Monograph "Information and Digital Competencies in Higher Education"

ARTICLE

A Plan for Information Competency Training via Virtual Classrooms: Analysis of an Experience Involving University Students

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Abstract

This article describes and analyses an information competency training programme for students, implemented by the University of La Laguna library. The initial experience began in 2006, when several information competency courses for new students were given in collaboration with several lecturers teaching core subjects.

The success of the initiative led to a change in the library Training Service's plan and programme. The main aim was to foster the acquisition of information management competency (finding, evaluating, using and communication information). To that end, a competency training programme was developed. The programme had a sequence of learning levels to cover different needs throughout a student's academic life. It also included competency refresher courses for teaching staff and administrative and service staff (PAS), and courses for external users interested in acquiring information competencies.

Training was carried out using an e-learning approach and several virtual classrooms were created to teach the courses. These were created on the Moodle platform and integrated into the University of La Laguna's virtual campus. The results of the users' assessment of the courses are presented, showing that they successfully attained the planned objectives.

Keywords

information competencies, information literacy, training, virtual courses, e-learning

Un plan de formación en competencias de información a través de aulas virtuales: análisis de una experiencia con alumnado universitario

Resumen

En este artículo presentaremos la descripción y el análisis de un programa de formación en competencias informacionales para estudiantes desarrollado por la biblioteca de la Universidad de La Laguna. La experiencia inicial comenzó en el

año 2006 con la impartición de distintos cursos sobre competencias informacionales dirigidos a los alumnos de nuevo ingreso, en colaboración con varios profesores que impartían asignaturas troncales.

El éxito de dicha iniciativa motivó un cambio en la planificación y programación del Servicio de Formación de la Biblioteca. El objetivo principal era potenciar la adquisición de la competencia en la gestión de información (localización, evaluación, uso y comunicación). Para ello se elaboró un programa de formación en competencias secuenciado con niveles de aprendizaje diferenciados a lo largo de toda la vida académica del alumno. También incluyó cursos de reciclaje en competencias para el profesorado, el PAS y los usuarios externos interesados en adquirir competencias informacionales. La formación se desarrolló bajo la modalidad de e-learning. Para ellos se formaron varias aulas virtuales para la impartición de los cursos. Estas fueron creadas en la plataforma Moodle e integradas en el campus virtual de esta universidad. Se presentan resultados de valoración de los usuarios, que reflejan que fueron exitosos en el logro de los objetivos previstos.

Palabras clave

competencias informacionales, alfabetización informacional, formación, cursos virtuales, e-learning

1. Introduction

Faced with the challenge of the European Higher Education Area (EHEA) and the change in design of the teaching/learning model under the Bologna Process, the library at the University of La Laguna began to adapt its training activities in 2006. The main aim was to foster training in one of the basic generic competencies: information management (finding, evaluating, using and communication information). At that time, the aim was to complement more traditional training (in resources and services) focusing, above all, on the acquisition of instrumental skills (using the library catalogue, databases, etc.), with ICT-supported information competency training for new students. It was conceived as a support tool for the changes that had begun to take place in our university's educational process, a process that certain lecturers had already begun to lead. From the very outset, it was, therefore, considered to be a cooperative project between lecturers and librarians, taking advantage of the close ties that have always existed between both groups at our university.

Regarding graduate students, we identified an opportunity to offer them training to help them refresh their information competencies and to provide them with the necessary guidance to enable them to successfully complete their research work. For other members of the university community (administrative and service staff [PAS]), information management training would be offered with the aim of it being applicable to their daily duties, as

a way of extending the concept of competency training to their working lives, while also being transferrable to their personal lives.

