# #02

# THE TIME FACTOR IN AN ONLINE GROUP COURSE

**Marc Romero**

eLearn Center
Universitat Oberta de
Catalunya ( Spain)
mromerocar@uoc.edu

## The time factor in an online group course from the point of view of its students

## ABSTRACT

Since its founding, ICTs have formed an integral part of the educational activity of the UOC. From the outset, the university designed a specific, cross-programme course on digital literacy that has been evolving ever since in line with the needs of its students. The current basis of the course are the central ICT competences inspired by the Declaration of Bologna (Guitert & Romeu, 2008; Romero et al., 2010). The ICT Competences course uses a project-based working methodology to facilitate the progressive acquisition of ICT competences.

Our current research is part of a wider research project that seeks to develop an evidence-based understanding of our students' opinions of the ICT competences course and how this could be improved by taking into account the perspective of learners.

One of the specific aims of this research is to describe how the time factor affects the collaborative learning activities carried out on the course, taking into account descriptive research using the survey as a data-gathering tool.

The data gathered demonstrate that the time factor is a key element in the development of collaborative online learning activities, where the best rated are those related to competences.

By analysing the effect of an individual's time planning on the group planning, we ensure that, in the view of the students, the first one allows the second to become a reality; it also contributes to the successful completion of the course project.

## KEYWORDS

*Collaborative learning; Descriptive research; ICT competences; Time factor; e-Learning*

## INTRODUCTION

The collaborative learning concept can be defined as "an instruction technique where students are placed in small groups or pairs while working on a specific task and are encouraged to communicate with their partner by sharing ideas and working towards a common goal". (Day, Boatman, Kowollik, Espejo, McEntire & Sherwin, 2007, in: Albers, Braack & Verseput, 2008)

Van der Veen (2001, in: Bitter-Rijpkema, Sloep & Jansen, 2003) explains that collaborative learning consists of "the series of activities in which groups of learners work together in order to complete a task".

According to Guitert et al. (2007), collaborative online activities can be a learning strategy that enriches the individual learning process. Moreover, the virtual environment ensures that the cooperative process is carried out while meeting the individual needs of space and time, responding to a more independent way of learning that is led by the student.

The activities to be carried out in order to complete the task assigned to the group can have many levels of flexibility. Collis and Moonen (2001, in: Albers, Braack & Verseput, 2008) defined five different types of flexibility: time component, content component, entry requirements, flexibility related to instructional approach and resources, and delivery and logistics. Our study will focus on the time component.

"Collaborative learning can be made flexible by using flexible times for submitting assignments. However the collaborative character of this type of learning demands certain inflexibility because of the dependency of students from each other." (Collis and Moonen, 2001, in: Albers, Braack & Verseput, 2008). This is even more explicit in online collaborative learning, where the time management of the individual and the group is a key issue.

According to Albers, Braack and Verseput (2008), time management and organisational skills are essential in online collaborative learning activities, since students not only have to manage their time schedules, but they have to spend time managing technological tools too. Kitsantas and Dabbagh (2004, in: Orvis & Lassiter, 2007) explain that more time is spent on time management in these types of activity because of the challenge of adapting to the use of the technology in a learning activity. Time management can be an issue for students; in these cases, structured time frames for work are useful tools (Orvis & Lassiter, 2007:61). This increase can be due to the fact that "Online teams tend to have more of a task-focus and less of a social-focus than traditional teams, and virtual teams appear to lessen their task-focus over time" (Walther & Burgoon, 1992, p. 58).

Nonetheless, the increase in the time spent on collaborative online learning not only depends

on technological issues: "learners in an online environment tend to require more time to develop trust, cohesion, and shared cognition than those in face-to-face courses" (Orvis & Lassiter, 2007).

Teachers have an essential role in ensuring the success of online collaborative learning. They must orientate the process and clarify the learning objective. Teachers must agree on how long the activity will probably take, allowing time for socialising, reading essential material, preparing for the activity and engaging in discussion. They must apply several strategies, such as reminding students of the time frame for completion of the task and discussion contributions.

