



Multimedia tutorial on the preparation and defence of the Final Thesis*



Gregorio González Alcaide

History of Science and Documentation Department, University of Valencia
gregorio.gonzalez@uv.es



Víctor Agulló Calatayud

History of Science and Documentation Department, University of Valencia
victor.agullo@uv.es



Aurora González Teruel

History of Science and Documentation Department, University of Valencia
aurora.gonzalez@uv.es

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Abstract

This study reports on the development of an interactive multimedia tutorial to guide the preparation and defense of the Degree Final Project in Library and Information Science, which includes didactic units that describe the characteristics of the sections that make up the final project work; tests to verify the adequacy of the texts; and, finally, a video as an example where an oral presentation is shown. eXeLearning software was used for the development of materials. The tutorial was very appreciated by most of the students. Nevertheless, a widespread dissatisfaction was identified, as there is no correspondence between the contents of the Degree and the skills required to develop the Degree Final Project in the proper way.

Key words: Multimedia tutorial, academic work, writing skills, oral presentation, Degree Final Project

Resumen

Se presenta la experiencia de desarrollo de un tutorial multimedia para guiar el proceso de realización del Trabajo de Fin de Grado en Información y Documentación, que incluye unidades didácticas que describen las características de cada una de las secciones del trabajo, tests de auto-verificación y un video que recrea una exposición oral. Para su desarrollo se utilizó el programa eXeLearning. La mayoría de alumnos valoraron positivamente los contenidos recogidos en el tutorial, observándose una insatisfacción generalizada debido a la falta de correspondencia entre los contenidos impartidos a lo largo de la titulación y las competencias necesarias para desarrollar el trabajo de forma adecuada.

Palabras clave: Tutorial multimedia, Trabajo académico, Destrezas de escritura, Presentación oral, Proyecto Fin de Grado

Resum

Es presenta l'experiència de desenvolupament d'un tutorial multimèdia per a guiar el procés de realització del Treball de Fi de Grau en Informació i Documentació, que inclou unitats didàctiques que descriuen les característiques de cadascuna de les seccions que conformen el treball, tests d'auto-verificació i un video que recrea una exposició oral. Per al seu desenvolupament fou utilitzat el programa eXeLearning. La major part dels alumnes han valorat positivament els continguts del tutorial, observant-se una insatisfacció generalitzada al no existir una correspondència entre els continguts impartits al llarg de la titulació i les competències necessàries per a desenvolupar el treball de forma adequada.

Paraules clau: Tutorial multimèdia, Treball acadèmic, Habilitats d'escriptura, Presentació oral, Projecte Fi de Grau

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1. Introduction

The preparation and defence of a final thesis is one of the main developments resulting from the construction of the European Higher Education Area (EHEA) in curricula in the areas of Social Sciences and Humanities. The final thesis brings together all the learning acquired by the students during the course, in which they must tackle both the process of autonomous knowledge creation and the difficulties of practical work. It therefore presents a major challenge for both students and for the teachers who tutor them. Consequently, pedagogical methodologies and tools are required to guide this process. Having to successfully complete a thesis in order to complete the degree is new, and it is because of this that there are very few specific teaching materials to guide students in the requisite teaching and autonomous learning processes. This problem is compounded by the fact that the existing teaching materials are too generic or complex, focusing for instance on developing doctoral theses (Ferrer et al. 2012: 1-12).

This article presents the results of the development of an interactive multimedia tutorial, adapted to the skills and learning objectives and to the study target group, which aims to provide a frame of reference to complement tutoring in the preparation of the Library and Information Science Degree Final Thesis.

Royal Decree 1393/2007 of 29 October, introduced by the Ministry of Education and Science, lays down the regulations on the management of official university studies in Spain. It states only that degree studies must conclude with the preparation and defence of a thesis, which may obtain between 6 and 30 credits, should be undertaken in the final stage of the course and must be designed to assess the competences associated with the corresponding academic discipline. It also grants each university the autonomy to establish the rules for its preparation, presentation and evaluation, which has resulted in highly disparate regulations on all thesis-related aspects (Rekalde 2011: 182-187).

The introduction of the final thesis in Social Sciences and Humanities has raised numerous questions about what kind of project should be developed, how to facilitate tutoring and the resources that this requires, and what criteria should be established for a fair evaluation on the part of tutors and the thesis committee (Rullán et al. 2010: 76-77). Lacking a body of theory that addresses all these aspects, but acknowledging that the final thesis is now a reality, the development of the tutorial was justified and guided by three assumptions.

First, although Spanish university regulations regarding the final thesis provide for different types of projects, including bibliographical reviews or research and those of a professional nature, the final thesis is typically related to experimental research activities. The regulations should therefore adapt to the dissemination patterns of academic knowledge, which would mean justifying the relevance of the proposed research and establishing the objectives thereof, defining the research method, presenting the results, discussion and conclusions (Castelló 2009: 21-22).