In a context of technological change in which there is an exponential growth of information production, the library felt that its commitment to the institution should focus on an activity that it had always carried out, although now it would have to readapt its training model to the new demands of education and the knowledge society. In order to do this, the librarians had to assume the role of trainers and make a considerable effort to acquire the new competencies themselves. The library, as a teaching and research support service, had to contribute to the enhancement of university students' information quality; a topic that was being debated in several forums at that time, and which gave rise to various regulations and reports.[1]

The library wanted to play a proactive role and decisively participate in the changes that could just be made out on the educational horizon. As a centre that traditionally provides information, it wanted to take a step further and train users to become information competent. At the same time, it wanted to provide them with training that would be useful to them throughout the educational process and be transferrable to their working and personal lives. New technologies provided an important support mechanism when it came to planning the new service, which was based on offering training via a teaching/learning platform like Moodle. At that time, advantage was taken of an initiative called e-TU (e-Teaching Unit for teaching staff) which had

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1. In his article entitled "Formación de usuarios y biblioteca universitaria", Cristóbal Pasadas Ureña offered an overview of quality evaluation plans and guides for universities, as well as situation reports. Pages 413-416.

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just opened its doors at the university.[2] This platform was considered to be the most appropriate one for attaining our objectives, and an interesting formula for making the users the protagonists of their own learning; learning based on independence and collaboration.

2. From Training Users to Training Students in Information Competencies

Of the services that libraries usually offer, user training is one of the most traditional. Trainers have put considerable effort into this task, only to reach a very low percentage of the student population. The students' participation in activities has depended to a large extent on teaching staff support (course recommendation, requests for classroom sessions, practicals and so on). Above all, students have received training in library services and resources. It should also be said that clear institutional recognition and support for this activity has not been forthcoming.

However, the outlook has started to change in recent years. The concept has become richer, and there has been a shift from traditional user training to information competency or information literacy training. Besides receiving information about the library's services and learning how to handle and use information resources available at the library, the new concept includes the necessary tools for learning how to find and select high-quality information from the vast number of documents that exist on various media, to evaluate it, to use it ethically and to communicate it appropriately. In addition, it implies that students acquire more self-directed working methods, take responsibility for creating their own content and are capable of transferring competencies acquired during the training process to their working and personal lives, as a concept of lifelong learning. Connected with this concept is another term that complements and enriches it. Here we are referring to IT literacy or digital literacy, which implies the acquisition of competencies for handling and using ICTs appropriately. In the same way as lecturers focus their efforts on offering an education based on students' self-directed work, on the analysis of multiple information resources and on the use of ICTs, libraries are working towards a training model that goes beyond traditional user training.

To that end, university libraries have equipped themselves with information competency training plans that include abilities, knowledge elements, dispositions and conducts that enable individuals to recognise when information is necessary, where to find it, how to evaluate its suitability and how to use it appropriately in accordance with the problem posed.[3] Through declarations and documents, various organisations (OECD, UNESCO, etc.) and professional associations (IFLA [International Federation of Library Associations and Institutions], SCONUL [Society of College, National and University Libraries], ALA [American Library Association], ACRL [Association of College and Research Libraries], REBIUN [Spanish Network of University Libraries], etc.) promote the need for citizens/users to acquire information competencies and highlight the role that libraries play as facilitators of the necessary tools. The importance of acquiring generic competencies linked to information management at the university education stage has also been studied by a number of researchers. Area suggests several reasons why it is important to acquire and master information competencies. One of the reasons is that they give degree holders the ability cope more successfully with innovation in the scientific and professional fields in which they work, and they help them solve all kinds of problems and have a better understanding of the environment in which they live.[4]

3. Face-to-Face Training at the University of La Laguna Library

The background to the library's current information competency training is its face-to-face user training activity, which began in the late 1990s. The intensive activity deployed and the experience gained provide a better explanation of how we developed the Framework Programme for Information Competency Training (Information Literacy). In order to approach a radical change in training planning from 2006, we took account of statistical data. The evaluation of face-to-face training results meant that we were able to consider the expediency

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2. The e-TU felt that the library could play an important role in information competency training for university students and lecturers.

3. Comisión mixta CRUE-TIC, REBIUN (2009).

4. Area Moreira, *Documento marco de REBIUN…*

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of diversifying the training programme, not only in terms of the number of sessions and courses, but also in terms of the type of training. Consequently, we started planning information competency e-learning. In the 2002-2003 academic year, we gathered information about the number of people attending training activities. We also applied satisfaction questionnaires that allowed us to find out what opinions users had of the sessions or courses taken.

