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Planning and Development of an ICT-skills Map in Guidance

Planificación y desarrollo de un mapa de habilidades TIC en Orientación

ABSTRACT

The main purpose of this article focuses on identifying specific Information and Communication Technologies skills, particularly those related to web pages and e-mail, useful in the implementation of guidance functions and tasks. To this end, a competence map overlaid on those of a technological and coaching character was designed, and it also produces a matrix that considered seven areas of focus grouped by International Association Educational and Vocational Guidance: evaluation, educational guidance, career development, counselling, information management, research and evaluation and placement. It also took into account three types of approaches to the counsellor regarding the use of ICT in guidance, as a resource, medium and development of guidance materials and two of these tools (websites and e-mail). The effective integration of Information and Communication Technologies and its effective use by guidance professionals is based on their competence. This resource, open and flexible, requires a continuous updating in order to be useful in the implementation of guidance tasks, in the self-assessment of competence by professionals; diagnosis of deficits in the design, planning and development training and guidance actions. It is also an instrument of great relevance and usefulness to guidance practitioners to explore the training needs and their occupational profile and to motivate their professional development.

RESUMEN

El propósito del presente artículo se centra en identificar determinadas competencias TIC, concretamente las relacionadas con las pages web y el correo electrónico, de utilidad en la implementación de funciones y tareas de Orientación. Para ello, se diseñó un mapa de competencias en el que se entrecruzan las de carácter tecnológico y orientador, y se elaboró asimismo una matriz integrada por siete áreas de Orientación seleccionadas por la AIOEP: valoración, orientación educativa, desarrollo de la carrera, asesoramiento, gestión de la información, Investigación y evaluación y colocación. También se consideraron tres tipos de enfoques en lo referente al empleo de las TIC en Orientación (como recurso, medio y desarrollo de materiales orientadores) y dos herramientas (pages web y correo electrónico). La integración y empleo eficaz de las TIC, por los orientadores, se halla en función de las competencias de éstos en ellas. Esta herramienta (mapa), de carácter abierto y flexible, exige una continua actualización con el propósito de ser útil en la puesta en práctica de actividades orientadoras; en la autoevaluación de competencias por parte de los profesionales del ámbito; en el diagnóstico de déficits formativos y en el diseño, planificación y desarrollo de acciones de formación y/u orientación. Se trata de un instrumento de gran relevancia para que los Orientadores exploren sus necesidades formativas y asesoras, el perfil ocupacional y motiven su desarrollo profesional.

KEYWORDS / PALABRAS CLAVE

Technology, information, communication, guidance, competences, skills, map, professional development.
Tecnología, información, comunicación, orientación, competencias, habilidades, mapa, desarrollo profesional.

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1. Introduction

During the last years, complementary to the changes occurring in different sectors, there have been enormous changes in the telecommunications, computing, image and sound, provoking thus, immersion in a technological revolution. Many resources arise from the combination of major Information and Communication Technologies (ICT) favouring, among other things, storage, dissemination and information processing to very low cost.

At the same time to the reduced costs of all these instruments and increased productivity as a result of their increased use, the number of services grows, which implies that these tools are introduced and integrated in a massive way in almost all activities today, are performed independently of the sector in which they take place. Consequently, the generalized inclusion of these resources in the different areas of current social framework entails considerable changes in all sectors, so it is necessary to adapt themselves to society in general and to the person in particular.

All these tools are evolving at a dizzying pace, leading to say that ICT, result of scientific advances produced with corresponding technological developments, stand out as changing pace and follow a parallel to scientific developments that occurred within a context characterized by the economic and cultural globalization phenomenon. The totality of changes occurring demand to the professionals the development of tasks and innovative features, which involves the acquisition and internalization of new skills to make an effective use of technological tools in the development of their work. Similarly, Guidance specialists must assume new roles and responsibilities referred some of them, to the mentioned technological tools, which requires new competencies and skills.

Among the difficulties in identifying and delineating the basic skills to use these tools on existing guidance highlights the paucity of contributions still investigating the matter. However, most attention, in addition to the contributions made by other authors (Offer, 1999 and 2003; Campoy & Vallejo, 2003; Rodríguez Santero & Valverde, 2003; Malik & Sánchez García, 2003; Sobrado, 2006; Sobrado et al., 2007; Ceinos, 2008), the conducted research in the European Project (Cogoi, 2005) «ICT Skills for Guidance Counsellors» (technological skills to practitioners), which identified several specific ICT skills grouped in different dimensions and which is complemented with a second European project, recently completed, entitled «ICT Skills 2: Tools and training for e-practitioners» ; in which this article is especially grounded.

Based on the above, the main purpose of this study focuses on identifying the basic skills to use Web pages and email in the functions and guidance tasks development. To achieve this goal a competence map was designed.