This paper is part of a research project that seeks to determine how students of the ICT Competences course perceive the time factor in the collaborative learning activities they carry out. Our research is a part of a wider research project whose basic aim is to obtain an understanding of our students' opinions of the course in order to improve its instructional design.

Firstly, we will describe the context and main characteristics of the ICT Competences course, before moving on to describe the research methodology. We will then present the results of the research and, finally, our conclusions and prospective.

## CONTEXT: THE ICT COMPETENCES COURSE

Since its founding, ICTs have formed an integral part of the educational activity of the UOC. From the outset, the university designed a specific, cross-programme course on digital literacy that has been evolving ever since in line with the needs of its students. The current basis of the course are the central ICT competences inspired by the Declaration of Bologna (Guitert & Romeu, 2008; Romero et al., 2010).

➤ Search for information on the Internet.

➤ Produce digital information.

➤ Distribute digital information.

➤ Acquire communication skills in an online environment.

➤ Learn about the basics of digital technology.

➤ Plan and manage a virtual project.

➤ Acquire a civil digital attitude.

➤ Acquire team-working skills in an online environment.

The ICT Competences course uses a project-based working methodology to facilitate the progressive acquisition of the ICT competences above. Students develop an online project in groups by conducting research on a specific area of study. This helps them to acquire all the necessary competences to complete their programme successfully. The project is carried out with a series of connected activities that contribute to the development of a final report in any format (text document, wiki, audio-visual production, depending on the programme taken) We can divide the activities carried out over the course into four phases (Figure 1).

UOC eLEARN CENTER

**Figure 1. Phases of the project methodology in the ICT competences course on one of the UOC's programmes.**



At the first stage, the basic aim of the activities is for students to meet each other and form groups of four people. Once they have formed groups, the students begin planning the project and designing the group's initial agreements.

At the second stage, they begin to develop the project and assess their work as a group, in order to improve their efficiency in the next stages.

At the third stage, they create a draft version of the project and assess their work again, focusing on the group's time planning in order to make the necessary adjustments for the next stage.

At the fourth and final stage, the students complete their project and distribute it to the rest of the class. They then discuss the projects completed during the course in the classroom.

Time planning is a fundamental issue at all stages of the project. Students are asked to design an individual time schedule to share with their peers in order to develop the group time planning. This group planning is revised and improved at each stage by all of the group members.

Each stage of the project is completed with a continuous assessment activity called a PAC (prova d'avaluació contínua), which is assessed by the teacher. The learning process is guided and facilitated by the teacher at each stage of the project, as the teacher's continuous feedback is essential for successful completion of the project.

The assessment of students involves the continuous evaluation (as a group and on an individual basis) of the activities to ensure the progressive validation of the contents and the process developed at every stage.

Our course is adapted to the use of Web 2.0 tools. All students upload their research links to a social bookmarking network (Delicious) and some use GoogleDocs to plan and develop their projects, as well as wikis and online audio and video editing (Jaycut), depending on the requirements and needs of the programme.

# METHODOLOGY

Our current research is part of a wider research project that seeks to develop an evidence-based understanding of our students' opinions of the ICT competences course and how this could be improved by taking into account the perspective of learners.

One of the specific aims of this research is to describe the influence of the time factor on the collaborative learning activities carried out as part of the course. To achieve this aim, a survey was designed that took into account descriptive analysis as a research methodology.

Considering the existing paradigms in social research defined to separate the dichotomy between the quantitative and qualitative paradigms, our study can be framed in the interpretive paradigm. This positioning is due to the inability of isolating the real experiments, dividing the elements that compose them. We cannot understand student learning, activities and training tools without the context that surrounds and unites them.

According to Blanco Gutierrez (2003), this paradigm encompasses a set of methods whose interest centres on the study of the meanings of human actions and what occurs in a given context. It is about exploring relationships between various phenomena through the observation of a natural context for carrying out its description.