In addition, before starting to plan information competency training courses, users were asked to fill in a questionnaire to find out if, among other things, they would be prepared to be trained virtually. In that questionnaire, 74% of the respondents said that they would be prepared to be trained virtually.[5]

From the study carried out using training data for users between 2001 and 2006, we were able to draw a series of conclusions:

- The overall data for user training activities showed that, even though there was an upward trend, there were some fluctuations depending on activity type. Most new students attended introductory or welcome sessions (events put on in collaboration with a faculty or a school).
- A considerable effort was made to offer instrumental skills training (using the library catalogue, databases, specific information resources, etc.), only to reach a limited number of students.[6]

The following stages describe what the evolution of user training offered by the library entailed:

- From 1998 to 2002, training was only carried out sporadically in certain points of the service.
- Since 2002, the library has had a Training Service, and a training committee has been created[7]. Training processes were standardised.
- In 2004, the first Integral Training Plan (2004-2006) was drawn up. The target audience for the plan included users (students, lecturers and researchers), PAS and external users.

- In 2005, work began on a series of tutorials for users to undertake self-directed learning.
- In 2006, work began on developing a pilot project for the acquisition of information competencies using an e-learning approach. In the 2006-2007 academic year, virtual courses were offered via the Moodle teaching/learning platform for eight degrees. In addition, free-elective credit seminars on information skills in social sciences were held.

4. Information Competency Training: Virtual Courses

As already indicated, up until the 2006-2007 academic year, a small proportion of users received face-to-face training for finding, selecting and using information. The number of attendees at sessions on the use of tools like the library catalogue and databases was also limited. In its 2006-2008 strategic plan, the library had already considered creating a line of work on information competency training to support the new educational model. It also included another line of work to support awareness-raising, among the university community, of the Moodle teaching/learning platform, which had just begun to operate in our university. The idea of offering e-learning via this platform arose from both of these lines of work.

The pilot experience began with new students joining the university in the 2006-2007 academic year. Training would be based mainly on information competency e-learning courses. This e-learning was perceived as a challenge and a great opportunity for the library, since it opted for an e-learning service as a way of diversifying its training programme, of attracting users that did not request traditional training (with specific offerings and timetables) and of reaching out to as many students as possible.[8] It was also considered a challenge and an opportunity for trainers, because they would have to learn how to train people in a different, more active way (interacting with students in the virtual classroom) with a new ICT-based teaching model.

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5. The questionnaire (end of 2005) was issued to 100 users.

6. The reasons why most users did not undertake training activities were connected with teaching plans. As a general rule, a characteristic feature of these was the high number of lecture hours, for which students did little class work and did not need to consult sources of information. The course timetable also discouraged students from attending.

7. The training committee's mission is to develop instruments to identify the training needs of library staff and users, to take part in developing teaching materials for training and to collaborate on course planning.

8. In massified universities, it is more feasible to reach out to students through virtual courses because virtual classrooms have learning tools that allow the highest number of participants to be trained.

The librarian-trainers would have to improve their competencies, since they had to take part in the development of training programmes and had to raise awareness of information competency-related actions. In addition, they had to improve their knowledge of information resources, prepare learning evaluation activities, learn about and know how to use educational methods, have technological knowledge, use standards, collaborate on teaching material development, etc. In short, they had to assume lifelong refresher training and their new role.

Finally, e-learning also represented a major change for students, because the new model involved using ICTs to acquire information competencies via a platform with a learning concept based on self-directed and cooperative work. Likewise, collaboration with the teaching staff had to be very close, since training was understood to be a cooperative project to ensure that students acquired new competencies.

Consequently, the main reasons behind opting for an e-learning training model via virtual classrooms were the following:

1. The need to diversify training activity, adapting it to the characteristic features of each degree.
2. The advantages that Moodle offered for training the highest number of students possible, using the tools it offers for self-directed and cooperative learning.
3. The need to raise awareness of the Moodle platform (a strategic objective of the library).
4. Support received from the e-TU.