Second, several studies have shown that teachers from various fields of knowledge have noted that the most important generic competences include the acquisition of written and oral communication skills (Bonilla et al. 2012: 8; Rullán et al. 2010: 80; Valderrama 2009: 42). These competences have already been highlighted in the Tuning

Educational Structures in Europe 2013 project, the aim of which was to guide the implementation of the Bologna Process; they are also the most highly rated by teachers in relation to the final thesis (Bonilla et al. 2012: 15).

Third, we have opted for a multimedia tutorial that may be accessed via the Internet, combining textual content with images and audio in a video tutorial, because of the potential of these tools to encourage autonomous learning and the acquisition of competences. It is flexible, attractive and may be controlled by the student, in line with the learning model proposed by the EHEA (Jiménez and Marín 2012: 66).

The project, described below, is entitled *Multimedia Tutorial for developing a Final Thesis in Library and Information Science*, and may be accessed at www.uv.es/innopfg. It has been deposited in the Digital Objects Repository for Teaching, Research and Culture (Roderic) at the University of Valencia (<http://roderic.uv.es/handle/10550/29914>) and is part of the call for Educational Innovation Projects (2012-2013 academic year), receiving approval and funding from the Vice-rectory of Culture and Equality of the University of Valencia as part of the DocenTIC (Learning with ICT) programme (UV-SFPIE_DOCE12-80998), coordinated by the Lifelong Learning and Educational Innovation Service (www.uv.es/sfpie).

2. Methodology. Project development

The development of the tutorial was structured in 3 stages:

Stage 1. Determination of pedagogical objectives. At this stage the competences and pedagogical objectives were defined, which, together with the regulations on developing the thesis, guided both the creation of content and the gathering of links to other resources or sources of interest.

Stage 2. Technical development. Learning objects were developed according to the objectives defined in the previous stage; at this stage the most appropriate development tool for integrating them into a multimedia tutorial was chosen.

Stage 3. Evaluation. Evaluation of the tutorial, and the designed learning objects, provided feedback on how to improve it. Indicators on teaching deficiencies or needs in relation to the development of the thesis were also obtained.

2.1. Determination of pedagogical objectives

The pedagogical objectives and contents that should be included in the tutorial were determined by the regulatory provisions for the final thesis, the bibliographical input of the teachers on the competences the students are expected to acquire as they work on it, and the competences associated with the degree course for which the tutorial was developed. In this sense, the tutorial was designed to enable students to become familiar with the features of academic and scientific communication and to be capable of producing academic texts that meet quality standards as well as presenting them and defending them in public. The most relevant pedagogical objectives of this process are:

- Develop the ability to learn autonomously.
- Acquire practical and applied knowledge.
- Improve communication skills.

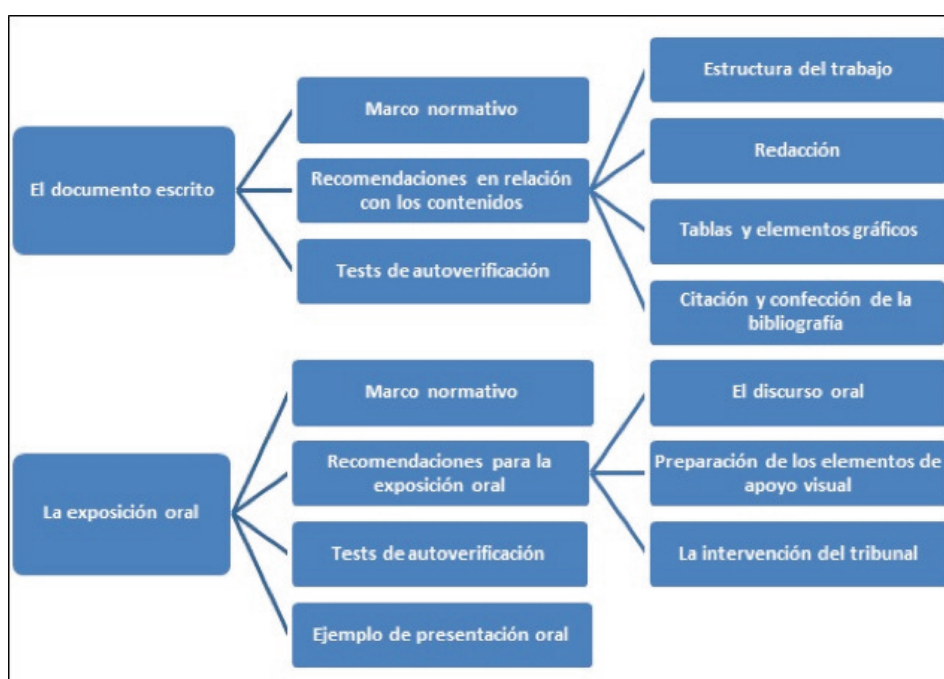


Figure 1. Structure of the development of learning objects and tutorial contents.