Its purpose is not for casual explanations of social life and human, but to deepen knowledge and understanding the meaning of a reality.

Returning to our study, we must emphasise that this is a descriptive research project in the sense that "the researcher describes what happened during the research process" (Cohen and Manion, 1990. p.101) Although this term originally referred to biological aspects (considering the organisation of living beings), in education, its meaning is much broader and varied in nature, allowing us to describe the performance of a myriad of training situations.
Descriptive studies "involve a detailed description of the characteristics of an educational phenomenon" (Gall, 1996. p.75), so qualify for our research, from the methodological point of view, such as a study of the paradigm itself interpretation, so that our research is based on the description of a training experience applied to a group of people.

Our research questions are:

A) How do students assess the competences related to the time factor and collaborative work? Do they find them useful for the course?

B) How much time do they think is necessary to complete the course?

C) How does individual work affect group work and vice versa in terms of time management?

The best way to ask these questions is to know students perception about the course; for that reason, we decided to carry out a descriptive research using the survey as a data-gathering tool.

Manion, Cohen and Morrison (2007, p.205) assure that: "surveys gather data at a particular point in time with the intention of describing the nature of existing condition," according to descriptive research.

We designed the survey and administered it to the students in ICT Competencies course. Considering the time management a relevant issue in this course, is one of the key subjects in our research, being in almost all sections of the survey which are:

➤ The first section is related to general information about participants, such as student gender, year of birth.

➤ The second section analyses their perception about the competences acquired during the course.

➤ The third section is related to the activities developed in the first phase of the project, including the individual and in-group time planning.

➤ The fourth section is related to the tools they use to develop the project.

➤ The fifth section takes a look at the temporal dimension of the course, focusing on the time they spend during the individual and in-group activities for each assignment.

➤ The sixth section analyses their perception about the teacher's role during the process.

Finally, the fifth section is related to the training resources available in the virtual classroom.

The survey was administered online to all ICT competences' course classrooms (one survey for each program) and participants completed them once. It consisted of 34 Likert scale items (valued in a 1 to 3 scale). The data gathered was analysed using the methods of descriptive statistics.

It was completed by 952 students (configuring a significant sample: 34% of the ICT competences course's students in the semester analysed).

## RESULTS

We will now address the research questions that motivated the present research.

### A) HOW DO STUDENTS ASSESS THE COMPETENCES RELATED TO TIME FACTOR AND COLLABORATIVE WORK? DO THEY FIND THEM USEFUL FOR OTHER COURSES' DEVELOPMENT

We can assure that the competences related to time planning and collaborative work are the best rated ones (in terms of achievement) in the survey.

In both cases, the mean is near to the highest rating (3), being in 2,63 in time planning and 2,74 in collaborative work. Students truly perceive a high level of achievement of these competences, above searching information through the Internet, acquire communication skills in an online environment, disseminate digital information, and purchase a digital civic attitude.

These ratings are repeated in terms of utility: approximately the 60% of the students (58% in the case of time planning and 60% in the case of acquiring team-working skills in an online environment) find both very useful for other courses at the UOC.

## B) HOW MUCH TIME THEY THINK IS NECESSARY TO COMPLETE THE COURSE?

As figure 2 shows, the results are quite disperse. The most part of the students think that between 6 and 10 hours per week are necessary in order to complete the ICT competences course. But this group is only 2% above the next one. We can see that the maximum hours per week they think is necessary to complete the course are 10.