At the beginning of 2006, work began on the project and contact was made with several lecturers interested in information competencies for first-year students. The idea was to offer a course in various degree subjects. Advantage was also taken of other lecturers' collaboration with students in higher years, for core subjects in both cases, with the aim of reaching the highest possible number of students. The lecturers incorporated the course into their subject programmes as an activity that was both compulsory and marked.[9] The lecturers' participation in the project went much further than realising the expediency of the course as a yet another activity in their subjects. They provided the topics on which students should do their search practicals and reviewed the thematic units forming

part of the training project and the information resources selected by the librarian.

A decision was taken to begin the experience with first-year students on various degree courses, basically because we were aware of their information competency shortcomings. Work was not being done on this issue in the non-university education system. In fact, this issue is still pending in our region.[10] Consequently, when students arrive at university, they all have very similar characteristics:

1. They have very few skills when it comes to finding, selecting and using information for an assignment.
2. They do not know how to perform a search that is appropriate to their needs.
3. They search for information on the Internet but do not compare it; they only use one search engine (Google).
4. They are unaware of the information resources that libraries offer.
5. They are used to copying and pasting information that they do not compare.

The pilot course entitled "How to find sources of information to…" was planned for various degrees (eight in total). Students had to invest between five and 10 hours of their time on the task, depending on their prior competency level. Courses were given in the following subjects: journalism, psychology, nursing, economics, education, philosophy, language studies and geography. These pilot courses were organised into thematic units. A series of resources were added to these units: a platform user guide, a glossary of terms, tutorials for more effective learning, practical exercises, self-evaluation of learning tests, a discussion forum on course-related issues and a forum for queries and suggestions. A test was also included to assess user satisfaction. In addition, students were offered a selection of general and more specialised information resources, as well as a recommended reading list for their degrees.

As a consequence of the positive results of these courses, steps were taken to establish a regular programme of competency training based on e-learning courses. From this initial experience, we drew a series of conclusions that helped us to improve subsequent courses:

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9. Lecturers who chose to participate without committing their students to the course were also offered the option to mark it.
10. The Spanish LOE (Organic Law of Education) includes the need for information processing competency training and digital competency training. Spanish Decree 1513/2006 contains eight competencies, one of which is information processing and digital competency.

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- The need for greater facilitation in the forums.
- The need to improve some units and the inclusion of specific objectives in each unit.
- The need to consider a new, simpler and more flexible course model with more test-type activities.
- The need to have a course on the methodology of organising information better.[11]

At the end of the initial experience, it was concluded that the courses should be offered to all new students. This represented a significant challenge for the library, because, on average, 4,100 students enrol per year at the university.[12] Information competency training would have to be present, at the very least, at the initial level. The courses should be compulsory in core subjects and have the support of lecturers, who are ultimately responsible for their students' academic education. On courses where lecturers were more involved, the number of students who dropped out was lower. Some of the important elements that led to the success of the experience were the librarians' and lecturers' motivation (which was conveyed to the students), the constant support provided by the trainers in terms of resolving queries in the virtual classroom, and the mark that students were given if they passed. Out of a total of 292 enrolled students, 204 passed.

5. Information Competency Training: Activity Development (2007-2009)

In the following academic year (2007-2008), the model for first-year students (initial level) continued to be improved, and it was offered to lecturers with new degree core subjects. The lecturers who collaborated with the library in the first year carried on doing so subsequently. A considerable effort was made to raise awareness of the project in our university, and the repercussions it had are proof of that. In this academic year, the numbers increased dramatically on the previous year. The number of enrolled students rose from 292 to 1,103, the number of librarian-

trainers rose from 8 to 23, the number of collaborating lecturers rose from 10 to 29, and the number of courses given rose from 9 to 35.

The 2008-2009 academic year was a year of consolidation for training offered to first-year students and the start of training offered to graduate students and teaching and research staff (PDI). These two groups were, at that time, the ones that needed a wider training programme. Owing to technical problems at the library, several first-year student activities were suspended, which led to a slight drop in enrolment (944 students). The number of trainers and lecturers remained constant.