- Improve knowledge of the evaluation criteria of academic and scientific activities.
- Promote the use of quality, verified sources of information.
- Identify useful information resources for the thesis.

Figure 1 shows the collected contents and the structure of their presentation in the tutorial.

Decisions regarding the design of the multimedia tutorial were based on the recommendations in the bibliography, in particular those of Mayer (2005: 169-201). In keeping with the ideas proffered by this author, the following principles were considered in the design of the learning objects:

personalise the contents, particularly in relation to the real situation of presenting a thesis.

- Dynamic and attractive materials. The tutorial was designed to awaken the interest of the students and to enable them to view and quickly access desired content.
- Interactivity. The aim of this feature was for the student to be able to control their learning process at all times, marking the contents and aspects that they wanted to view.

The program eXeLearning was chosen as the tool for designing the materials and running the tutorial because it is free software, and it conforms to recommended formats for the design of learning objects, since it includes the SCORM format (*Sharable Content Object Reference*

- Simplicity and no unnecessary elements. This criterion aims to combine simplicity both in graphic and visual design (a feature of the selected program) and user interaction, i.e. they may quickly and intuitively access the desired information.

- Structured presentation oriented towards the learning objectives. With regard to this aspect, a principle of segmentation was applied to the units under consideration. Attention was focused on the main ideas and concepts related to the preparation of a written text and the oral presentation of an academic project. In addition, efforts were made to person-

Figure 2. Interface of the written document section.

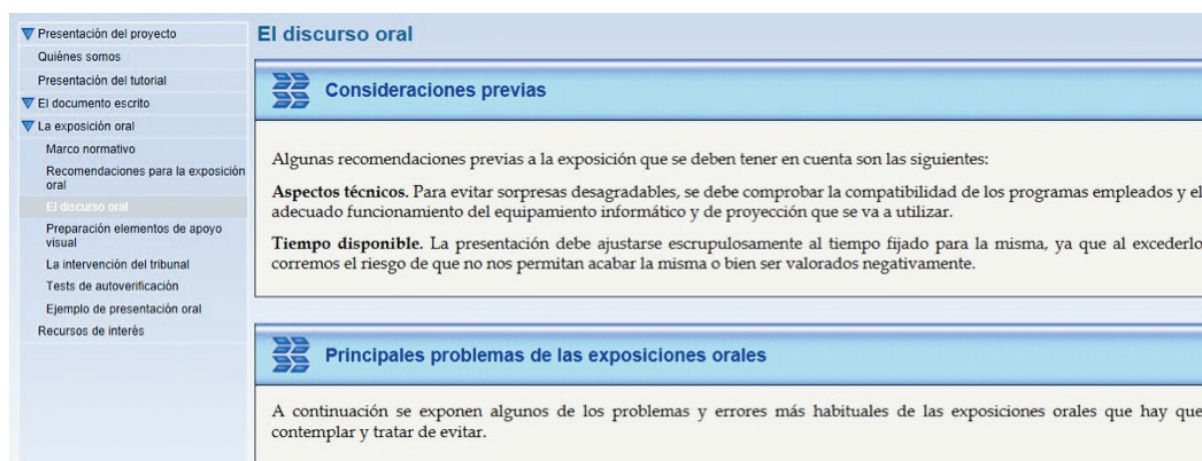


Figure 3. Interface of the oral presentation section.

Model) (Mora 2012: 115), which offers flexibility and option to reuse materials. This tool also offers different design possibilities, ease of use, as well as the possibility of generating attractive, accessible and interactive materials (Navarro and Climent 2009: 133-134).

2.2. The learning objectives

The IEEE *Learning Technology Standards Committee* defines a learning object as “any entity, digital or non-digital, which can be used, reused or referenced during technology supported learning” (2013). Although there are different theoretical approaches to this concept, there is a general consensus that some of the essential features that define learning objects are: their granularity, as their content may be divided into modular units that address different point of view on the subject; their reusability, i.e. they may be consulted as often as required and contents may be accessed interdependently; and their durability, with informational content that must be up to date and must last beyond the obsolescence of the tools and technologies used to develop them, and may be converted to other formats (Callejas et al. 2011: 178; Mora 2012: 108-111).