Figure 2: Hours per week they need to complete the course



- Between 1 and 5 hours for week
- Between 6 and 10 hours for week
- More than 10 hours for week
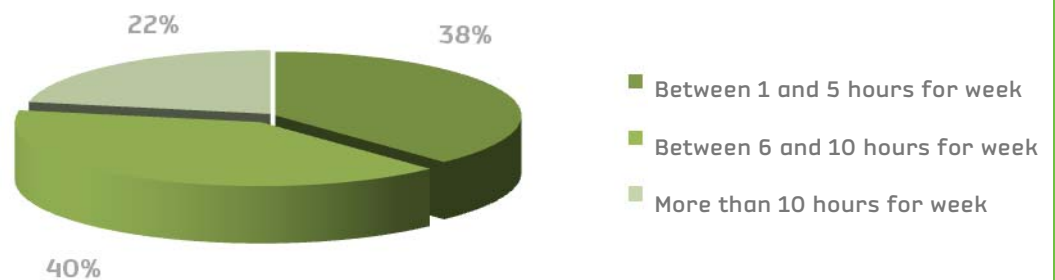
The data gathered from 78% of the sample contrast with most of their contributions in the qualitative part of the survey about time factor, "this course should have a greater number of credits" … I spent more hours than I expected….". Especially considering that the estimated maximum hours per week for most students in the item previously analysed matches with the 6 ECTS of the course (15 weeks approx. X 10h required to complete the course= 150h and 25h x 6 ECTS = 150h).

However, some of the complaints about the time they dedicate to the course can be probably written by students from the group that thinks they need more than 10 hours to complete the course.

## C) HOW DOES INDIVIDUAL WORK AFFECT TO GROUP WORK AND HOW GROUP WORK AFFECTS THE DEVELOPMENT OF THE PROJECTS IN TERMS OF TIME MANAGEMENT?

We formulated some questions in the survey to find out how students perceive the influence of their own time management in group's time management.

**Figure 3: Individual Time planning usefulness for Group Time Planning**
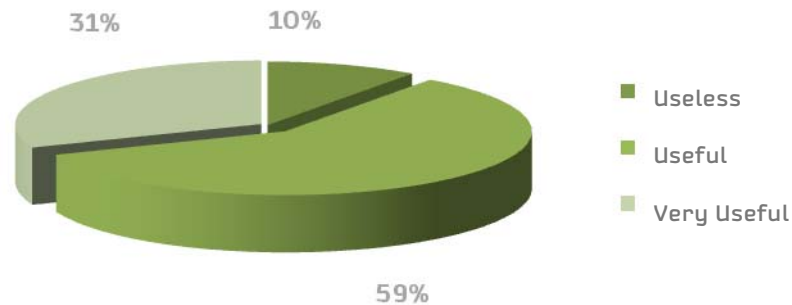


As can be seen in figure 3, individual time planning is very well rated in most of cases. They think that this activity is useful for the group planning; this can be one of the factors that explain how time management competences are rated in the previous sections of the survey.

This item is only low rated by approximately 95 students, but we cannot figure out the reasons of this bad perception on this activity. These rating are supported by some of the groups' self-assessment activities: "Individual time planning helped us to adapt our different timetables to group time-table…", "We had to do a lot of arrangements but individual time planning was useful in order to organize our group work". "I think that time planning will be useful to complete other courses and the program".

All these data demonstrates that individual planning is a key activity for collaborative learning in our course's framework.

**Figure 4: Group Time planning usefulness**
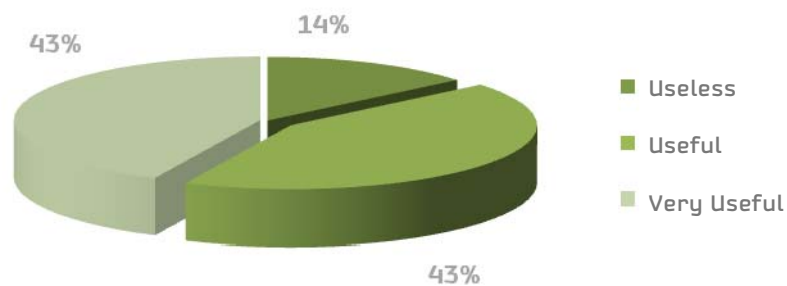


As figure 4 shows, group time planning obtains a lower rating than individual time planning. There are 133 students who think that group time planning is useless to develop the virtual project. But the rating still is very high in general terms: 819 students think that this activity is useful to carry out the group activities of the course.