2. Conceptualization

To make an epistemological approach to the term of Information and Communication Technologies (ICT), it is common to find different constructs and meanings to refer to all media, tools and resources that are part of them, as well as to products or services derived from them (Sampson, 2008). From a personal perspective, drawing on the views offered by different authors, in attempting to define the concept of Information and Communication Technologies should address the following aspects: First, technology is seen as the ability to apply knowledge derived from science area from which derives the emergence of new resources, tools and instruments whose main objective is the creation of products and / or innovative services, as well as improving existing ones, promoting thus, a higher level of effectiveness and efficiency in the development and execution of multiple tasks. In short, the practical application of scientific knowledge, arise new tools to serve people in order to encourage the development of daily activities.

Secondly, in relation to the information concept, this term refers to the set of data constituting a message with meaning for people. The messages flow through a channel from the sender to the receiver, who picks through the senses, then, information is decoded, allowing that once people have tried and internalized, they can take decisions appropriately, of which actions are derived, and subsequently, they will be implemented. Third and finally, it should be noted, by reference to theories of language, that communication can be understood as the act by which two or more people communicate, for example, exchange information through a channel, which transmits and circulates messages.

Through these communication processes, subjects relate, interact, exchange opinions, express ideas, feelings, desires, acquire new knowledge, expand those they already possess, and so on (Watts, 2005). In the light of earlier conceptions, we believe that the confluence of terms on Information and Communication Technologies refers to all those that facilitate the development of tasks relating to the acquisition, production, file, processing, storage and presentation of information and communication through different languages (audio, textual and / or iconic).

3. Information and Communication Technologies: Website and Email

As a result of the progress made, there are many existing tools to address the needs and demands posed by modern society. Taking as reference the existing technological tools, classified in the field of information and telecommunications, they have a place, the network environments, emphasizing primarily the Intranet and the Internet. The Internet can be considered the most revolutionary element of ICT in the last few years and perhaps it has been the discovery that has led to greater impact in our society. Trying to define this term, we can say that it is understood as the set of computers connected to the network, regardless of geographic location in which they are, whose basic purpose is to promote the exchange of information and resources and communication between them. However, it should be noted that behind this network of computers are people, so that each exchange of information is a social interaction between subjects, becoming thus an information resource and a place where they occur numerous social, cultural and economic interactions.

Although this network began to take hold in the late 1990s, its origins date back to late 1960. In principle, there would not emerge as now known, since it favoured only the transmission and exchange of textual data. Over the years, new applications, existing and perfected at the beginning of 1990, emerging Web pages, allowing, thus, access to all information. At the end of this decade, the World Wide Web (WWW) becomes the main functionality of the Network (Renau & al., 2006). Today, in contrast to the initial moment, the possibilities that Internet offers are diverse, highlighting, basically, sending and receiving messages, query databases, access to large amounts of multimedia information and, in general, the establishment of relationships, resulting in a virtual community. All these advantages make, little by little, reduce the use of other instruments with respect to meeting our needs for communication and information. Therefore, the network creates a new stage in the distance that can be many and varied activities which, until recently, required a certain space-time coincidence (Cogoi, 2005). The Internet network services offered are many and varied. In this paper, we focus on websites and e-mails by their current impact.

• World Wide Web: Chronologically, it is the last function developed by the Internet. Born in the 1990s, though, over the years to be improved, currently one of the Internet functions with greater impact and success caused. It can be defined as the only method able to search for and locate information available on the Web. Through this system, the primary value of the Web is that it increases the connection and link to many pages, documents, files, etc., regardless of geographic location and physical aspect. They may have an unlimited information space, consisting of networked multimedia documents through a connection. According to Marquès (2000) and Sobrado (2004), among its main features are: outstanding global dissemination, ease of use, hypertext organization, the ability to transmit / receive multimedia information and simplicity of management for information providers. Ultimately, the Web has become a medium that

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allows easy access to any type of information available on the Internet.

• Email (E-mail: Electronic Mail). It was one of the first applications built on the Internet, specifically in 1971, although today it is one of the most significant and used, as the message exchange that enables the use of this tool is a very important part of the total daily traffic recorded on the Web.

It can be even said that one of the main reasons why a broad group of people, day to day, connect to the Internet is email access, an aspect has been facilitated, among other things, by the gratuity service. Its main potential is the exchange of messages or any other type of files between users. The main features of e-mailing are: it allows sending, receiving and exchanging text messages and any attached file (sound, icon, etc.).

Quickness, and that in a few seconds, it reaches its destination, its low cost, especially compared with other media (for example, telephone), and that the email address that allows access to the service is not physical, so you can access it, by simply providing a computer connected to the Network.