Taking this definition and these features as a point of reference, the following learning objects were developed:

- *Written document and oral presentation.* The *written document* section describes the characteristics, structure and content that each of the sections that make up the thesis (Figure 2) must include. The *oral presentation* section brings together recommendations for preparing the presentation and defence of the thesis before a tribunal, describing the main problems that may come up and how to deal with them, and providing guidance on preparing visual support elements (Figure 3).
- *List of resources of interest.* An annotated collection of relevant resources that may be useful for the completion of different elements of the thesis was drawn up. These resources were grouped into the following sections: databases of scholarly literature, useful in identifying existing knowledge on the thesis subject matter and developing the discussion or analysis of the results; bibliographic reference managers, useful in creating citations and bibliographies; concept maps, which may be of interest in the graphic representation of knowledge and facilitate active and meaningful

learning; specific literature and other tutorials related to the process of developing the thesis; and links to other more specialised resources of interest, such as programs for network analysis or for generating graphical representations.

- Guides or self-check tests. Different tests were developed for the students to verify that the texts that they have prepared comply with regulations and conform to the characteristics of an academic work, and to ensure that they have understood the essential concepts for an adequate oral presentation and defence before the tribunal.
- Finally, a video was uploaded to the tutorial recreating a sample presentation and defence of a final thesis, with guidelines and recommendations for good oral presentation of academic work.

Once this tool had been implemented and tested, students and tutors were informed via email and encouraged to use and consult it.

2.3. Information gathering tools for the evaluation of the materials

Once the 2012-2013 academic year of the Library and Information Science Degree at the University of Valencia had come to an end, both the materials produced and the student learning processes were evaluated through a combination of quantitative and qualitative techniques. The evaluation was carried out anonymously through the following data collection tools:

- Compilation of statistics on access and use of materials: number of students who accessed the tutorial, sections visited and time spent.
- Questionnaire to assess satisfaction with the materials.
- Semi-structured interviews to obtain more comprehensive qualitative evidence regarding the degree of satisfaction with the content and to identify the problems and difficulties faced while completing the final thesis.

The questionnaire was carried out using the online survey software tool *encuestafacil.com*, and was divided into three sections: the first was designed to measure frequency

Question	Answer Yes	Answer No
Did you consult the Multimedia Tutorial for developing a Final Thesis in Library and Information Science? ¹	Indicate the time spent consulting the contents of the tutorial and comparing or adapting the written text of your project or the preparation of your oral presentation to the guidelines and recommendations set out therein ²	Could you specify why you did not consult this material? ⁴
With regard to the final thesis, have the contents included in the tutorial been helpful in preparing the written text? ¹	Evaluate the usefulness of the following contents contained in the written document section of the tutorial: ³ - Recommendations relating to content. - Citation and preparation of the bibliography. - Self-check tests.	Could you specify why the contents contained in the tutorial have not been useful in preparing the written report? ⁴
Regarding the oral presentation, have the contents included in the tutorial been helpful in preparing the presentation and defence of the final thesis? ¹	Evaluate the usefulness of the following contents contained in the oral presentation section of the tutorial: ³ - Recommendations for the oral presentation. - Self-check tests. - Sample oral presentation.	Could you specify why the contents contained in the tutorial have not been useful in preparing the oral presentation and defence of the thesis? ⁴
Were the resources of interest in the tutorial useful? ¹	-	Could you specify why the resources of interest in the tutorial were not useful? ⁴
Are there any learning materials or additional resources not provided in the tutorial that you would have liked to make use of in preparing your final thesis? ¹	Could you specify which? ⁴	-

Table 1. Questions included in the questionnaire administered to the students to assess the tool.¹ Dichotomous questions (yes/no);² multiple-choice questions (less than an hour, between one and two hours, and more than two hours);³ Likert scale (not, not very, quite and very useful);⁴ open-ended questions.

of use and the usefulness of the content of the tutorial (Table 1); the second assessed satisfaction with the competences acquired during the degree that could be applied to the preparation of the thesis (Table 2); and finally, the third asked about the information resources and computer applications used to complete the thesis. Close-ended dichotomous or multiple-choice questions were combined with Likert scales to measure the perception of the respondents. Open-ended questions were used to gather information on reasons for not consulting the tutorial or to determine the reasons for dissatisfaction with the content contained therein. Given the limited size of the group under study, the questionnaire was sent by email to all students who presented and defended a final thesis in Library and Information Science: 13 female and 5 male students.

With regard to the interviews, the sample was selected by personally contacting the students via email to request their participation in the study. Eight short semi-structured interviews (10-15 minutes) were conducted, with a prepared script covering general issues or areas of interest, leaving the interviewer free to introduce additional questions. The script included questions about the problems that arose in preparing the written text, the oral presentation, information sources and available learning resources, and whether they considered they had acquired and possessed sufficient capacities to complete their thesis. The interviews were transcribed with the help of the Atlas.ti program. A preliminary exploratory analysis was performed in order to structure the data and create categories of analysis. In the last two interviews no new information was identified, which together with an absence of inconsistencies and a clear understanding of the questions asked, led to the conclusion that there was no need to conduct additional interviews.