In the qualitative analysis of the groups, we have seen many references about group time planning utility. Some examples can be quoted:

"We have found relevant differences between our individual time planning but the aims of our group time planning have been achieved. We conclude our project with a great impression about teamwork."

"As a strength, as we commented in our blog, we want to emphasize our group time planning. It would be harder to keep up with the pace of the course without it, and we could not achieve the course's objectives".

But if group time planning has not clear guidelines, it can be an issue in groups' development:

"One of our group's weaknesses has been time planning: we haven't got a clear planning and we have carried out the project randomly"

"We thought, at first, that everything would

turn out as planned (I speak from my own experience), but something always comes out and is compulsory to rethink the time planning".

"The first time planning cannot be exactly designed: it has to be always changed later, but on the other hand, these modifications helped us learning how to carry out a project."

And this group activity involves more work: "However, we will continue revising time planning exhaustively and we will introduce changes if it is necessary"

We had to modify time planning. The truth is that is very difficult to adhere to the proposed Schedule, we have a lot of duties to fulfil."

Subsequently, students were asked to rate they workload for each course's activity, gathering the data shown at table 1:

Table 1: Student's workload. Expressed in %.

|  | PAC 1 | PAC 2 | PAC 3 | PAC 4 |
|---|---|---|---|---|
| Inadequate | 4,5 | 3,8 | 3,3 | 2,4 |
| Adequate | 61,9 | 53,8 | 50,8 | 51,3 |
| Very appropriate | 33,6 | 42,4 | 45,9 | 46,3 |

PAC 1 gets de lowest ratings, this fact can be explained by, firstly, student's need to adapt to the pace of the course and the fact of carrying out most activities individually. Moreover, project is more developed in the latest PAC and students perceive they need less time to complete the activities. The other activities get a higher score progressively, which makes us think that the collaborative work that is more intensively initiated at PAC

2 has got something to do with it. On the other hand, we observe in all cases a decrease in the perception that the workload is inadequate in front of the "very appropriate" rating.

If we analyze students' perception about balance between individual and group workload, some differences can be seen (table 2):

**Table 2: Perception about individual and group students' workload. Expressed in %.**

|  | PAC 1 | PAC 2 | PAC 3 | PAC 4 |
|---|---|---|---|---|
| Inadequate | 9 | 8,4 | 7,9 | 2,4 |
| Adequate | 58,2 | 50,8 | 47 | 51,4 |
| Very appropriate | 32,8 | 40,8 | 45,1 | 46,2 |

A gradual increase in the frequency of positive ratings can also be seen. We could deduce that a better distribution of groups' workloads is involved in the perception of individual students' workload. Obviously, the experience factor has got something to do with it, because the assessment of the balance between both workloads is increasingly positive.

In qualitative analysis, we found that most complaints about the balance between the two workloads occurred in PACs 1 and 3, as can be seen in the following examples:

"PAC 1 has an excessive workload: we have to search info using social bookmarking, join a discussion forum to introduce ourselves, set up teamwork, decide the subject of the project, define group's operating agreements, ... Sometimes I felt overloaded..."

"PAC 3 asks us too much, is where we dedicate more time to develop the project and we have to do self-assessments, spreadsheet and group reflections. We've learned useful stuff, but we needed to dedicate more time to the project."

However, gathered data confirm that from PAC 2, which more intensive collaborative work is began; group's dedication affects the students' perception about time spent in their individual tasks, seeing that the last one is managed more efficiently.

## CONCLUSION AND PROSPECTIVE

As can be seen from results shown, time factor is a key element in the online collaborative learning activities' development.

Most valued competences are those related to time factor and collaborative work, which is not surprising given the emphasis of these two elements in the course's design. In addition, high ratings on the survey demonstrate that students are aware of its importance.