4. Methodology used in designing the map of ICT skills guidance

The experience is initially focusing on the European project «ICT Skills for Guidance Counsellors» (Cogoi, 2005), which purpose was to identify the technology skills used by practitioners in five European countries: Germany, Spain, Italy, United Kingdom and Romania, developed between 2002 and 2005. The main purpose of this study was to develop a competence map, which includes all the competences of guidance professionals who use ICT, particularly web pages and email in the development and implementation of their guiding services practice. Its main objectives include the following: 1) To know the practitioners' use of the web pages and e-mailing in the conduct of their profession. 2) To identify the use made of these instruments from different approaches: as a resource, environment and materials for the development of specific technology in guidance. 3) To evaluate the impact of these tools in guiding collective agents. Guidance technicians can use these tools as follows: first, as a resource, they can be used as an aid in the relationship established with a subject, as a concrete tool can be sent to be used on their own by the receiver; second, they can be developed as a means of creating, for example, a communication to the recipient via email.

Based on this, the final result was the design of a map of technological competencies related to Web pages and e-mail for the process and implementation of an action guide. The methodology was, in general, to identify the key ICT skills linked to these resources (Web pages and email) for further implementation along the functions and tasks of counselling. Thus, we could identify practitioners who used these tools as a resource (in their relationship with the subject), as a means (communicating with the recipient through a specific tool) or as the development of guidance materials based on them. To this end, we developed a matrix which took into account the following aspects: 1) Seven focus areas proposed by the IAEVG (adopted in Bern, Guidance Congress held in September 2003): Evaluation, Educational Guidance; Career Development, Counselling, Information Management, Research and Evaluation and Placement; 2) Three

approaches to professional guidance regarding the use of ICT for guidance purposes: as a resource, as a means and as development of guidance materials based on ICT.; 3) Two ICT tools: websites and email.

Through this process, we generated a list of ICT competencies related to Guidance, we designed a specific competence list for practitioners who use websites and emails in the use of efforts undertaken. Thus, it was intended to specify guidance tasks that can be

TASK AIOEP	TOOL TIC	HOW TO USE	NUMBER OF THE COMPETENCE
Assessment Educational Guidance Professional Development Advice Information management Research and Evaluation Placement	W: Web page E: E-mail	M (Medium): ICT-based tools as a means R(Action): Tools that focus on ICT as a resource D (Development): Contents development orientation grounded in ICT.	1, 2, 3…: Progressive enumeration ICT skills related to orientation

Table 1: Dimensions included in the matrix of competences

done through these two resources and to identify necessary technological skills for these professionals to use these tools as a resource, as a means or for the development of specific materials based on ICT. Some of the skills included the following:

Web Page

1) Assessment Skills: 1WR1 Comp. Able to use online resources to diagnose customer needs; 1WR2 Comp. Able to explain to the client the use of self-evaluation through online tools; 1WD1 Comp. Able to design on-line forms of self-assessment.

2) Educational Guidance Skills: 2WR1 Comp. Able to use specialised websites to access and provide information about educational and training at all levels; 2WR2 Comp. Able to show customers how to browse websites for information for themselves; 2WD1 Comp. Able to design a website for educational guidance.

3) Professional Development Skills: 3WR1 Comp. Able to find and use relevant web pages to career development; 3WR2 Comp. Able to use web forums related to professional development; 3WR3 Comp. Able to demonstrate to individuals and groups the use of the Internet for professional development purposes; 3WM1 Comp. Able to use web forums to provide assistance in career development; 3WD1 Comp. Able to design a website to contact and communicate with the client group itself.

4) Advisory Skills: 4WR1 Comp. Able to find Web pages with information resources and on-line

guidance tools of good quality during the individual interviews and group guidance (including self-help, counselling agencies and relevant information databases, for example, labour market , potential employers addresses, psychometric tests and other tests on-line); 4WR2 Comp. Able to explain to the client the use of guidance resources on the website; 4WD1 Comp. Able to design tools for web self-guidance.

5) Information management skills: 5WR1 Comp. Able to use and select sites for official information and for administrative purposes; 5WR2 Comp. Able to help clients find and use available information in their own web pages; 5WD1 Comp. Able to create information content for web pages and areas of research to surf the web.

6) Evaluation and Research Skills: 6WR1 Comp. Able to explain to clients how assessment tools should be used; 6WD1 Comp. Able to plan an evaluation section on a website.

7) Placement Skills: 7WR1 Comp. Able to use information resources to provide on-line job offers and placement; 7WR2 Comp. Able to seek opportunities with the client; 7WD1 Comp. Able to design a section on the website for offers and work experiences.

E-mail

1) Assessment Skills: 1EM1 Comp. Able to obtain information to exactly diagnose customer needs.

2) Educational Guidance Skills: 2ER1 Comp. Able to introduce clients to use emails for communication with the coach (element for functional capacity); 2EM1 Comp. Able to respond via e-mail customer-oriented needs.