3. Results

3.1. *Statistics on access and satisfaction with the contents*
Regarding the statistics concerning access and use of materials, 75% (n=12) of the recipient students of the tutorial who prepared and presented a final thesis in either of the two official examinations corresponding to the academic

1. Capacity for analysis and synthesis applied to the management and organisation of information.
2. Oral and written communication in native language.
3. Computer skills related to field of study.
4. Problem solving.
5. Critical thinking in the analysis and assessment of alternatives.
6. Capacity for autonomous learning.
7. Capacity for introducing improvements and proposing innovation.
8. Competent at identifying the strengths and weaknesses of an information service, product or system by establishing and using evaluation indicators and developing solutions to improve their quality.
9. Ability to identify, authenticate and evaluate sources and information resources.
10. Ability to understand, design and apply models for representing data and information and tools for extracting and exploiting data and for information retrieval.
11. Overall knowledge acquired during the degree course has been sufficient to undertake the final thesis.

Table 2. Competences evaluated in relation to completing a final thesis.

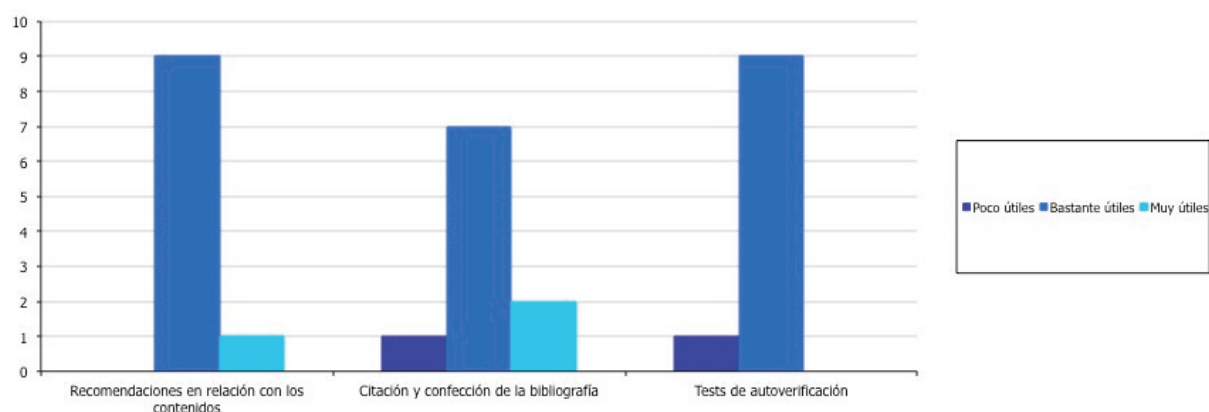


Figure 4. Evaluation of the usefulness of the content in the tutorial section the written document

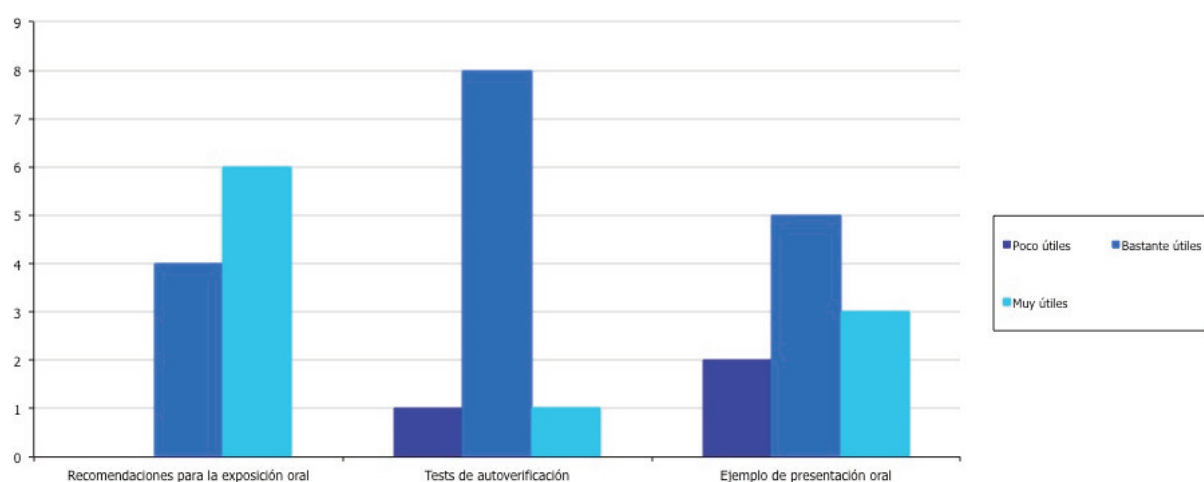


Figure 5. Evaluation of the usefulness of the content in the tutorial section oral presentation.

year 2012-2013 (n=18) accessed and consulted all the contents, with an equally distributed time commitment: half of them devoted about an hour and the other half, between one and two hours.