With the support of the Office of the vice-rector for Academic Regulations (through the Office of the director for the Graduate Secretariat), a 15-hour course was offered for master's degree and doctoral studies. Twenty-four students enrolled on this course. In collaboration with the Office of the vice-rector for Teaching Staff and Teaching Quality (through the Office of the director for the Training and Teaching Innovation Secretariat), a 20-hour course was offered to PDI. Thirty lecturers enrolled on this course. This first course for lecturers had two novel aspects. First, collaboration between lecturers from the Faculty of Education and librarians, who joined forces to ensure that information competencies were present in all subjects[13] and evaluable throughout a student's academic education; and second, the Office of the vice-rector's firm belief in the expediency of offering this type of course to all lecturers in the future.

From the end of this academic year, competency training began to be diversified and improved. The framework programme was revised and new courses were added. The basic idea is to complete the sequence of students' learning.

Alongside this, work began on "Familias en red" ("Families on line"), a collaborative project between the regional Ministry of Education and the two universities in the Canary Islands. The library's mission was to raise parents' awareness of the importance of acquiring information competencies at school-going age via virtual courses.

At the end of the 2008-2009 academic year, a project was submitted to the Office of the vice-rector for Teaching

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11. This need was included in the library's Training Plan (2008-2009). In June 2008, the librarians attended a course called "Methodology and Teaching Applications for Training".

12. Enrolment data for the last three academic years.

13. The course is for teaching staff interested in incorporating information management into their curricula. It covers the topic of information competency in the new educational model, and the tools that the library offers for teaching staff to keep up to date with this competency. The main objectives of the course are: to understand the meaning and curricular implications of information competency, to apply information updating knowledge and to be aware of the information services and resources that the library and the Internet offer for teaching and research.

Staff, for the incorporation of competency training into the university's official programme through a subject with three European Credit Transfer System (ECTS) credits. This subject would be given in conjunction with the University of La Laguna's Open Software Office, since it included both information and IT competencies. This will begin with a pilot project (2009-2010) for students in four subject areas (health sciences, pure and experimental sciences, social sciences and humanities).

In the 2009-2010 academic year, the aim is to cover the first year of all degrees. Initial courses have been planned for 35 degrees (including the 20 approved undergraduate degrees). In previous years, only 18 degrees had been covered. Since the pilot project began, the library and the vice-rector's office to which it reports felt that it was crucial to reach out to as many users as possible. It is important to underscore the considerable effort made by all the librarians (who are facing up to new challenges and improving training all the time) and the interest shown by lecturers in terms of motivating their students to take the course. The sum total of these efforts is now visible in the first semester. A total of 1,008 first-year students and 86 graduate students have enrolled.

The evolution of training offered by the library, both face-to-face and e-learning, is shown in table 1.

In this academic year, a competency refresher course is being given to library PAS for the first time. On the one hand, they are provided with the necessary tools to update their knowledge and, on the other, they are shown how users are being trained in information competencies. There are more and more students taking courses in the library's rooms. Their basic queries can be resolved by these members of staff. In addition, and due to their closeness to users, they are better able to support awareness-raising of this activity.

Likewise, the library, through the Office of the vice-rector for University Services, has begun to certify the benefit that first-year students and graduate students get from these courses. PDI and PAS receive a certificate from the Office of the vice-rector for Teaching Staff and the PAS Training Unit, respectively.

Over these years of constant work, awareness of this activity[14] has been raised via:

- The university library's website (Training Service).
- Annual talks with the university's deans and department directors.
- Promotional materials for the university community (posters, guides, a video, etc.).
- The presentation of the programme at various professional forums.
- Specialised journal articles.
- The organisation of courses to share the experience with staff from other Spanish university libraries (Cadiz, Carlos III, Granada, Burgos, Castilla La Mancha, Santiago de Compostela, Zaragoza, etc.).

