.

In any case, the students request was that the instructors should clearly state the manner of presentation of materials in the course while clearly distinguishing compulsory course contents from enrichment materials. The students felt they had a large burden in distance-learning courses. This feeling stems mainly from the fact that in an online course, even the lesson time is exploited for work and it is obligatory to take responsibility for their learning, to perform assignments regularly and constantly study the teaching materials. This is because in online teaching, most of the responsibility for learning is imposed on the learner and often the student is expected to regularly interact with and cooperate with fellow-students, in individual or group work. A significant proportion of the students were willing to invest more than demanded in a regular course in order to benefited from the flexibility regarding time and place of learning offered in an online course. Students value receiving the instructor's feedback close to the time of assignment submission, this helped them to understand the subject matter and to know what their status is over the course.

#### **Relations between the instructor and the student**

As for interpersonal relations, the students attributed importance to the quality of interpersonal interaction that the course offered. This goes in line with the "transactional distance" construct (Moore, 2013), which addresses the importance of the course Structure design, the dialog and interaction applied in the course and the student's autonomy with regard to the learning method and learning pace.

In order to create a sense of belonging in multiple-participant online courses, the instructor can provide feedback with general consideration of the submitted assignments, respond to Frequently Asked Questions and also respond to unusual ideas proposed by the students. Another instructor might create a learning space in which each student could observe other students' submissions. As suggested in previous research, students can be divided into small groups of 15-20 students for participating in online discussions and to perform the collaborative activities (Autor, in press; Vanslambrouck, Zhu, Lombaerts, Philipsen & Tondeur, 2018).

In an online course there are no facial expressions, and considerably more effort is invested to initiate and form significant communication. The instructor's or instructor's presence needs to be outstanding in comparison to a face-to-face course. The instructor needs to guide, instruct, encourage, and share with others and provide regular feedback over the course, because in an online course the students are mostly active and expect consideration.

#### **The use of technology**

Guidance should be provided for instructors so that they can make intelligent choices of media technology types to respond to pedagogical needs. In this way they can engage learners in online learning activities that require collaboration, communication, social interaction, reflection, evaluation, and self-directed learning. In line with the conclusions of previous research, the present research showed that students needed basic technological skills in order to succeed in an online course and, when they possessed these skills, this also improved their attitudes toward the online course. (Levine & Wake, 2000: Morgan,

2002). It is also important to make students aware of the significance of time management and self-discipline in online courses.

### Suggestions and Practical Recommendations

It should be remembered that the students usually experience online teaching in several courses. As they progress, the students learn to distinguish contents that are more appropriate for online teaching in comparison to lessons where their presence in the classroom is advantageous and meaningful and they expect their instructors to apply this distinction in the course. Online learning is more flexible and the technology provides a response for the absence of the instructor or student. Online teaching necessitates a clear definition of the learning goals, a clear schedule stating due dates for submissions, teaching design that is attractive and challenging and the exploitation of the computerized teaching and learning environment in an optimal manner.

The research findings indicate a large variety of online lessons that can be shaped by different instructors in different subject matters and many different student preferences for a variety of learning methods. There should be system-wide thinking in teacher-training institutions regarding the determination of the optimal number of online courses that students should study each semester, support for instructors teaching online courses in order to offer varied types of practice for the students, with different online teaching methods. Online lessons should also be planned as far as possible for the borderline hours of the day, so as to enable students to study at their preferable time.

Careful planning of the teaching materials, the discussions and the level of interaction on the course, the course tasks and the evaluation methods can be very useful to the students and make the instructor's investment in the course management and planning of the necessary support setup well worthwhile. These understandings constitute a challenge for instructors who are still not skilled in the planning and teaching of online lessons. It allows them to embrace the opportunity and join those who are already enjoying this new teaching strategy, teaching with effective and intelligent use of technological means to enhance course participants' sense of belonging to the group and to the course and to offer experiential and challenging lessons online.

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