The satisfaction questionnaire administered to all the students who presented a final thesis (n=18) obtained a response rate of 88.89% (n=16); 13 students (72.22% of the target study group) completed all the items.

83% of the students who consulted the tutorial stated that they had found it useful in preparing the written text of the final thesis. The percentage rose to 92% in the case of materials related to the oral presentation and defence of the thesis. Among the reasons given by the students who did not consult the tutorial the only one noted was that "they received it too late", when they had already done the work.

All the areas of the written report section were rated positively, particularly the *recommendations relating to content* and the *self-check tests* (Figure 4), as was the *recommendations for the oral presentation* (Figure 5).

With respect to suggestions for improvement, the survey students agreed on the need for resources that assist in the process of compiling the bibliography, and including content related to syntax and style for writing academic papers.

Eight personalised interviews were conducted, and have led to greater understanding of the main problems that the students have had to face when tackling their final

thesis. The categories of analysis that emerged from the interviews largely coincided with the questions posed in the script. These were: the fact of the final thesis being new and the absence of references on how to approach it; problems related to writing skills; and difficulties in tackling the oral presentation. In general, the limited time available for completion of the final thesis was noted by all respondents as one of the main problems. Furthermore, they highlighted the lack of courses explaining the characteristics of a research project:

I think that to do the job well expertise is required in the chosen area. More time is needed for critical guidance and suggestions related to the chosen area and the correct approach.

There should be a specific course (many universities offer this) before starting the final thesis which clearly explains what a research project is and how to go about it.

With regard to the written text, it was noted that there is no correspondence between the work set during the degree course and the final thesis, or that it was something they had not done before:

There was an excessive gap between the requirements for work done during the course, (not too demanding

on form and methodology) and the final thesis. The approach should be more progressive.

It was the first time in our university studies that we had to do a research project.

Due to the lack of prior experience of similar studies I did not know how to approach it and I had to resort to monographs, blogs, websites etc.

It is also worth noting that frequent mention was made of problems related to writing skills and the appropriate expression of ideas. So when asked about the main problem they had to face, we encountered answers such as:

The main problem I had was with the writing, especially with punctuation.

Expressing my ideas succinctly.

The difficulty of finding technical words and expressions that were not repetitive.

Other issues that were brought up were the problems in deciding how to structure the work, the contents to be included in each section and the application of bibliographic standards:

I had great difficulty creating an index for my working draft.

I had problems drafting the methodology and other formal aspects of the work.

There is no agreed standard and I found it difficult to prepare the bibliography and citations.

I found it difficult to understand what exactly the discussion section was and how to approach it.

Finally, although the organisational aspects, the relationship with the tutors and the awarding of grades were not the purpose of the evaluation, in some cases reference was made to problems in maintaining a relationship and regular contact with the tutor charged with overseeing the thesis, or to other problems related to the evaluation process and varying criteria on the part of the tribunal:

I had some communication problems with the tutor when trying to find out if my ideas were correct or not.

The systems of grading and election to the tribunal should be revised.

Regarding the oral presentation, and unlike the preparation of the written text, in which all students reported some kind of problem, several students said they had no problem with it, highlighting the fact that they have had to do various oral presentations during their studies:

I did not have too many problems, as we had already given oral presentations on various courses.

However, in other cases the main problem was reported to be nerves and the fear of going blank:

The only personal problem was nerves; in terms of the resources for the oral presentation, the Multimedia Tutorial has helped me greatly.

I was scared of getting tongue-tied or going blank.

My main problem was nerves, as I did not know how to control them.

Apart from this aspect, the difficulties of summarising the contents of the thesis in a short period of time and the need for guidelines on how to act in the situational context of publicly defending a project were identified:

The main problem I had was summarising the content in the allotted time.

I did not know exactly what was expected of the presentation.

I was struggling to summarise all the work in 15 minutes; doubts regarding whether to answer the board's comments or not, since they were not considered "questions" but assessments. In general, I think we should be trained how to act in these situations: should we follow guidelines on how to defend a project or not, for example noting down the questions and answering them one by one, etc.

It would have been useful for me to have more examples or more material for the presentation.

3.2. Generic competences of the final thesis, resources and information sources

The evaluation was also intended to measure the degree of satisfaction with some of the most salient generic competences, applicable to the final thesis, that university curricula, in particular the Library and Information Science Degree of the University of Valencia, stipulate should have been acquired while studying the degree course (Table 2).