6. The Organisational Dimension of the Plan

The change in direction from traditional to competency-based user training has entailed the reorganisation of the

Table 1. Evolution of face-to-face and e-learning training: activity types

	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
USERS								
Presentation attendees	2,454	2,200	2,325	1,834	2,287	1,605	1,855	2,570
Session attendees	130	180	479	492	528	211	172	55
Competency course attendees						292	1,103	944
TOTAL INTERNAL ATTENDEES	2,696	2,507	2,844	2,326	2,815	2,108	3,130	3,569
External attendees		314	348	988	135	352	184	63
TOTAL INTERNAL + EXTERNAL ATTENDEES	2,696	2,821	3,192	3,314	2,950	2,460	3,314	3,632

14. More information about what raising the awareness of competency training has entailed is available on our library's website:
   <http://www.bbtk.ull.es/portal/viewcategory.aspx?id=1796>

Training Service's plan and a new training programme. The new programme responded not only to the learning-related changes that were taking place in the library and its environment, but also to one of the lines of action of its strategic plan (2006-2008). It contemplates the inclusion of face-to-face and e-learning courses, although the latter model is the one that is being developed most. The planning and coordination of competency training, in the same way as any other type of training that the library carries out, is the responsibility of the Office of the assistant director for Services and Personnel. A training committee is in charge of firming up the training programme. This committee has several working sub-groups (undergraduate, graduate, PDI, PAS and external), who work on each course model (procedure, units, practicals, teaching materials, type of evaluation, etc.) with the technical coordinator.

The programme contemplates communication between working groups via tools that the Moodle platform offers for exchanging ideas, queries and suggestions. This platform is also useful for communicating with other trainers. In addition to this, there are face-to-face meetings of sub-groups and other librarians. It also includes the periods covered by the courses offered: a semester for undergraduate and graduate students, and a year for PDI and PAS. Other external information depends on the agreements reached with interested groups or organisations.

An important element in this programme is trainer training, with topics connected with methodology and teaching, library 2.0, the new EHEA educational model, e-learning, Moodle, information competencies, etc. It also includes the competencies to be worked on at different course levels: identifying information needs, finding, selecting and evaluating information, using it ethically and communicating it in the most appropriate way by making an effective use of ICTs, as well as a methodology based on practicals and problem-solving that is supported by tutorials (to foster self-directed, independent learning). The use of some Moodle tools (discussion forums, queries and suggestions) allows for more active participation in learning. e-Learning is always complemented with face-to-face sessions, in which the course objectives are explained, platform use is demonstrated and queries are resolved.

Each course unit has a series of practical components (most of which are self-correcting) that help students check their learning. Trainers also provide tutoring for practical components requiring their supervision.

First-year student courses are scheduled to take place at the time that collaborating lecturers consider most appropriate. This is the step prior to carrying out class work, research, etc.

The programme specifies the types of face-to-face activities and e-learning courses for each user profile. Whenever possible, this is done in collaboration with teaching staff and other services or vice-rectors' offices:

- Undergraduate students. They start at an initial level of training in the first year with a variety of activities (presentations, guided tours, etc.) and a virtual information competency course. Teaching staff take part in the latter of these two. They acquire basic information competencies. They can go on to train at intermediate level, which is offered between the second and fourth years, through a subject that has three ECTS credits (in conjunction with the University of La Laguna's Open Software Office). It is a specialised course where they acquire information and IT competencies.
- Graduate students. They have an advanced level course to refresh their information competencies, as a support for carrying out their research work (in collaboration with the Office of the vice-rector for Academic Regulations).
- PDI. They have a course to refresh their information competencies and to raise awareness of the importance of incorporating these competencies into subjects (in collaboration with the Office of the vice-rector for Teaching Staff).
- PAS. They have a course to refresh their information competencies to improve their work (in collaboration with the University of La Laguna's PAS Training Unit).

The programme also includes external training courses to raise awareness of information competencies in other social sectors. This allows the following groups to learn about and refresh their information competencies:

- University degree holders, as a means of professional refresher training (through their professional associations).
- Non-university teachers, as a way of raising awareness and working on information competencies in initial cycles (through the regional Ministry of Education).
- Parents of children of school-going age, with the aim of raising their awareness of the importance of working on information competencies with their children to improve their schoolwork (through the regional Ministry of Education).
- Librarians and libraries in the region, as a way of refreshing their information competencies (through

Table 2. Courses by user type

Students		Information competency training	Accredited or certified	Level	Hours
Under-graduate	1st year	**Initial training** Welcome days (face-to-face) Guided tour (face-to-face) Basic information competency course (virtual)	Marked by lecturer	Initial	12,5 h
	2nd/4th years	**Intermediate training** Intermediate information competency course	Accredited	Intermediate	3 ECTS credits
Graduate		Advanced information competency course (virtual)	Certified	Advanced	15 h
PDI		Teaching staff refresher course (virtual)	Certified	Advanced	20 h

the Canary Islands' insular government authorities, town and city councils, and the regional Directorate General for Books, Archives and Libraries).

