

## Monograph “Information and Digital Competencies in Higher Education”

### INTRODUCTION

# Why Offer Information and Digital Competency Training in Higher Education?

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Information and technology go hand in hand. Information is the content while digital technology is the container. Information is everywhere because, among other reasons, technology is everywhere. Digital technology becomes meaningful, significant and socially useful as it offers us valuable information-related experiences. In turn, information needs technology so that it can be stored, organised, copied, distributed, transformed and accessed.

Together, information and technology create a media ecosystem in which our existence is played out: we listen to the radio, we read the press, we watch TV, we work with files stored on our computers, we talk on mobile phones, we communicate by e-mail or text message, we watch films or listen to music on electronic devices like MP3 players or iPods, we find our way using GPS, we check our PDAs to manage our time, we browse the Internet, we upload photos and share opinions and data on social networks, and so on. More and more often, and to a much greater extent, as individuals we are subjects who need to be connected to some type of technological object providing us with information. Without it, we turn into autistic beings or social orphans; it would be impossible for us to carry out all of the activities that form part of our daily lives, such as work, consumption, education or entertainment.

Furthermore, information today is the raw material for a large part of the “new economy” (financial and stock-market systems, leisure, entertainment and culture industries, and software, telecommunications and service companies are just some examples worth thinking about). The activities and operations of all of these economic sectors are based on information that is generated, stored and distributed via digital technologies. In contrast to the production processes of the second industrial revolution, which were based on transforming raw materials obtained from nature (such as coal, oil, iron, wood, etc.) in factories, the products of the third economic revolution – the one taking place in the 21<sup>st</sup> century – are based on transforming and reworking information in myriad forms so that it can be bought and consumed.

Consequently, the current model of 21<sup>st</sup>-century society needs human resources or, if you will, citizens who are properly trained to make use of the whole information and technology ecosystem that exists, enabling them to take part in the economic, social, and cultural processes of the third industrial revolution. The traits of our times are mass consumption, social participation and the shaping of exchange networks for material and cultural products alike. Without subjects, without individuals who are trained to face up intelligently to the

challenges of using digital technologies and information that our contemporary society generates, that society will not be able to develop and grow economically; there will not be any democratic participation, social equilibrium or production and consumption of culture in any of its forms, be they audiovisual, literary, artistic or any other.

Today, citizens need more and better quality education, since the challenges that we need to confront and the contexts in which we need to develop and co-exist are very varied and complex. We need to be more competent than we were in previous decades in order to use and take ownership of information and digital technology. This training or, if you will, literacy of individuals in the multiple languages and codes (textual, iconic, hypertextual, audiovisual, multimedia, etc.) that information employs, should be a recurring, continuing goal throughout the education system as a whole, from primary education to higher education.

So what are the most notable arguments and reasons that lead those of us in higher education to talk about literacy/training in information and digital competencies? We could briefly summarise them thus:

1. In recent decades, knowledge production in all knowledge areas – scientific, technical, humanistic, artistic and social – has grown exponentially and is practically beyond reach. Consequently, the task demanded of today's university students is twofold: on the one hand, they need to assimilate the concepts, theories and basic knowledge of a discipline and, on the other, they need to have at their disposal all the necessary criteria and intellectual strategies to find new information that is valid for their area or field of study, research or work.
2. There are ever bigger and more numerous sources that store, organise and distribute information in the form of digital libraries, databases, web portals, blogs, social networks, etc. Consequently, it is important for university students to have the knowledge and skills to be able to use these tools, which allow them to search for specialised information in bibliographic databases and websites relevant to a particular field of study.
3. Educational and learning theories point out that knowledge must be constructed by each student as an experiential process, in interaction with other subjects and through action. This type of teaching-learning methodology based on socio-constructivism, which, theoretically, is the one that should be implicit in the development of European credits or the European Credit Transfer System (ECTS), will only be possible if students are offered the necessary resources and guidance to be able to work independently to resolve problems, to develop projects, to study cases, to write essays, etc. However, for this type of methodology to be successful, an essential prior condition must be met: students must be trained in information and digital competencies. Without these competencies, it is unlikely that they will be able to search for and select information, or to construct and disseminate knowledge that they themselves have produced.
4. Ways of expressing and communicating ideas, feelings, opinions and knowledge take myriad forms and use multiple languages, which appear in written texts, audiovisual documents or multimedia files. Consequently, knowing how to express oneself and being able to construct discourses in this range of languages should be an essential competency for both students and university teaching staff. This expressive capacity should be cultivated as part of any degree in order to train students as subjects who are qualified to communicate and disseminate their ideas and knowledge via any means of expression or technological medium.
5. Over the last 10 years, virtual spaces have taken on a greater degree of protagonism in higher education and form part of educational approaches known as e-learning, e-teaching, blended learning and the like. The incorporation of information and communication technologies (ICTs) into university teaching means that both students and teaching staff need to have a good mastery of – and competencies in handling – Learning Management System (LMS) tools, as well as other resources that go to make up “Web 2.0”.

These, among other reasons, are the impetus behind the organisation of this monographic issue of RUSC, devoted to the topic of “Information and Digital Competencies in Higher Education”. In this respect, it is worth pointing out that research, analysis and reflection on the conceptualisation and teaching of competencies like these is an area of common ground, or a multidisciplinary area, approached from the field of social sciences (e.g., education and psychology) and the field of humanities (e.g., library science and documentation). Such research, analysis and reflection have been carried out for over a decade. Consequently, experts from these academic fields were invited to take part in this monograph. The reader will therefore find different yet complementary perspectives on what should be taught

to develop these competencies in university students and teaching staff, and, of course, how it should be taught.

In short, why offer information and digital competency training in higher education? The answer is simple: because universities should offer citizens a higher education

that, among other goals, trains them to become competent individuals to face up to the complex challenges of culture, knowledge, science, economics and social relations in the 21<sup>st</sup> century.

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