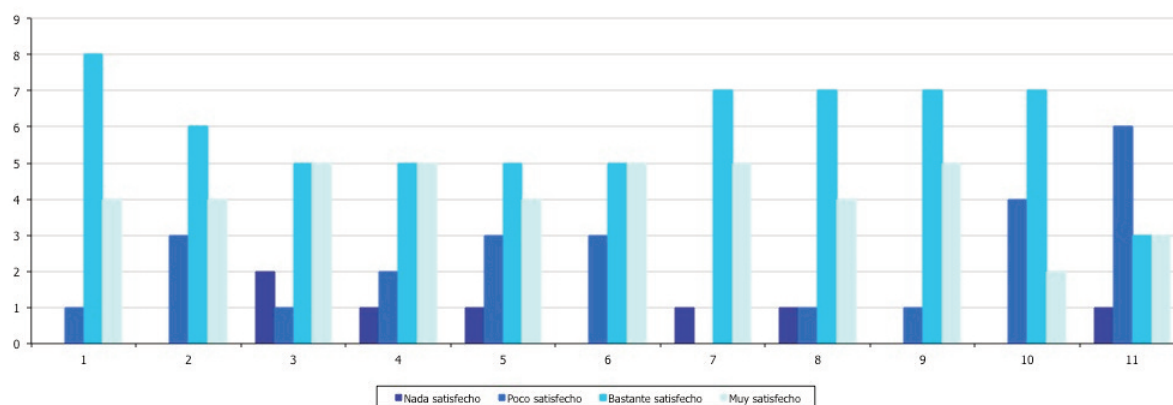


Figure 6. Assessment of satisfaction with the competences acquired during the degree applicable to doing the final thesis.

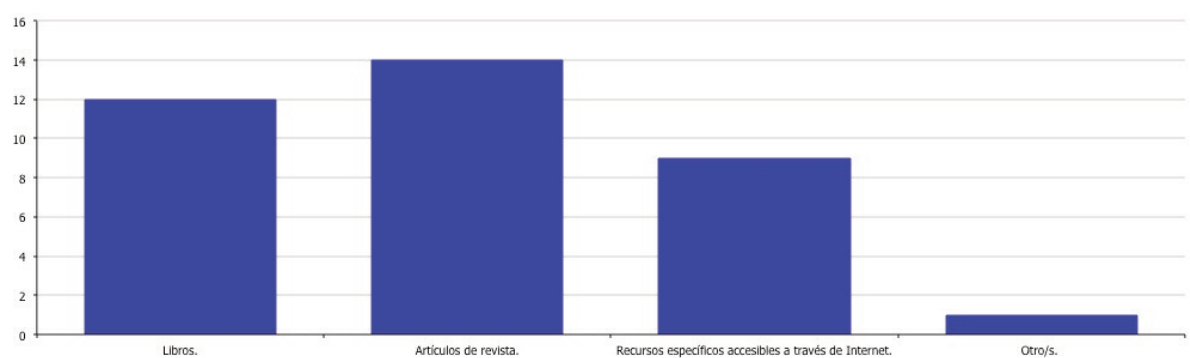


Figure 7. Distribution of information resources used to prepare the final thesis.

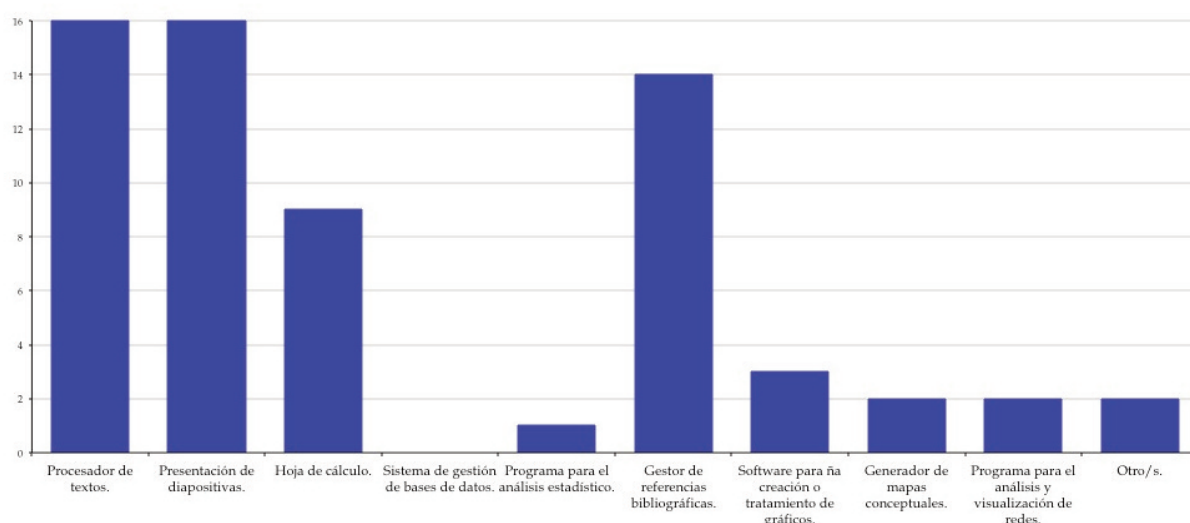


Figure 8. Percentage distribution of the use of computer software for preparing the final thesis.