The programme is open to collaboration with different organisations for the development of competency training. Before this programme was in place, the library already carried out a number of activities on the Programme for Reading and Libraries of the regional Directorate General for Education Management and Innovation, to train school library teaching staff and grantholders in topics connected with libraries and the acquisition of information competencies. Today, work is being done on the organisation of courses for parents through "Familias en red", as referred to earlier.

In recent years, the library has offered university extension courses to raise awareness of the importance of information competencies (for municipal libraries, teachers and the general public).

Finally, it should be pointed out that the programme includes training evaluation by means of:

1. An initial questionnaire about users' prior knowledge and competencies.
2. A satisfaction questionnaire about the course and how useful users find it for their training.
3. A user self-evaluation test, to find out about the degree of content assimilation and course objective attainment.
4. An evaluation by librarian-trainers of the tasks undertaken by users.
5. A librarian-trainer report about the course, including the number of people enrolled on it, the number of passes, the numbers of fails, a summary of tasks and

test results, a summary of questionnaires, problems that have arisen and suggestions for improvement, etc.

# 7. The Education Stakeholders' Opinions: Students and Lecturers

Over these years, users have expressed positive opinions about the courses, and this has been reflected in the questionnaires that they fill in at the end of each course. On the whole, first-year students are satisfied with the courses. Questionnaires completed in the virtual classroom have been analysed over a period of three years. Their responses to questions posed were positive, and a summary of the results obtained is given below:

1. The course objectives were attained (between 70% and 85%).
2. They have acquired new knowledge and skills (between 85% and 90%).
3. They have a greater knowledge of general and specialised information resources (between 80% and 90%).
4. The course will help them with their academic education (between 75% and 85%).
5. They would recommend the course to other students (between 85% and 90%).

These data are shown in table 3.

In May 2009, the library made a video containing the opinions of members of all the groups involved in new

Table 3. First-year students' opinions of the information competency course
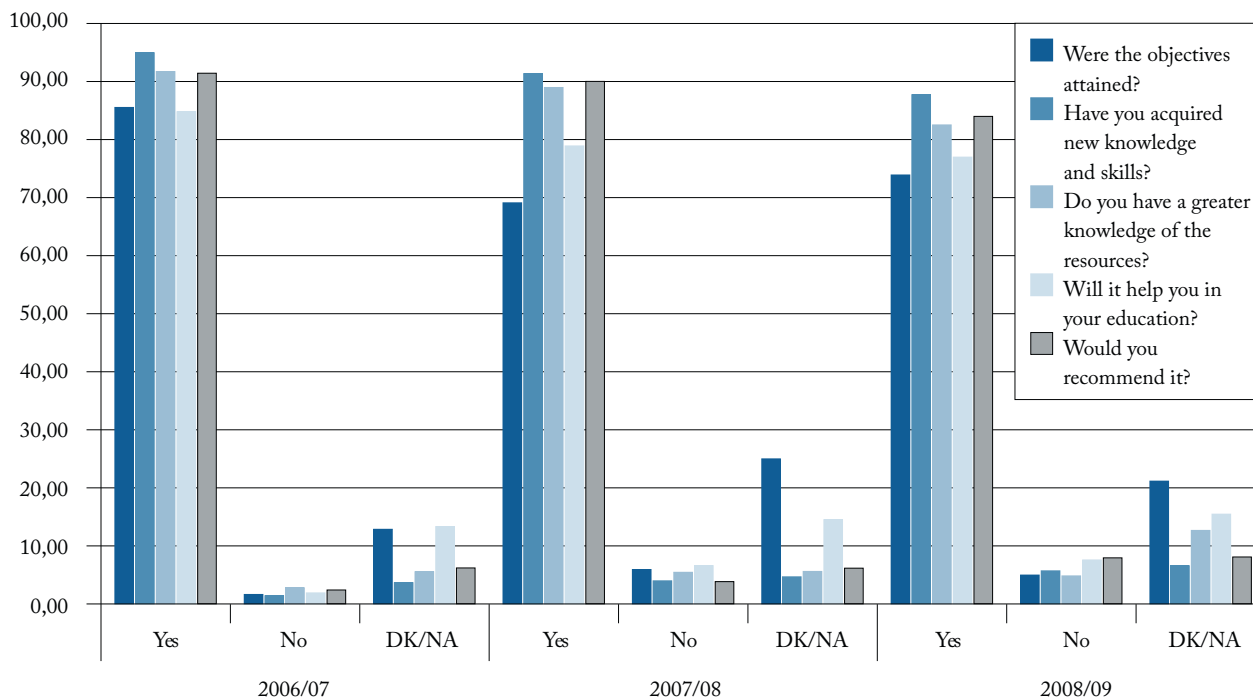
student training. The opinions of all of them highlighted the importance of acquiring information competencies in the new educational context.[15]