3) Professional Development Skills: 3ER1 Comp. Able to communicate through emails, sensitively and appropriately, with different audiences for professional development purposes; 3EM1 Comp. Able to use emails to support the client's professional development.

4) Information Management Skills: 4ER1 Comp. Able to assist customers to request information, advice and guidance via e-mail.

5) EM1 Comp. Able to deliver information via e-mail.

6) Research and Evaluation Skills: 5EM1 Comp. Able to follow the client's progress via e-mail.

7) Placement Skills: 7ER1 Comp. Able to explain to the customer how you can get information on job offers from other source (for example, person or organization). 7EM1 Comp. Able to coach the client as regards employment search and work experience.

The main feature of the competence map is that it

is designed as flexible and open, a consequence of the continuing evolution of technological tools experience, as well as changes in the Guidance field, which should enable the updating, in order to encourage their full and accurate definition and progressive employment by the same professionals.

5. Evaluation and validation of integrating a map of technological and guidance skills

The main objective was to assess the impact of a competence map designed for professional guidance and practices development that this group performs, that is, assessing how far this tool is useful for them and responds to their real needs and expectations, in order to introduce appropriate corrective measures and establish future action lines. The methodology used by the researchers was the use of different techniques (interviews, news groups, questionnaires, discussions and working sessions) and the establishment of a set of standardized criteria, previously agreed by external experts in order to obtain information on various issues of the map covering both descriptive and prescriptive aspects. From the assessment made, we conclude that it is important to have a competence map precise in its definition and yet flexible in its use. Consequently, in a permanent state of renovation, noting that the competence map is designed for utility by guidance practitioners, the self-assessment tasks, in order to ascertain the degree of dominance they have in relation to ICT, analysis of the use made of these technological tools in the roles and tasks of their job development; to diagnose any training needs or deficits, to plan and develop future training activities, both initial and ongoing basis, regarding the use of ICT in guiding function as well as to help improve the quality of schools and / or counselling.

In short, by reference to Sobrado (2008), this is a valuable tool for guidance practitioners to explore their training needs and job profile, while serving to encourage their professional development. To validate the competence map above, simulation was used as a methodological tool to observe in groups of approximately fifteen professionals in each one (75 practitioners in total), the skills required in how they responded to real needs and expectations and how extent these skills were relevant to them in their contexts, processes, programs and professional development activities. The project «ICT Skills for Guidance Counsellors'» researchers, with advice from two international experts (Sampson and Watts) to systematize and collect the data obtained in the map validation in the five participating countries, planned a tool to organize

information gathered from practitioners alluded to in each country (75 in all). The initial questionnaire contained four items and seven of them organized in two areas to collect information direct views of the map referred to descriptive and prescriptive aspects. The instrument listed as well as a small initial introduction, included items series relating to personal and professional counsellor and another respondent issues concerning the recognition of the activity itself in terms of skills, competence map applicability for professional work, concrete description of them, use of proper terminology to describe the skills, capabilities and use of location by Guidance professionals and the map referred analogy with other similar modular training (Sobrado & Ceinos, 2009).

At the end of the instrument implementation, provided to the Counsellors group participating the analytical model proposed by Watts, external advisors to the project enabled the collection of results. Descriptive variables covered with the practice of revising some questionnaire items were mentioned, and prescriptive expectations and training requirements defined by guidance practitioners. The validated competency map in the beginning is in a constant state of upgrade because of its flexibility. Innovative technologies of information and communication that will be implemented gradually in guiding area such as Blogs, Second Life, Facebook, etc. are added progressively. The second European project on this theme, the basis of this work, recently completed, entitled «ICT Skills-2: Tools and training for e-practitioners» , then the former includes the new contributions to expand the map stage as a flexible resource for progressive use by Guidance Practitioners (Sobrado, 2008; Sobrado & Ceinos, 2009).

6. Conclusions

Similar to what happens in other intervention sectors or areas, in Vocational Guidance, despite the low tendency to integrate and make use of technological tools, increasingly, they are gaining greater presence and meaning, which implies major changes both in this discipline, as on the professionals who develop their professional work on it. An effective integration of Information and Communication Technologies, as well as their effective use by counsellor agents depends, among other aspects (allocation of resources, adequate training, positive attitudes...) of the competencies and skills that professionals have to respect. In this situation, they are useful instruments as described in this study, which enables possible uses of websites and email in the guidance tasks development, self-

assess, the skills acquired and the degree of domain, diagnose of gaps and training needs as well as it could serve as a benchmark in the design, planning and of training initiatives development focused on this issue (Sampson, 2005). However, despite the potential it offers the competence map should not forget the openness and flexibility that characterizes it. This requires continual revision and updating of its content and future skills, more innovative competences, in the changing society in which we find ourselves, should be included in order to effectively fulfil the goals and purposes for which it was designed.

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