Considering time students need to complete the course, data gathered show the largest group of students admitted to dedicate between 1 and 10 hours per week to the course. Students seem to be satisfied with their workload, as the calculation of hours dedicated to the course does not exceed 6 credits ECTS. However, there a sector of students complains about course's workload in the qualitative part of the survey.

If we analyze, according to students, the individual time planning's influence on the group planning, data gathered (figure 3 and table 2) we can see that the first one helps the second to be more realistic; it also helps to finish the project successfully.

Group Time planning helps improving students' perception about individual dedication, because they feel that the performance of group tasks represent less time when they are well planned.

## IMPLICATION FOR PRACTICE TEAM

Considering the importance of time factor in our course's development, this is an issue that has to be clarified since the beginning. Time factor needs to be treated like a whole unit, becoming a subject that has to be thought during all the collaborative learning process.

Therefore time planning requires time to be exhaustively elaborated; this process must be carried out analysing individual timings, group timings and the estimated time needed to develop common and individual activities.

It implies time before (time planning design), during the process (revising and adjusting time planning) and after online collaborative learning (time planning's assessment).

Although data are not fully significant, we think that students' workload has to be revised in PAC 1 and 3. The first case is more important because some of the students need more time to get used to study online.

## FURTHER STEPS

Further steps in this research would be addressed to analyse more deeply how time factor effects on the behaviour of a group (case study). Other future research would analyse student's level of satisfaction in relation to time they dedicate to carry on online learning activities.

Finally a research on teacher's implication on time planning in a community of practice could be developed.

## References

Albers, E., Braack, M., & Verseput, N.M. (2008). Computer supported collaborative learning. Retrieved from: Retrieved in January 2011 from: http://www.eefjealbers.nl/CIMA/Pedagogies/Assignment_3_Albers_Braack_Verseput.pdf

Blanco Gutiérrez, O. (2003). *Estrategias de Evaluación que utilizan los docentes de la carrera de Educación Básica Integral de la Universidad de los Andes-Táchira.* Doctoral Thesis. Retrieved in January 2011 from: http://www.tesisenxarxa.net/TESIS_URV/AVAILABLE/TDX-1030103-142411//

Bitter-Rijpkema, M., Sloep, P. & Jansen, D. (2003). Learning to change. The virtual business approach to professional workplace learning. *Educational Technology & Society.* 6(1), 18-25.

Cohen, L. & Manion, L. (1990). *Métodos de investigación educativa.* Madrid: La Muralla.

Cohen, L. & Manion L. (2007). *Research methods in education.* New York: Routledge.

Gall, M., Borg, W. & Gall, J. (1996). *Educational research. An introduction.* New York: Longman. New York.

Guitert, M. & Romeu, T. (2009). A digital literacy proposal in online higher education the UOC scenario. E-learning papers (12). Retrieved in January 2011 from: http://www.elearningeuropa.info/files/media/media18503.pdf

UOC eLEARN CENTER

Romero, M. (2011). The time factor in an online group
course from the point of view of its students.
*eLC Research Paper Series, 2, 17-28.*

Guitert, M. & Romeu, T. , Pérez-Mateo, M. ( 2007 ). «Competencias TIC y trabajo en equipo en entornos virtuales» [artículo en línea]. *Revista de Universidad y Sociedad del Conocimiento (RUSC).* Vol. 4, n.°1 . UOC. Retrieved in Decembre 2010 from: http://www.uoc.edu/rusc/ / /dt/esp/guitert_romeu_perez-mateo.pdf

Orvis, K. L. & Lassiter, A. L. R. (2007). *Computer-Supported Collaborative Learning: Best Practices and Principles for Instructors.* Hersey PA: Information Science Pubishing.

Romero, M. et al. (2010). *Learning in digital: an approach to digital learners in the UOC scenario.* EDEN, 6-8 June. Valencia.

Walther, J. B., & Burgoon, J. K. (1992). Relational communication in computer mediated interaction. *Human Communication Research*, 19(1), 50-88.