The data for the graduate student course (2008-2009) also show a high rate of satisfaction, and these students gave positive responses to the same questions as first-year students. The only exception was the first question, about whether the course objectives had been attained. To that question, 85% of those questioned responded with a "yes", whereas 100% gave positive responses to all the other questions.

The course offered to PDI (2008-2009) also had good results. They gave positive responses to the following aspects:

- The course objectives were attained (80%).
- They have acquired new knowledge and skills (89%).
- They have a greater knowledge of information resources (90%).

In May 2009, the opinions of lecturers collaborating on the first-year student course were gathered. A series of

questions[16] complementing those contained in the video were posed:

- They monitored students' learning: 65% responded "yes", 35% responded "no".
- They noticed improvements in students after they had completed the course: on a rising scale, their responses were 27% "a little", 65% "quite a lot" and 9% "a lot".
- They thought the course was necessary: 59% thought that it was "indispensable", 41% thought that it was "necessary" and no-one thought that it was "dispensable".
- Attendance on this course should be compulsory or voluntary: 76% thought that it should be compulsory, 24% thought that it should be voluntary.

8. Conclusion

Competency training has demanded a considerable effort from the library, but the satisfactory results have made it

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15. The video was presented at the VII Jornadas CRAI (UPM-Technical University of Madrid, June 2009).
   <http://www.youtube.com/watch?v=qQWVTJ7oioI&feature=related>
16. Seventeen lecturers filled in the questionnaire, over half of those collaborating in that academic year (2008-2009).

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worthwhile. Being one of the first libraries to offer this type of training, now it is a service of reference on this topic. Year after year, the library has seen how the training project has gained in momentum and institutional support from the teaching staff at our university and from other libraries. We only hope to be able to carry on providing a teaching and research support service at our university. The library's Framework Programme for Information Competency Training (Information Literacy) is merely a proposal that we make to the institution in order to collaborate on competency training.

However, this plan alone is not enough. A number of aspects still need to be improved to ensure that students and other university stakeholders manage to learn new competencies and refresh old ones. Among the possible strategies for development, we suggest the following:

- Information and IT competency training for the whole university community should be one of the university's strategic objectives.
- Competency training should be explicit in the training plan for all degrees.
- The institution should support library staff so that they can devote enough time to this activity.
- Lecturers, librarians and other support services at the university should join forces to help students work on their competencies.
- Lecturers, who are responsible for their students' learning, should get involved in competency evaluation.
- Information and IT competency refresher training should be promoted for everyone involved in training.
- The university should certify and/or accredit information and IT competencies, and work towards ensuring that they are recognised in the labour market.
- Universities need to cooperate with other educational levels. It is fundamental for information and IT competency training to start at school and reach out to the groups involved (parents, non-university teachers, etc.).

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