The most significant aspect in this regard (Figure 6) is the fact that 53.85% (n=7) of the students declared that, globally, they were not very or not satisfied with the knowledge acquired during the degree course to complete the thesis. 23.1% said they were quite satisfied and only 23.1% said they were very satisfied. The competences that gave the highest degree of dissatisfaction are *critical thinking in the analysis and assessment of alternatives* and *ability to understand, design and apply models for representing data and information and tools for extracting and exploiting data and for information retrieval*, as in both cases 30.77% of the students (n=4) stated they were not very or not satisfied with the degree of acquisition thereof. At the opposite extreme is the *capacity for analysis and synthesis applied to the management and organisation of information*, the *capacity for introducing improvements and proposing innovation* and the *ability to identify, authenticate and evaluate sources and information resources*, as 92.31% of the students declared they were quite satisfied or very satisfied with the degree of acquisition of these competences.

Finally, the questionnaires also evaluated the information resources and software tools used to prepare the thesis. In relation to the resources used, 87.5% (n=14) of the students consulted journal articles and 75% consulted books (n=12). Beyond these document types, only one student made mention of consulting a doctoral thesis. 56.2%

(n=9) reported using specific resources accessible through the Internet, such as databases, librarian blogs, repositories or collectors, and one student also mentioned consulting experts (Figure 7).

As for the software used to write the thesis (Figure 8), besides word processors and programs for creating slideshows, used by all students, it is worth noting that 87.5% (n=14) used a bibliographic reference manager and 56.2% (n=9) used spreadsheets. Less widespread was the use of graphics software, conceptual maps or network analysis software. Only one student mentioned using statistical analysis software and no student used database management software. Other occasionally used resources were on-line survey services or Google Drive forms.

4. Discussion and conclusions

This study has examined the experience of developing a multimedia tutorial to guide the process of writing a Library and Information Science Final Thesis at the University of Valencia. In the first year of its implementation it integrated different learning objects that describe the characteristics, structure and content that must feature in the thesis as well as recommendations for preparing the oral presentation.

The preparation of the final thesis is suited to a blended learning methodology, combining the notions introduced by the teacher who tutors the work with autonomous de-

velopment on the part of the student. This context justifies the interest in developing specific teaching materials that combine computing potential and Internet use (Jiménez and Marín 2012: 66-67).

The most significant aspect was the favourable reception and positive perception of these materials by the students. It is worth noting that 83% of students who consulted the tutorial found it useful in preparing the written document. This percentage rises to 92% in the case of materials related to the oral presentation and defence of the thesis.

At the same time, the students felt that there was no correspondence between the contents taught and the competences acquired throughout the degree, and the knowledge necessary to do the final thesis, which resulted in dissatisfaction with this aspect. This dissatisfaction is also consistent with that observed in certain studies, and is based on the perception of teachers in relation to the degree of acquisition of the competences specific to the thesis (Bonilla et al. 2012: 15-16).

It is also very striking that 40% of students enrolled to do the Library and Information Science Final Thesis for the academic year 2012-2013 did not present it at either of the official examinations. This figure coincides with the value observed in other degree courses and underlines the need to enhance skills such as proper project design and planning (Bonilla et al. 2012: 13-14; Marta et al. 2009: 49-50).

In short, the students considered the competences acquired during the degree course insufficient for doing the final thesis, and the qualitative analysis indicated a need for specific training. These aspects, together with other indicators such as the high percentage of students that did not present their thesis, should provoke deep reflection on the need to reinforce key skills for the final thesis throughout the degree course, or on the introduction of a specific course, even assigning classroom time to teaching it, as tutoring and self-learning through tutorials such as this one cannot *per se* meet these shortcomings.

It is also important to note some limitations and possible improvements to this tool, such as the need, as suggested, to include additional content to boost writing skills, and to include examples and improve the interactivity of the materials. However, as a final thought, it may be noted that initiatives such as this project, and particularly in view of its acceptance, may positively promote autonomous learning in the students, not only in Library and Information Science but in any discipline and field of knowledge. It provides them with a framework to develop their capacities and their academic written and oral communication skills, and it integrates in one single platform different information resources and computer tools that may be useful to them as they prepare their final thesis.

From the field of Library and Information Science, there are certain generic competences, related not only to academic communication and completing the final thesis, but also to the completion and submission of any academic work, that must be transmitted to other areas of knowledge. In particular, knowledge and use of information sources, essential for properly documenting any research project or problem; citation and bibliography standards, key elements in knowledge creation as a cumulative process and fundamental in avoiding plagiarism; and the formal aspects of presenting documents, such as the title, the abstract and the selection of key words to describe adequately and accurately the content of the document, ele-

ments that are essential for archiving and subsequently retrieving the document (Marzal 2008: 42-43).

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